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HOLZKAMP'S CRITICAL PSYCHOLOGY AND THE FUNCTIONAL-HISTORICAL METHOD: A CRITICAL APPRAISAL

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INTRODUCTION

If we are to believe Holzkamp's autobiographical notes (Holzkamp, 1972, p. 207 f.f.), his first confrontation with a critical approach to traditional scientific study consisted of his dispute with a psychology-student — Irmgard Staeuble — about her Masters thesis. This was in 1964. This thesis was concerned with a problem in the area of research into biases and was written from the view-point of the critical theory of the « Frankfurt School » (see Jay, 1976). It was the representatives of this school — Adorno and Habermas — who had begun to challenge the representatives of the traditional 'positivistic' scientific theory, namely Popper and Albert (see Adorno, 1978).

These discussions about the foundations of traditional scientific study primarily restricted to sociology, were to go down in history as the « positivistic conflict » or the « third methodology conflict »! Two important themes in this debate concern the problem of research into the interrelation between individual phenomena and the problem of values in scientific research.

With respect to the first theme, there was the question of the possibility and necessity of the « pretence of totality », a notion held on to particularly in (neo-) marxist circles. Does scientific study consist of a series of detailed studies from which insight into historical and social interrelations emerges, as it were, by chance? Or should one's attention in each detailed study remain focused upon the historical and social context in which the section of study being examined is situated, so that the development of a meaningful overall view might be ensured?

The theme of values concerned the question of the role of science in determining the goals for which scientific knowledge should be employed. In the positivistic ranks, the position of value-free science was defended, in particular with references to the « naturalistic fallacy » (Hume). Science is only capable of saying something meaningful as what is; what ought to be, however, could never be logically or responsibly deduced from purely factual premises. Science should refrain from statements about the desirability of particular norms, values and goals. Alternatively, the critical camp pointed to the inevitability of supporting or opposing certain goals for which knowledge is employed. And because of this inevitability, it seemed preferrable that science should responsibly, that is rationally consider these goals, rather than cling to a semblance of neutrality.

Staeuble confronted her advisor with the necessity of also conducting this discussion among psychologists. From his positivistic view, Holzkamp had initially made a good number of critical notes with respect to the thesis mentioned above. But in the course of the discussion he more and more inclined to the view that psychology should not be allowed to miss the criticism of the 'Frankfurt School'. It did, indeed, appear that psychological research restricted itself to miniscule sections of study which were observed under very artificial experimental circumstances.

To the extent that it was verified according to the then current methodological criteria, psychological knowledge was fragmented knowledge. The all-embracing theories of classical psychologists, such as Freud, had fallen from grace long before, at least from the point of view of the dominating « positivistic » thinkers. The clinical view of the totality had in general made way for a scientifically orientated analytical approach from detail. Alternatively, the question arose, particularly in post-war Germany, as to what extent psychology had surrendered itself, by virtue of its demands of a value-free science, to the dominant values and norms. Worse still, were these not the values and norms of «coincidental» dominant groups in society? In Germany, recent history had clearly demonstrated that a system of values can become totally perverted when science, as in the 'positivistic' conception, functions uncritically. The idea of value-free science was therefore difficult to sell. Critical students in particular

raised the question, whether psychology should not protect itself from such catastrophic instances of 'value-breakdown'. Should it not take the initiative and determine in a more rational way which values and norms should guide scientific research and the application of scientific knowledge?

At the time Holzkamp was confronted with this sort of questions, he could not have conceived that 15 years later people would speak of Critical Psychology as an influential « school » with a clearly recognizable identity. The first international congress, held in Marburg in 1977, drew more than 3000 participants, from both within Germany and abroad. A clearer illustration of the resonance of a movement with a relatively short history is hardly imaginable. This school, which Holzkamp preferred not to consider a separate psychological school but a necessary addition to traditional psychology, was to move away from the original source of inspiration — the critical theory of the Frankfurt School — and return in particular to the more orthodox Marxist Soviet psychological 'Cultural Historical School' of Vygotsky, Luria, Leontiev and others.

From the very beginning, critical psychology was a phenomenon to be found only in Berlin. Though many people outside Berlin and even outside the German Federal Republic were responsive to the results of this school, the developers of critical psychological theory have nearly all worked at the Psychological Institute of the Free University in Berlin (Holzkamp, 1978). Some go even farther and defend the proposition that Critical Psychology has become a kind of family enterprise and might better be called the « Holzkamp School » (Geuter, 1977, Huber, 1977). The personality cult such a name implies, and which is unmistakably present in the work of Holzkamp's « pupils », does not appear to be entirely unfounded. One could in fact defend the proposition that without the personality of Holzkamp (historical materialistic) criticism of psychology would have arisen but not Critical Psychology. Holzkamp was the very person to develop detailed, and for many people convincing, immanent criticism of aspects of then current psychology, from his intensive practical experience with traditional psychological research and from his original identification with a variant within the 'positivistic' scientific theory, constructivism (Holzkamp, 1968).

