

Some Aspects of the Schizophrenic Formal Disturbance of Thought

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Of late much work has been done in the field of the schizophrenic thought disturbance. In comparing many of these investigations with the concrete clinical material one often has the feeling of a strange contrast between the academic thinness of the former and the full richness of the latter. The investigations are thorough, but the strange, sometimes beautiful vitality of the original spontaneous material often seems to have escaped.

Gestalt Psychology assumes that this result is due to a fundamental assumption common to most of the current approaches to thinking. This is the hypothesis that thinking is essentially the piecemeal addition, by "association", of a sum of basic elements which have no objectively understandable, intrinsic logical relation to each other but are linked together merely by blind habit - simply because of the past experience of their equally unintelligible frequent coincidence. The classic example of this approach is the nonsense syllable experiment.

In contrast to this, Gestalt theory assumes that original thinking is a process of achieving a clear structural understanding of the organization of its object or problem as a genuine whole, the parts of which are defined functionally by their place and role in the whole, and not in piecemeal identity as basically unrelated bits. Thinking is assumed to have its own whole-structure and whole-dynamics which are lost if one focusses only on the 'elements'.

In the following pages an attempt has been made to understand a few features of the schizophrenic thought disturbance on the basis of this theory.

A young man was admitted to the hospital and given a physical examination. At first he was friendly and cooperative and answered the necessary questions correctly. At one point, however, he suddenly began to shiver violently. He was asked, "Why are you shivering? Are you cold?"

"Can an introvert ever be an extrovert?" he answered.

This was said with a somewhat defiant, sarcastic grin. The doctor felt uncomfortable. There was something strange in this answer.

How can such a case be completely understood? What factors decide that one answer is right, another wrong? Certainly before dealing with so queer an example one has to know something about the normal, the good case of question and answer. What happens when a question is asked?

An ordinary question intends its answer. It calls for it, *requires* it. In itself it is incomplete and establishes a *vector* towards completion. Once a proper answer is given, question and answer form a *complete closed whole*. [1] As long as the answer is missing the whole is incomplete, has a *gap* which is not simply a hole but is a dynamic gap that needs and wants to be filled. The question is not an isolated piece but the opening part of an intended whole.

The questioner may not know the answer. A number of answers may be possible, but not just any answer at all will *fit* into the gap. [2] If the question is "How is your health?" the answer, "Thank you, two times two is four," does not fit.

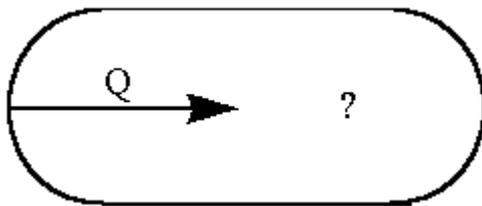


Fig. 1.

Q = question

? = gap

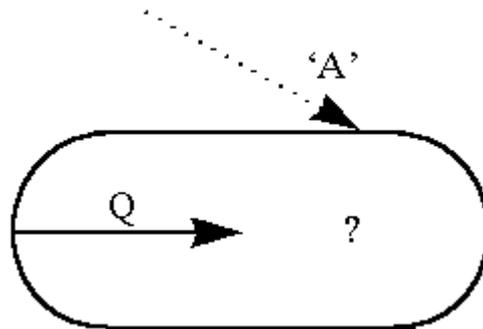


Fig. 2.

Q: How is your health?

A: Two times two is four.

Obviously the question contains factors which determine what answer is consistent and what is not. Firstly, the answer must have something to do with the question, it must deal with the question's *topic*. But that does not suffice. The answer, "My health depends on the number of calories I get," is concerned with the same topic as the question, but still it does not fit. It deviates from the *direction* of the question and is not a "good continuation" [3] of this direction. [4] The vector set up by the question really tends in a different logical direction, and the direction of the answer must be in good continuation of the question in order to achieve its closure. The answers, "My health is fine," or, "I have terrible pains," fit into the gap both with regard to the identity of the topic and direction of the question. They meet the requirements of the whole and complete it. In the other two cases the gap is not fittingly filled, continues to be sensed, and the whole remains incomplete.

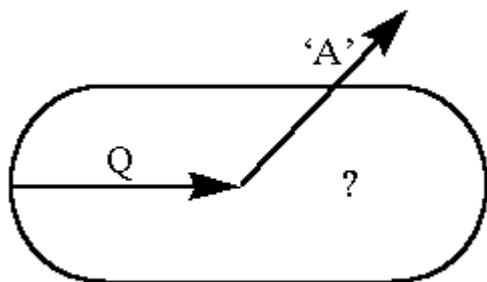


Fig. 3.

Q: How is your health?

A: It depends on the calories.

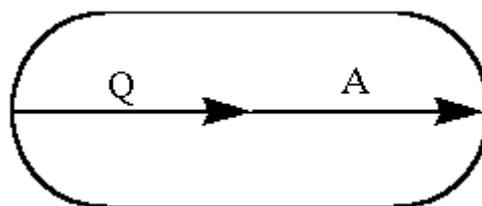


Fig. 4.

Q: How is your health?

A: It is fine.

This is true only for simple cases. In more complicated cases, as, for instance, in that of a scientific question, the answer to which requires a lengthy paper, detours involving temporary changes of the topic as well as of the direction may become necessary. But what these changes are is not arbitrary but determined by the inner nature and structure of the problem and by the whole-structure of the problem of which each detour is a part. And, too, these detours must fit into the complex question-answer system as a whole; they are determined by, and must be consistent with, the structural requirements of the gap.

Sometimes a change of topic and direction may be sensible, if, for instance, the question itself does not go to the heart of the problem. The question may be just too peripheral, too unessential, it may not fit right, it may not face the problem squarely enough. If the answer improves upon the question in the direction of the structural requirements of the problem situation it is a good answer even if, or just because, it does not stick to the topic and direction of the original question.

Glancing back at the patient's answer it can now be said that it is irrelevant, wrong, queer, because it does not meet the structural requirements of the intended question-answer system either with regard to the identity of topic or with regard to the factor of good continuation. This answer is a case of *Fig. 2*.

The question of what determined this strange answer remains. Why did he give it? Do such answers also occur in normal cases and under what circumstances?

"How do you do, Dr. X.?"

"Thank you, I am having a drink right now."

Here one feels that somehow the answer makes sense, is possible, although somewhat peculiar. Yet, in itself, and as long as no other data are given, the answer neither fits the question with regard to the topic nor with regard to good continuation of direction. It should sound irrelevant, but it does not. In this case one feels at once that the question-answer system points to a surrounding social situation as a part of which it must have occurred. It is unnatural to look at it piecemeal, in artificial isolation. Actually this conversation took place when two gentlemen met at a party which was already well under way. The man who answered was just having a drink. Now

the answer jumps into place and fits. In its setting as a part of this situation it simply means "I'm having a drink and I'm very well as you see."

It seems that in many cases one must not, and frequently simply is not able to, look at such a question-answer system in a piecemeal fashion, in isolation from the concrete social situation in which it arises. In these cases the question-answer system is not an independently closed whole but essentially a functional part of the field factors and field events which play a role in determining what questions are being asked at a certain moment and what answers will fit. In extreme cases a question-answer system may appear completely meaningless and nonsensical as long as it is taken in isolation, while one grasps its meaning at once if it is seen in its place and role within its social field. The inner logic of the system remains hidden unless it is experienced as part of the dynamic structure of the field. [5]

Footnotes:

[1] Only simple cases are covered by this simple formulation. In more complex situations the formulation may have to be changed without effecting the principle

[2] The features of structural fitting and requirement, and of the gap, will be dealt with extensively in a forthcoming book by Max WERTHEIMER on productive thinking.

[3] WERTHEIMER, Max. Untersuchungen zur Lehre von der Gestalt, II, *Psychol. Forsch.* (1923) 4:301-350 - in particular, p. 324. There is an English abstract in Ellis, Willis D., *A Source Book of Gestalt Psychology*; New York, Harcourt, Brace, 1938 (xiv and 403 pp); pp. 71-88 - in particular, pp. 81-83.

[4] MAIER, Norman R. F., Reasoning in Humans. I. On Direction. *J. Comparative Psychol.* (1930) 10:115-143. [

[5] ELLIS, Willis D., *A Source Book*, reference footnote 3; pp. 1-11 - in particular, p.6.

KOFFKA, Kurt, *Principles of Gestalt Psychology*; New York, Harcourt, Brace, 1935 (xi and 720 pp.) - in particular, p. 42.

LEWIN, Kurt, *Principles of Topological Psychology*; New York and London, McGraw-Hill, 1936 (xv and 231 pp.)

SCHULTE, Heinrich, Versuch einer Theorie der paranoischen Eigenbeziehung und Wahnbildung. *Psychol. Forsch.* (1924) 5:1-23. There is an English abstract in Ellis, Willis D., reference footnote 3, pp. 362-369.

LEVY, Erwin, A Case of Mania with Its Social Implications, *Social Research* (1936) 3:488-493.

"When will you buy your new tires?"

"Sorry, I am unessential."

A few months prior to this writing this would have sounded completely incoherent and senseless. However, experienced as determined by the present situation of the tire rationing system the answer fits the question perfectly: "I cannot buy any tires because my driving has been declared unessential."

In the case of the patient, the doctor's question had not been asked at random but had occurred within, and had been determined by, a clearly structured field situation. The doctor had asked the patient why he shivered, a question which clearly fitted in with his role. He himself had suggested an answer which would have fitted in with the concrete situation since the window happened to be open. However, the patient's answer not only did not fit the question, it also fitted nowhere

into the field situation. It was flung into it like a foreign body, seemingly arbitrarily, piecemeal, without any functional determination by anything in the field as the doctor experienced it.

The solution of the enigma came some weeks later. It was learned that the patient had written a good deal of poetry which dealt with problems of paramount importance to him. In a discussion of these it developed that for many years he had been a lonely timid sad fellow without any way of articulating his inner trends, but with an intense desire to do so. He had wanted a full rich happy life, but had actually had just the opposite. All his needs and hopes had remained hidden, no one knew of them. This difficulty became so disturbing that he had gone to the library to look at the psychological literature, and there he found a formulation for his problem: he was an introvert and should be an extrovert. Here then was the psychological situation which had determined his 'answer.'

To the doctor this situation was entirely new and unexpected. For the patient it had existed for several years and had become increasingly urgent. He had become more and more preoccupied with it, and finally, in the illness, devoted all his time to its solution. Everything, every moment in his life was centered around it.

For the sake of clarity the 'real' hospital situation is called *S1*, and the patient's psychological situation *S2*. In relation to *S2*, *S1* was external and peripheral. For the patient, the demands made of him by *S1*, the 'reality,' were just annoying, essentially constituting a disturbing intrusion into *S2*. At the beginning of the physical examination he had responded to the *S1* requirements and had let himself be annoyed. But when the disturbance became too strong the *S2* forces dealt with it abruptly and sharply, and the patient resumed his preoccupation with his problem. His sarcastic grin indicated that he knew quite well that the doctor could not know anything of this problem and of the second situation, and would be unable to understand the 'answer.'

There are two possible ways of understanding this answer. One could assume that the patient wanted to improve the doctor's question in the direction of what should be most essential in the doctor-patient situation: "Don't ask me why I shiver. It does not matter. Tell me rather whether an introvert can ever be an extrovert. This is my central problem." The other possibility is that he wanted to reduce all *S1* interference to a minimum so that he would not be disturbed in his preoccupation with *S2*.

The doctor's question may be called *q*. The doctor asks it as a fitting part of, and functionally determined by *S1*. [6] The patient experiences it essentially in its functional relation to his *S2*, where it has the totally different psychological quality of a disturbance. [7] One sees that psychologically the two are unequal. It is therefore not permissible simply to assume the validity of $q = q$. The piecemeal identity of the isolated question is not what matters functionally. It has to be seen in its field dynamics. It is also clear that the fitting answer to the question in its *S1* meaning is by no means necessarily identical with a fitting answer to it in its *S2* meaning. Within the framework of *S2* the patient's answer and behavior are understandable; not so within *S1*. The innocent doctor, not knowing at this time of the existence of *S2* naturally experienced the answer within *S1*, and was baffled. To him it appeared 'irrelevant.'

This type of case must be clearly differentiated from another type, illustrated by the following example. A mother asks her child, "Did you brush your teeth?" The child answers, "I want to go to the movies." The question arises out of the mother's situation with regard to the care of the child. The answer arises out of the child's preoccupation with the Saturday afternoon serial picture. But

in this case both $S1$ and $S2$ are parts of a common situation in which both live. Question and answer are mutually understandable at once, although they do not fit each other directly. In the case of the patient $S1$ and $S2$ were not part of any encompassing common situation.

The following paragraph deals with apparently good and simple cases which may, however, be shown to be cases of schizophrenic thinking if analyzed carefully.

"How are you?"

"Fine. I want to go home."

This answer was given regularly by another patient on morning rounds. It deals with the same topic as the question, the patient's health. It continues the question's direction. It seems a good answer. There are three possible ways of understanding it. It could be sound, simple, sincere. The patient might not have realized that he was ill, and, subjectively might have felt well enough. Or, it could be a normal lie. Knowing that he was not well he might have wanted to leave, just as a patient with a physical disorder might want to leave a hospital prematurely.