He wrote this criticism in five articles, published in the period 1968-1970, and republished in the collection 'Critical Psychology', in which they were provided with a critical introduction. This collection was rightly subtitled « Vorbereitende Arbeiten » (*Preliminary Work*) as it resulted in an attempt, briefly discussed and with little foundation, at an alternative approach to psychological questions. Emphasis was still laid entirely upon reconstruction and criticism of then current scientific study. For example, he criticized the lack of social relevance in most psychological research results and exposed the « organismic » image of man behind the current experimental practices. In addition, he further developed his constructivistic variant of a positivistic scientific theory, following here Dingler's example, in order to find the necessary areas for immanent criticism. Finally, in a self-critical, nearly autobiographical final paragraph, he somewhat abruptly embraces the historical materialistic theory, which will definitively correct all the shortcomings of traditional psychology as a sort of 'deus ex machina'. For example, the solutions to the problems of relevance and values would be implied in the results of research of good quality: in other words, the scientific nature of research results themselves would guarantee a high level of social and ethical relevance, independent of the subjective choices of the individual researcher or of the specific area of research. Alternative research strategies were, however, hardly developed. In the future Holzkamp and his collaborators would try to realize these programmatic wishes and expectations.

At the start of the seventies, Holzkamp had a unique opportunity to create the conditions, also in the areas of organization and personnel, under which Critical Psychology could be developed into a school with its own research program. After he had made the necessary theoretical preparations for such a development, a schism, partially brought about by students, developed at the institute at which he was a professor. The departure of a number of more conservative assistants and professors led to a situation in which Holzkamp, as the only remaining professor, together with the remaining assistants and predominantly « critical » students had to fill 12 vacancies for research assistants, 5 vacancies for assistant professors and 4 vacancies for professors (Holzkamp, 1972, p. 269, cf. Mattes, 1979). In fact, an Institute for « Critical

Psychology » with more than 500 students and more than 70 staff had developed having to make a completely new start in the areas of teaching, research and administration. In this situation both the work and personality of Holzkamp were a welcome orientation point and formed the binding element in the years of development that followed.

Now that we have given a broad outline of the origin and development of Critical Psychology, we would like to devote particular attention in the following paragraphs to the methodological aspects of this school. Due to its often devastating criticism of current psychological research, it has taken on the responsibility of proving that an alternative 'critical methodology' is indeed possible. This does not mean, of course, that we can completely ignore the critical remarks Critical Psychology had made concerning the various methods of psychological research (see also Van Ijzendoorn, van der Veer, Goossens, 1981).

The contributions of Critical Psychology in the area of perceptual, motivational and cognitive theory will only be dealt with in passing, if at all. As a result, an important part of the writings will not receive any of our attention. We believe, however, that we must restrict ourselves as a responsible evaluation of the contributions would require a more specialized knowledge of these areas themselves.

THE FUNCTIONAL-HISTORICAL METHOD AND TRADITIONAL HEURISTICS

In Popper's critical rationalism a sharp distinction is made between the context of discovery of a new system of concepts, a new theory or a new hypothesis and the context of justification of propositions. In the first context, intuition and creativity may be used freely in formulating bold speculations which later are subjected to strict tests through the falsification principle. From where a scientist gets his ideas and theories is no business of a methodology directed toward justifying propositions with a pretention to truth. To Popper, heuristics, that is finding hypotheses for research, is an area that should be studied by psychologists instead of methodologists. The only decisive test for the truth of a proposition is the deduction of an observable prediction and its confrontation with

observations. If the predicted situation does not occur, we speak of definite falsification (refutation) of the proposition [1]. The origin of the statement is of no consequence at all, as this implies an inductive process that can never be strictly logically described. Indeed, Popper did not develop a « logic of scientific discovery », as was the English title of his most important book, but a « logic of scientific justification ». To Popper there is no logic involved in the context of discovery (see Simon, 1973).

When Holzkamp views the current state of psychology, he concludes that this social science must have followed Popper's recipe most literally. In no other discipline do so many uncoordinated, audacious conjectures appear to have been made in creating hypotheses and ad-hoc theories than in psychology! And these « bore » in fact a hodge-podge of facts which fundamental theoretical developments did not keep up to. Instead of the integration of available facts into one general theoretical perspective from which hypotheses could systematically be deduced, a jungle of occasional theories and hypotheses developed.

Poppers dictum that the weeds of incorrect propositions would be uprooted by falsifications proved to have fatal consequences in practice. The unbridled fantasy and creativity of many a psychological researcher led all too often to tinkering at detail questions which were neither theoretically nor socially relevant.