In this particular case a third possibility seemed to exist. The patient was a young, acutely ill, paranoid schizophrenic, He stated that prior to his hospitalization he had been unjustly fired from his job, that he had been singled out and persecuted by his foreman. [8] Subsequently he felt that people watched him in the street and followed him. It fitted perfectly into his paranoid picture of the world that in the hospital he found himself in a place with locked doors, confined, deprived of his freedom, unable to make decisions. This was his $S2$. The thing to do was, of course, to get out. He knew that the people in charge of the place claimed that it was a hospital, and that he was a mentally ill man who needed doctors. He had been told that he could not be discharged as long as he was sick. He was far from certain that all this was true; it could be pretense on their part. They probably fooled him for some hidden reason. However, theirs was the power, and he had to play their game. In order to get out he had to convince them that he was well. This seemed to be the reason for the answer. One sees that the answer is only apparently simple. It is simple only as long as one looks at it without realization of its meaning in $S2$. The simplicity is deceptive. The question is not simply q but $fq(S1)$, the answer not simply a , but $fa(S2)$. [9] The two are logically and psychologically not an innocent good whole, but conceal a cunning bit of trickery. Such instances are usually overlooked in the textbook chapters and investigations dealing with the formal disturbance of thought because the usual approaches do not take into account the fact that they are field determined.

Echolalia and echopraxia, two other very puzzling forms of psychotic speech and behavior, may sometimes be similarly understood. A patient who was a very nice and friendly young furrier suffering from an acute paranoid episode, was convinced that he was being persecuted by his union. He was hallucinated, and very busy listening to the names which his enemies called him. He was constantly preoccupied with his psychotic experiences, and repeated attempts to talk to him were very difficult because of his marked echolalia. On one occasion when his physician had taken him into his office and with a friendly smile asked, "How do you do?" the patient with an equally friendly grin had vigorously nodded his head and eagerly answered, "How do you do?" The doctor now said, "Good morning." The patient repeated, "Good morning." The doctor put his finger to his nose. The patient, nodding and smiling did the same. And this went on. It was, however, noticeable that when the doctor asked no questions and let him alone the patient watched him out of the corner of his eye, and yet at the same time seemed again intensely preoccupied with his

psychotic experiences. This observation gave the clue to a possible understanding of what was going on.

The doctor was really forcing the patient into a very complicated situation. On the one hand the patient had to attend to the dangerous events in *S2* which demanded constant concentration and alertness. On the other hand there was the friendly doctor trying to get the patient into a nice social situation within *S1*. [10] Now to the patient, and with regard to his *S2*, the hospital situation was something peripheral, implying a neutral routine which, most of the time, he could follow more or less passively and automatically. But when it demanded more of his attention it constituted an interference in his concentrated functioning within *S2*. This was also true of the doctor's attempt to draw him into a conversation. But since he was peripherally aware that the doctor was a well-meaning fellow, and since he himself was exceedingly friendly and good-natured, it did not occur to him just to give the doctor the cold shoulder.

This was a dilemma. He had to satisfy the requirements of both *S1* and *S2* although the two situations seemed to be mutually exclusive. Under the pressure of these two conflicting situational needs he hit upon a way out. While he could not rid himself of the urging *S2* forces to meet adequately the *S1* requirements, he could at least enter into a peripheral halfautomatic social relationship with the doctor by repeating whatever the latter did and said, while still being able to be preoccupied with *S2*. While this was not very adequate and certainly strange it served to indicate his good will towards the doctor. In this case, echolalia and echopraxia were in all probability determined as the resultant of the clashing requirements of two heterogeneous simultaneous situations.

Echolalia was recently observed in a case of presenile dementia with moderate brain atrophy as shown by air studies. As far as could be observed, the dynamics here were somewhat different. In this case there was no *S2*. The difficulty was created by the organic handicap. This patient also felt the need to respond to the questioning physician, and to establish some sort of relationship; apparently he very much wanted to do so. But he was too dull, too slow, too much handicapped to grasp and respond quickly and adequately. In this case prolonged handshaking and repetition of the questions or greetings were the best possible way, a stop-gap. At least he did not have to stand mute while he felt the need to respond somehow. Echolalia saved the social situation.

Footnotes:

[6] $q = f_q(S1)$ (read $q =$ function q of $S1$).

[7] $q = f_q(S2)$. It follows that $f_q(S1) \neq f_q(S2)$.

[8] Actually he had been dismissed **because of a** general slow-down of business.

[9] Read $a =$ function a of $S2$.

[10] The patient's delusions had not spread to the hospital environment

Investigators of the formal disturbance of thought have usually undertaken the analysis of their patients' productions by working with the statements piecemeal, in isolation, without regard to the surrounding and determining field constellation. BLEULER [11] did this when he gave the classic theory of schizophrenic thinking on the basis of associationism. [12] More recent investigators of the disturbance of concept formation have used various experimental methods with the same limitations. [13]

Usually the authors did not seriously take into account the fact that even the formal features of thinking are a phase of living, a part-function largely determined by the subject's functional position in, and relation to, his world.

It might be claimed that this piecemeal approach can in some instances be justified. It can be argued that the normal human being must be able to do, and often does, some straight thinking on an objective problem, quite independent of his own personal situation in the world. In such cases the thinking is determined by only the objective structure and requirements of the problem. In all scientific thinking this is a primary requisite, and many concrete life situations need the same open-minded objective approach. In studying the inner structure and dynamics of such a thought process it is often unnecessary to know anything about the man who did the thinking. In order to understand the solution of a problem in physics or history and to judge its merits one need not know the writer.

There seems to be no reason why this method should not be applied to the analysis of diseased thinking in similar seemingly closed and independent productions. There are, however, two objections to the transfer of this normal method to pathological cases. Even in its application to normal thinking it implies two tacit presuppositions which must be elucidated and which are not necessarily valid for diseased thinking. The first presupposition may be formulated in the following way:

There is given a factual object or problem, P , which is identical for anyone who may study it. $P=P$ for thinker A, B, C, \dots, N . Therefore, their thinking on P should lead to results which are essentially identical -if not immediately, then after thorough study.

This formulation is questioned by Gestalt psychology which assumes that P itself is psychologically not an isolated fact, but is experienced in the functional role, in the situational meaning [14] which it assumes as part of the respective worlds of A, B, C, \dots, N . [15]

Instead of $P=P$ for A, B, C, \dots, N , one must write: $P=fp(SA); P=fp(SB); P=fp(SC); \dots P=fp(SN)$.

$P = P$ implies that the behavioral worlds of A, B, C, \dots, N are tacitly assumed to be structurally identical at least in that sector of which P is a part; in other words that with respect to P, A, B, C, \dots, N live in the same common world: $SA=SB=SC \dots =SN$. There is no doubt that this assumption can be made safely with respect to a large variety of problems and objects. If two men study some scientific problem such as the phenomenon of elasticity it can generally be assumed that the world of physics of which this problem is a part is very much the same to both, evoking the same clear view of the phenomenon and the same scientific sight of it. The same is true for problems in logic and for a large variety of problems in everyday life. However, everyday life also presents perfectly normal situations where the assumption does not hold true in the sense in which it mostly does in the sciences. The following example may serve to illustrate this:

A is a business man, cool, sober, experienced. B is his daughter, protected, young, romantic, somewhat idealistic and inexperienced. P is a brilliant, successful young lawyer, known to A socially, and also through business transactions, and by reputation in the business world. The girl knows him socially only, and has no knowledge of his professional activities. She has fallen in love with him and is thinking of marrying him. She thinks: 'P is wonderful, very clever, a brilliant conversationalist. His mind works like a trigger. I hear he is marvellous at his work, witty, unbiased, unconventional. I love the way he looks.....' She speaks to her father who presents his view of P: 'Yes, he is handsome, a good conversationalist, clever - and he knows how to sell himself to inexperienced people. But in terms of the business world he is a crook. His legal methods are smart, but dubious. Nobody can prove anything against him - he is too smart for that - but everybody in business knows that he is unscrupulous and tricky. I most certainly object to your marrying him.'

In this case, the presupposed identity of P for A and B, and, to some extent, the tacitly assumed identity of their worlds, are psychologically not valid. $fp(SA)$ is a clever brilliant crook; $fp(SB)$ an intelligent cultured young man. It is clear that in this case $fp(SA)$ is unequal to $fp(SB)$. The inequality of the two is due to the fact that in her world, SB, the girl does not experience P as a part of, and in his role, in A's larger world. She experiences him in her smaller social world where he is a shining star. She does not know the business world - it is not hers. To this extent SA is unequal to SB. [16]

In themselves, both the father's and the daughter's ways of thinking are clear, consistent, and flawless - they are cases of normal thinking. This is a comparatively simple illustration of how much such thinking is normally determined by the field situation in which it occurs, and by the relation of the thinking person to his situation and the particular object in it.

The girl's view is clearly wrong, not because the lawyer has not the qualities she attributes to him, but because in her world, *only* this part of the man is visible, and seems to be the whole man: to the rest she is blind. She does not see that these qualities are only part of a larger and more complex whole. The father knows that they really constitute a part of the lawyer's endowment for cunning and success at any price, and sees them in functional togetherness with all the other information he has about him. Centered around a ruthless drive for success these qualities now appear as useful but decidedly questionable tools.

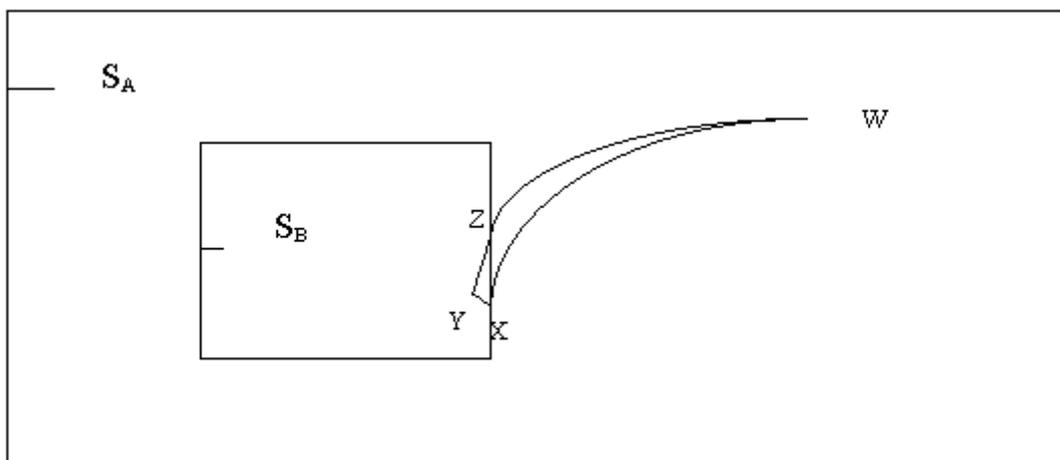


Fig. 5.

Figure 5 may roughly illustrate what is meant. The large rectangle SA may indicate the father's world; the small one, SB , that of the girl. The triangle XYZ indicates the lawyer as he appears in her world; it may represent his social qualities. The girl sees only the triangle limited by the sides XY , YZ , ZX . The father in his larger horizon sees that this is no triangle but a very different figure, WXY . XY is its short side; YZ constitutes an arbitrarily cut-off piece of the arc YW . The functional meaning of these parts is entirely different if they are seen as parts of the whole, XYZ , or of the whole, WXY ; and despite the piecemeal identity of the parts the two wholes are radically different in both cases. Correspondingly, the father admits that the lawyer has the features observed by the daughter, but, if seen as parts of the larger whole their functional meaning is different from that which they have within the smaller whole. Accordingly, there is a radical difference in his view of the personality as a whole.

This is a very simple case. The essential difference of SA and SB is only one of more or less: the former is larger than the latter. In many other cases, and also in this one if one considers the girl's love as a factor, the difference between the two worlds is not only a difference of size, but of structural quality, of whole-dynamics and atmosphere. The example was chosen to show in a simple way what role differences of structural view may play even if they are only based on a more or less of knowledge.

Such cases are frequent and often occur in normal life. If the analysis of normal thinking would take them into account it would have to allow for the differences of the subjects' behavioral world as decisive for the differences in their thinking. Thinking is not an isolated piecemeal event. It is determined by the behavioral field in which it occurs, by the thinker's relation to life, his view of the world and its parts. In certain issues this may be of crucial importance. Not all people have the same world.

The second of the two tacit assumptions referred to above is the following. Within the common world presupposed in the first assumption there is assumed to exist a very special relationship between the thinking subject and his object or problem. It is assumed that he will approach his problem in an objective manner, focussing on it and not on his own troubles. If he does not do so the result will be poor thinking and mistakes in logic. He is supposed to look at his object with open eyes, without prejudices, and his self is not to intrude. The subject-relationship is to be centered on the object, the structure of the thinking process is thought to be determined by the structural requirements of the object itself.

This is an ideal situation. Fortunately there are people who do approach some problems in life and science in this way. But it cannot be taken for granted that this subject-object relationship prevails in all instances of normal, let alone pathological, thinking. Very often thinking is not only centered on the structural requirements of the objective situation but on field conditions involving the subject which may be of so serious a character as to make him incapable of dealing with a present problem as an independent whole, on its merits alone, in sharp separation from what is important and urgent to himself. Here belong not only the more trivial cases of so-called wishful thinking. Here belong the sometimes tragic cases in which the serious and vital structural qualities and requirements of the subject's relationship to his world, influence and mislead him in his thinking and make him unable to focus objectively on a present question which, to others, may seem simple enough. He may not be able to grasp its simple objective features, as they 'cannot be the whole truth.' An example is furnished by those who after violent revolutionary changes in their country just cannot accept these changes as reality.

A sixty-six year old, well-to-do Jewish merchant of honest, rugged stock, came from a family which had lived in Bavaria for generations, and which had acquired honor and leadership in the community. All his life he had been deeply rooted in the land, the culture, the customs and dialect of his corner of the country. With the advent of Hitlerism he was suddenly informed that he was a foreigner who did not belong and should leave. This could not really become part of his thinking. In his view Hitlerism itself was the foreign thing that did not belong to his mountains, to the country of Durer, to his honest, straight-thinking neighbours and friends. He could not grasp its seriousness and reality. It could not possibly be part of this field; it would surely pass. He doggedly refused to leave, until in 1938 he was sent to a concentration camp. There Hitlerism became real for him. He finally managed to emigrate, a confused broken old man.

In such cases the result of the thought process is not simply determined by the object alone, and cannot be understood unless something is known of the subject, of his relation to life and to his behavioral world. The place and role which the object assumes in these contexts must be known.

Footnotes:

[11] BLEULER, Eugen, Dementia Praecox oder Gruppe der Schizophrenien. *Handbuch der Psychiatrie* [ed. Aschaffenburg, spezieller Teil. 4. Abteilung, 1.Hälfte.]; Leipzig and Vienna, Franz Deuticke, 1911 (xii and 420 pp.) - in particular, pp. 10-11.

[12] BLEULER, Eugen, *Text Book of Psychiatry*; New York. Macmillan, 1934 (xviii and 635 pp.) - in particular, pp. 77-82.

[13] VIGOTZKI, L. S. [translated by Jacob KASANIN], Thought In Schizophrenia. *Arch. Neurol. and Psychiat.* (1934) 31:1063-1077.

HANFMANN, Eugenia. Analysis of the Thinking Disorder In a Case of Schizophrenia. *Arch. Neurol. and Psychiat.* (1939) 41:568-579.

HANFMANN, Eugenia, and KASANIN, Jacob. *Conceptual Thinking in Schizophrenia*; New York. Nervous and Mental Disease Monographs, 1942 (vii and 115 pp.).

HANFMANN, Eugenia, and KASANIN, Jacob, An Experimental Study of Concept Formation in Schizophrenia. *Amer. J. Psychiatry* (1938) 95:35-48.

[14] DUNCKER, Karl, Ethical Relativity? An Enquiry into the Psychology of Ethics. *Mind* (1939) 48:39-57.

[15] Reference footnote 5 [item 2]; p. 27 - Kurt KOFFKA introduced the distinction of "geographical" and "behavioral" environment. This discussion is, of course, concerned only with the latter, and with the role *P* plays as its part. [16] She may also be so deeply in love that she becomes unable to organize her picture of him in the direction of *fp(SA)*; the strong forces of her infatuation prevent it.

If one is asked who Epaminondas was, it is tacitly assumed that he will see this question as a historical one, just as he learned it in school, and that he therefore will assume the 'objective' relationship to the problem. While this assumption would be valid in most normal cases one cannot take its validity for granted in the world and attitude of a schizophrenic. He may not be at all interested in the objective historical rôle of Epaminondas; for him Epaminondas may assume an entirely different situational meaning.

For these reasons the second tacit assumption of problem-centered objective thinking cannot be transferred from the study of certain normal thought processes to that of diseased ones.

BLEULER [17] uses a characteristic example. He had asked a schizophrenic patient: "Who was Epaminondas?" and the patient gave the following answer:

Epaminondas was one who was powerful, especially on land and on sea. He conducted great fleet manoeuvres and open sea battles against Pelopidas but was defeated in the second Punic war due

to the foundering of an armored frigate. He wandered from Athens to the forest of Mamre in ships, there brought Caledonian grapes and pomegranates, and overcame Bedouins. He besieged the Acropolis with gun boats, and caused the Persian garrison to be burnt as living torches. The man who later became Pope Gregor VII - eh - Nero followed his example and due to him all Athenians, all Romanic-Germanic-Celtic clans who had not taken a stand favorable to the priests were burned by the Druid on Corpus-Christi day as a sacrifice to the sun god, Baal. This is the period of the stone age. Spear points of bronze.

BLEULERs question concerned a fact of ancient history. The answer was definitely prescribed by the facts themselves. There was apparently no place for any intrusion of the personal psychological situation of the patient. Therefore BLEULER assumed that the answer could be studied piecemeal, on its own intrinsic merits, simply by comparison with the right answer. This comparison, he assumed, would give a satisfactory list of the 'mistakes' which the patient had made.

The fact that schizophrenics live in a world of their own was, of course, known to BLEULER, and was described by him as autism. He also was aware that this influenced their thinking rendering it autistic or dereistic. However, this general knowledge did not enter into his chapters on the formal disturbance of thinking in any concrete manner. Here he proceeded piece-meal, treating thinking as an isolated faculty.

With regard to the example BLEULER says: [17] "The thoughts are kept together by a sort of governing concept, but not by any idea of direction or goal. Thus it looks as if concepts of a certain category . . . facts from ancient history - had been thrown into a pot and thoroughly mixed by shaking; and as if they had then been picked out one by one, just as chance would have it, and had been connected with each other by grammatical forms and some ideas."

Nothing is said about the patient's world, his life, his personality.

This approach is essentially that of classic associationism. For BLEULER, a thought normally consists of a number of heterogeneous, isolated, piecemeal items secondarily linked together by associations according to the blind experience of their past repeated coincidence. Whether or not there is any inner logical reason for the togetherness of just these items, whether objectively their contents fit together or not, does not even become a problem. Starting with this viewpoint, BLEULER does not stop to look at the whole-qualities of the answer except for his use of LIEPMANNs "governing concept." [18] He immediately breaks the answer into its pieces, focusses on the associative links between them, and finds them disturbed throughout. Not looking at the whole, he fails to see the positive factor which consistently determines the direction of this disturbance. He is therefore forced to the conclusion that it looks like a chance effect, and he can only see the negative side of the alteration.

Because of the limitations of space other approaches must be dealt with briefly. The various experimenters dealing with concept formation, for the most part treat the problem in isolation from the patient's life and personality. They do not investigate the psychological significance of the concrete experimental situation for the patient. One therefore learns what the situation meant to the experimenter, but one does not know what it meant to the patient. Probably the meanings are not the same. Yet, to know what it meant to the patient is most important in understanding the results. Similar problems arise in regard to related investigations of "concrete and abstract" behavior. [19] It may be indicated, however, that from the point of view of Gestalt

theory, in large measure the results seem to be connected with the fact that the authors focus on the Aristotelian or the associationist idea of concept. Their finding that schizophrenics and children have trouble with the formation of this sort of concept may possibly, in the main, be due to the fact that it is a piecemeal and late artefact of culture which seems easily lost in psychoses and has not yet been forced upon sensibly thinking children. [20]

The psychobiological approach [21] contains some views which tend in a direction similar to that of this paper, particularly in regard to the stress laid upon the social situation between patient and interviewer. But it seems to this writer that the concrete features of the patient's field situation and inner tendencies are not taken into account sufficiently - so that in the end the thought disturbance is again considered only in its intellectual aspects. The result is a listing of mistakes, such as asyndesis, interpenetration, and others.

Orthodox psychoanalysts claim to have gone farther. According to them, such thinking cannot be taken in isolation, at face value, but must be analyzed in the light of the underlying emotional situation. But this similarity with Gestalt psychology is only apparent. For while psychoanalysts state that thinking must be dealt with in relation to the psychological situation of the 'whole personality,' adherents to its classical form, at least, seek this situation exclusively in an S2, which has always one and the same characteristic nature. Essentially it consists of variations on one type of problem, the various states of the unconscious libidinous development and the unconscious libidinous wishes. At bottom, despite all variations, the world is centered in the same way for everybody: it is an aggregate of situations and objects of essentially libidinous meaning.

But Gestalt theory makes no assumptions as to the nature of the material contents of either S1 or S2. It stresses the fact that the formal dynamics of both are whole-dynamics which in different cases may concern different basic issues. The emphasis is laid on the fact that the disturbance is primarily due to the change in the structure of the patient's world and field situation. The Epaminondas example itself contains strong evidence for this.

If one reads the production as a whole without making the two tacit assumptions and without definite expectation of what the answer should be like, and without prejudice, as if it were a new and strange poem, one feels - yes, this is 'sick.' It contains things which are clearly disturbed, illogical, inconsistent. But there is something besides these negative features. Seen as a whole the answer is pervaded by a powerful, strange, unsound mood, an unexpected atmospheric whole-quality. There is a breathless piling up of big events, a trend towards the violent and grandiose. One senses an urgency in the patient to get at something gigantic, a fury which explodes the objective structures intended by the question, distorting them to the point of becoming grotesque. But despite the bizarre result one feels the consistency of the underlying frenzy throughout the whole.

This grandiosity is qualitatively very different from the quiet grandeur which pervades the historic story of Epaminondas. There one finds an unassuming glory, the attainment of which was not the motive of his actions; he is not pictured as a vainglorious raging hero, but as a quiet citizen doing his duty. The patient's grandiosity is very different; it is violent, hectic, distinctly distorted.

There is method in this madness. This new trend imposes upon the whole a law of its own, impresses its own character and whole-dynamics. At the outset a simple question-answer system is intended. The question clearly states the topic, and, making the two tacit assumptions, sets the direction: it requires an objective historical report. In response to this requirement the patient

starts as if he were going to give just this: "Epaminondas was" But something happens. The mood just described seems to have the nature of a second powerful vector which interferes with the intention of the question. Under the pressure of this second vector the answer deviates in a new direction. Instead of just telling who Epaminondas was the patient drives in the direction of showing that he was involved in tremendous events. Epaminondas becomes a figure of exaggerated might and grandeur. As the statement goes on the second vector becomes stronger and more dominant until towards the end it alone determines what has to be said, until even the original topic is abandoned since it is too small to carry the burden of what the patient is driven to convey. New horizons open which, to his feeling, are more essential, although they have no longer anything to do with Epaminondas and with the intentions of the question. But whatever is said is pervaded by this new whole-quality, the mood. As the statement proceeds the mood builds an internal crescendo until at the end the patient no longer forms complete sentences but just flings fragments of sentences in its direction. *Fig. 6* may clarify what is meant: the original vector of the question-answer system and the second vector are entered as the two axes of a system of coordinates. The statement then appears to assume the shape of a curve rapidly approximating the direction of the second vector.

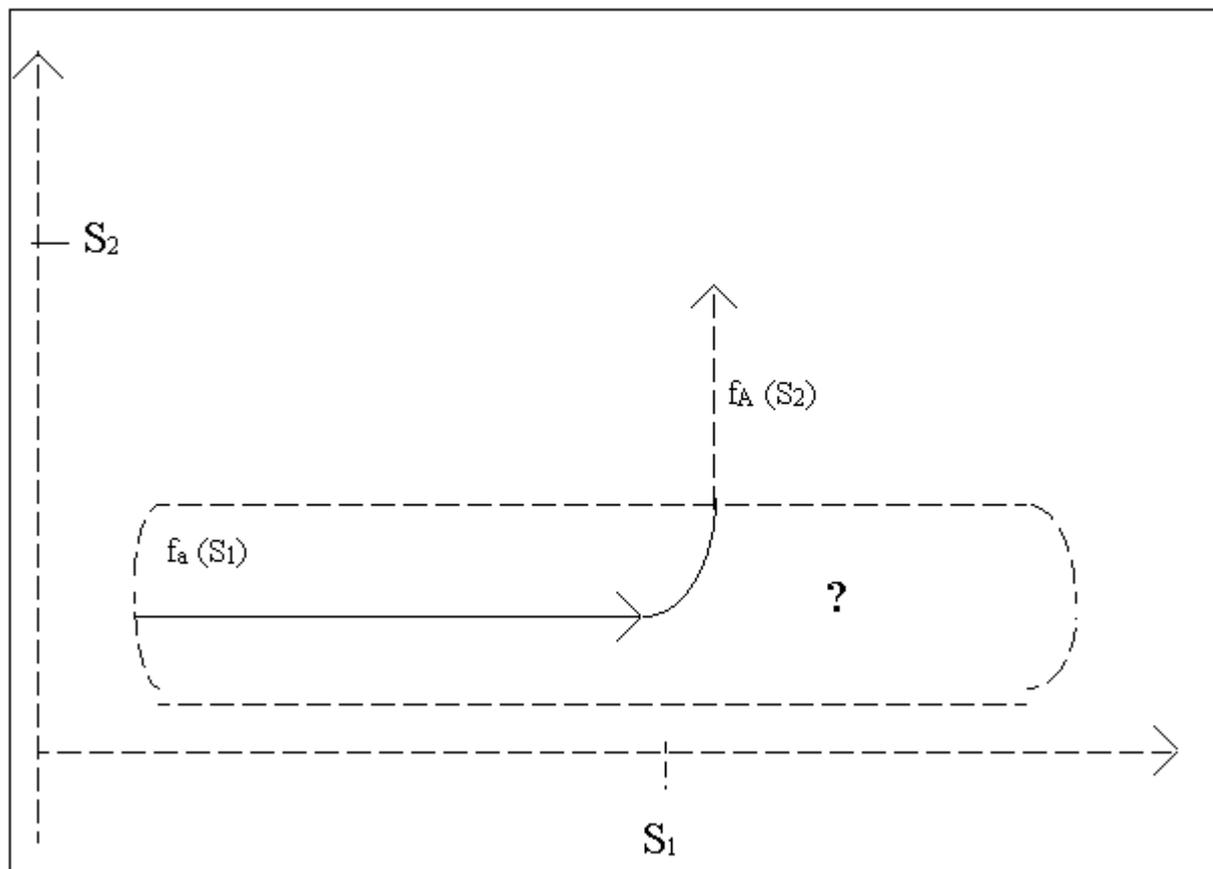


Fig. 6.

This new mood appears to originate in the characteristic features of the behavioral world of the patient. It is clearly not the same as that of man's common 'reality.' While not much is known about the patient one feels that his view of these things is centered differently. It is for some reason centered on and around this trend toward the grandiose of which everything becomes bearer and function. The question flung into this new situation assumes a different functional meaning [22] from that which the questioner, in his situation, intended. [23]

[17] Reference footnote 11; p. 11. My translation.

[18] LIEPMANN, Hugo, Über Ideenflucht. *Sammlg. zwangl. Abhandlg. a. d. Gebiet d. Nerven- und Geisteskrkh.* (1904) 4 (Heft 8):1-84.

[19] Quotations from Eugenia HANFMANN, reference footnote 13; item 2.

BOLLES, Marjorie, and GOLDSTEIN, Kurt, A Study of the Impairment of "Abstract Behavior" in Schizophrenic Patients. *Psychiatric Quart.* (1938) 12:42-65.

GOLDSTEIN, Kurt, and SCHEERER, Martin, Abstract and Concrete Behavior: An Experimental study with Special Tests. *Psychol. Monogr.* (1941) 53 [2]:1-151

[20] WERTHEIMER, Max. über das Denken der Naturvölker. Zahlen und Zahlgebilde. *Zeitschr. f. Psychol.* (1912) 60:321-378. Refer to the English abstract in Ellis, Willis D., reference footnote 3, pp. 265-273.

[21] CAMERON, Norman. Reasoning, Regression and Communication In Schizophrenia. *Psychol. Monogr.* 1938) 50:1-34.

CAMERON, Norman, Schizophrenic Thinking in a Problem Solving Situation. *J. Mental Science* (1939) 85:1012-1035.

[22] fq(S2)

[23] fq(S1) -

Immediately two new problems are presented. First, what does this recentering mean and imply? Second, there remain disturbances in the detail of the production which the mood factor alone does not sufficiently explain.

In this paper the answer to the first problem must be brief although it is concerned with important problems of personality dynamics. Gestalt theory maintains that thinking is no isolated process but is concretely determined by the whole-relation of the person to his behavioral world. It will be recentered when the whole-relationship requires it.

In this connection the term 'recentering' means essentially the following simple and not infrequent human experience: in the course of the development of a human being and of his relationship to the world and to himself in it, critical episodes sometimes occur in which a sudden radical reorientation is vitally needed. The previous view of life, world, one's self, becomes untenable. Some facts, some experiences, some inner developments occur which do not fit in with the old orientation but demand a restructuring of one's view of the world and one's self in it, a widening, narrowing, or changing of the horizon, often a shift of emphasis as to what really matters in life. One has to find oneself anew. Puberty and adolescence frequently give rise to such crises, but adulthood is by no means free of them. These crises often bring with them moments of great intensity, of strong new moods, amazing revelations and discoveries. Sometimes at first there is searching; the new view is only slowly organized and crystallized. Sometimes the new organization occurs precipitately, within a few days or weeks.

The direction of this recentering varies: the following examples will clarify what is meant. It may go in the direction of suddenly discovered personal freedom, of the throwing off of inner and outer shackles and prejudices, of newly acquired independence and fresh originality in confronting the world. It may lead to an ethical reorientation or to an intensified religiousness which becomes the firm center of one's relation to his world. In other cases it may lead to a sort of delicate and romantic *Innerlichkeit* in which one is gently but strongly and securely rooted. Still others may break through into a life of rich adventure, with excitement and *joie de vivre* and a penchant for

great doings; they no longer want to bother with the pettiness of everyday life. There are many other possibilities.

The vital need for such recentering and restructuring of the perception of life and world presents one with a concrete job. Detailed processes must take place again and again if the recentering is to result in a liveable, concrete, and consistent view of life and world, compatible with the objective data and structures of the world, as well as with the psychological needs of the person. Every important part of life has to be worked in consistently with the intended new view of the whole: there has to be constant testing of the objective facts to see whether they will fit into the recentered view or whether they will resist it due to their own inner independent structure and organization. The job may sometimes require the originality of an artist, true productivity and creativeness. Therefore, such recentering crises often demand strength and time, persistence and vigor. This is especially true because in such moments the organism frequently undergoes a severe strain.

Clinically one frequently gains the impression that in the very beginning of an early schizophrenic process the patient has reached a stage in his development where he is inescapably confronted with some such far-reaching psychological job. Sometimes this is due to changes in the field; the subject is put under stress in the direction of having to meet new situational needs which demand an important change of outlook and attitude. [24] In other cases the patient's inner development itself may have reached a stage where a new phase, an energetic change of the personality is required: the development pushes forward, it wants to go ahead. This seems to have been the case with the 'introvert' patient who experienced the urgent and vital need to change in the direction of becoming a happy 'extrovert.' In the following the repercussion of such situations on thinking will be discussed.

Difficulty with respect to the working out of the detail, even if the new whole-trends are clear, may be encountered, The demand for psychic energy may be too great at a moment of frequently great strain. There may be a lack of strength to see it through; the subject may be too weak, too easily exhausted, too 'asthenic' to accomplish the job in its concrete detail. Again there may be a lack of necessary intelligence, talent, and versatility with which to discover the concrete possibilities of recentering and fitting in the facts and problems of life in the required direction. Or, the intended direction of development may be so extreme, so rigid, so extravagant as to clash with the objective requirements and structures of essential data of the world; this may then require a compromise, a modification of direction of the recentering until something liveable results. In such cases the demands for patience and tenacity, but also for elasticity and plasticity, may be especially great.

If the inescapable need for recentering clashes with one or some of the above-mentioned obstacles, or with any others, a tense situation may arise. There may be no other way out of the dilemma for the patient than to disregard, simply and brutally, those problems of concrete detail which create difficulty. He no longer can afford to bother with the tedious job of reaching consistence throughout. He distorts and forces resistive details into the centering against their inner structure in order to salvage at least the possibility of realizing the main trend of the new whole in its original purity and intensity and direction. If the structural details of the problem with which one is struggling do not lend themselves to easy recentering they are violated with complete disregard for the resulting inconsistencies - as long as the whole-trend remains clear and outspoken.

In this manner the person - no longer healthy, and overwhelmed by strong forces within himself - achieves a peculiar form of pseudo-freedom from the concrete structural requirements of the detail of the world, from the specific needs of logic, plausibility, consistency - but also from his own inner personal limitations. The resulting contrast between the mighty, free sweep of the whole, and the poor, mixed-up shambles in the detail, makes for the grotesque and sorry impression which one so frequently experiences when observing schizophrenic behavior, and thinking.

BLEULERs patient does not make any consistent attempt to bother with the realities of the Epaminondas story. Whether the story will lend itself to being told in his prevailing mood direction is not even examined. The effort to recenter it quickly but consistently so that a new flawless structure will result which will be consistent with both the facts and his new mood - this effort is not made, or it fails. An analysis of the correct answer to BLEULERs question will show the concrete requirements with which the patient was confronted, and will make clearer the nature of his difficulties.

Someone who thinks clearly could give the following correct answer: 'In the middle of the fourth century B. C. a series of wars occurred between the ancient Greek states. One of these was the war between the Thebans and the Spartans who had wrongfully attacked. The Thebans were led by Epaminondas who, by his masterful generalship, managed to achieve the two famous victories of Leuktrai and Mantinea. He was faithfully assisted by his friend Pelopidas. Epaminondas lay dying on the battlefield when he was notified that the enemy was retreating. His last words were, "I leave two immortal daughters, Leuktrai and Mantinea."'

On close examination one can see that this statement has a clear inner structure. First, all facts are given as parts of one large encompassing whole: they are facts of history. Second, history has large subdivisions: these facts belong to ancient history. Third, this again has subdivisions: the facts are part of ancient Greek history. Fourth, this again can be divided into a number of phases: these facts are concerned with the interstate wars. Fifth, the war of Thebes was an important part of these. Sixth, Epaminondas is known in, and because of, his central functional role in this war. All facts concerning him are given in structurally clear succession and development.

This organization has a sort of modified *figure-ground* structure in which the fifth and sixth points of the answer constitute the figure which is placed in the immediate background of ancient Greek history, which in turn is itself embedded in vaster historical contexts. This is the organization of the mental picture which is clearly conveyed in a good answer.

The good clear organization of such thought figures implies features of consistent *grouping*. Structurally there must be clearcut boundaries between the various parts, between figure and ground. Figure and ground must respectively include those facts which belong, and exclude those which do not. These facts must be presented in their function in the structure of the context as a whole. The figure must be placed into its structurally required place in the background so that one can see clearly the larger context of which it is a part, and what essential functional relation it has to it.

To do such thinking means clear and consistent dealing with the dynamic structure of the whole in which each part must have its fitting place, its logical function, and its meaningful clear relation to the other parts. [25]

This figure-ground structure gives the skeleton of the good answer to the question. But the patient was faced with the task of presenting it in a version required by his own mood and world view. He had to produce his own variation of the theme, just as an obsessed musician might want to create a violent and distorted variation of a simple tranquil theme. Any theme, while being varied, must retain some essential structural whole-features. On the other hand, in the case of the patient, the theme had to be varied in such a way as to assume the new atmospheric whole-quality into which it had to fit. This was a much more difficult task than just an easy repetition of some paragraphs out of a textbook on ancient Greek history. The effort at production of the envisaged figure required vigorous thinking.

If a new, at first vaguely felt conception is to crystallize into a concrete thought-Gestalt the process of crystallization often demands a rather high level of organizing Gestalt forces if the whole picture is to have real consistency. This will insure the shaping and distribution of all parts in the direction of fitting in with the needs and the character of the whole. The inner figural pressure of the crystallizing thought tends to fit in the details with the new whole-atmosphere, and at the same time to exclude inconsistencies, inadequacies, inner breaks, and weak, short-of-the-mark formulations. When difficulties are encountered, when the crystallization process is blocked or becomes laborious, because, for instance, a required apt phrase does not readily emerge, the tension level required to overcome the obstacle may have to rise very high. [26]

The question arises as to whether schizophrenics are able to mobilize and sustain a sufficiently high level of such Gestalt tension to comply with their own vital need for the new original processes. It is possible that the quality called *asthenia* [27] implies that a great difficulty exists in this respect. There may be an inability to provide the necessary strength and clarity of structural forces, and the recentering asthenic would be faced with a vitally important task beyond his power.

The schizophrenic thought figure would then be the result of a crystallization process occurring on too low a level of tension to yield a consistently organized whole. Instead one should expect to find thought figures with inner breaks and inconsistencies. However, these figures would somehow attempt to bring out the main whole-character of the intended thought, similar to what one often observes in the violent sketches of schizophrenic artists. The less the available Gestalt energy, the more of an effort would be needed, and the more forced would be the result. Often one does find just that-extreme, exaggerated whole-trends with the detail in a sketchy, hasty, often incoherent jumble. In other cases the Gestalt pressure seems to be still lower so that even the main direction of the whole becomes progressively insecure and unclear until it is either deflected or exhausted.

The purpose of this paper has been to take a few steps. New questions appear. The problems of the figural crystallization process in thinking, and its qualitative and quantitative aspects must be investigated. At present the additional hypothesis of the weakness of Gestalt tension in schizophrenic thinking, is offered as a working hypothesis only.

Still larger are the problems of the recentering of the subject-world relationship as a whole, and of the subsequent emergence of a new world, not within, but beside the common world. In this paper these crucial problems could only be briefly dealt with, but they had to be indicated, since thinking is not an isolated faculty but is part of the functioning personality in its relationship to the world.

Footnotes:

[24] Referencefootnote 5; item 4.

[25] An analysis of the factors which determine the grouping in its detail is omitted.

[26] This may show in ensuing fatigue and headache.

[27] The present definitions of this term are still vague, largely external, and not dynamic