Heuristics within the positivistic tradition

It is of course true that within the positivistic tradition

[1] We will not expand on the logical problems involved with the falsification principle. The Duhem-Quine thesis in particular makes clear that the deduction of an empirical statement e from an individual hypothesis h usually involves a series of medial constructions and background knowledge a, which makes the falsification of h alone logically impossible:

$$\frac{h \wedge a \vdash e \qquad \neg e}{\neg (h \wedge a)}$$

Holzkamp's 'Exhaustion' principle is based on this state of affairs: a hypothesis that has apparently been falsified on the basis of results of observation can always be salvaged by reverting to errors in background knowledge or in the medial contructions (Diederick in Braun/Radermacher, 1978, p. 634 f.f.).

attempts have been made to develop a theory or logic (Simon, 1973, 1977, 1979) concerning the context of discovery. Simon in particular tried to show that it is possible (and with a view to efficiency necessary) to formulate a « logic » of generating hypotheses in the form of consistent statements. However, he starts with the principle that the discovery process consists of the recoding, economically and within models, of a collection of empirical data.
Assuming for example the letter sequence:

ABMCDMEFMGHMIJMKLMMNM...

it is then possible to distill more or less systematically a pattern summing up economically and concisely this closed collection of data (the alphabet must be seen as a circle in which Z follows A). The letter sequence is a sequence of triads. M always appears as the last letter of the triad. The pattern can be described as follows:

$$n(\alpha)n(\alpha)s(\beta);\ \alpha=Z,\ \beta=M$$

in which n (α), is the replacement of a letter with the letter that follows in the alphabet, and s (β) is the repetition of the same letter that β stands for.

How can such a pattern be discovered? Simon believes there are two more or less systematic strategies possible: the « British Museum Algorithm » and the « Heuristic Search Algorithm ». Assuming that the « hypothesis generating machine » is capable of working with the relationship of identity (same=s) and sequence (next=n), then the former strategy consists of describing in great detail every possible combination of the two relations. The machine could produce the following variants:

$$s(\alpha),\ n(\alpha),\ s(\alpha)s(\beta),\ n(\alpha)n(\beta),\ s(\alpha)n(\alpha),\ s(\alpha)n(\beta)\ \text{etc.}$$

The pattern $n(\alpha)n(\alpha)s(\beta)$ would then appear automatically. Of course, with a somewhat more complicated pattern, this is a very cumbersome strategy. More efficient is the Heuristic Search Algorithm, which searches less systematically for explicit regularities in the letter sequences. The entire sequence is reviewed, while relationships of identity or sequence between letters close to one another are looked for. It then quickly becomes obvious that every third letter is an M, as well as the fact that we are here dealing with a triadic sequence. The sequential relation between the first two letters of every triad can

then, indeed, be found quickly. This applies as well to the relationship between the middle letter of every triad and the first letter of the triad, following it. The pattern $n(\alpha)n(\alpha)s(\beta)$ is then fixed. According to Simon, experience has shown that for both strategies relatively simple computer programs can be constructed. The « creativity machine » would then be a reality (cf. Loeser, 1972).

The example chosen seems very artificial and impossible to connect to any practical example. And yet there is no qualitative difference between finding a pattern in a letter sequence and constructing a periodic table of chemical elements as did Mendeleev. According to Simon, this model for the arrangement of elements according to their atomic weight, led to a whole series of experiments designed to test predictions derived from the model itself.

When developing a hypothetical model concerning letter sequence, the induction problem does not arise because that model does not pretend to apply for other data collections or for an expansion of the original collection. The generalization problem arises only in the second stage, thoroughly described by Popper. But Simon's description here of discovering hypotheses does coincide with the ever more common research practice in which on the basis of a part of the empirical material collected, the most suitable model is looked for. Whether or not such a quasi-inductive but in fact systematically developed model is tenable, is then tested, using the remainder of the material.

Restrictions of « positivistic » heuristics

The most important restriction of the procedure described above is that no rules for collecting data can be derived from it. The question of what kind of empirical material is of interest in a particular stage of the development of a discipline, remains unanswered. The choice of variables to be measured is presupposed (i.e. cannot be justified theoretically), so that one need only look for a model that in all probability reflects, most adequately, the relationships between the variables chosen, that is the collected data. In developing a model, questions as these all play a role: is a linear model the best representation, or should one allow for curvilinearity and interactions? And what weight should be assigned to the elements in the function, etc.

However, the starting point is a data-matrix already presupposing the selection of a number of variables from among a collection of possibly relevant variables. It is this selection in particular with which Critical Psychology has concerned itself most intensively, and for which the functional-historical method was developed. The notions liying at the root of this can best be illustrated with an example.

Imagine that research is done on the motivation of children to learn certain material. The research subject — motivation — would at first glance seem to be determined by a whole series of variables as sex, age, socio-economic background, self-image, the nature and structure of the material, the type of teacher, the system of rewards and punishment, the sociometric structure of the class, etc. Indeed, an enormously complex reality. The traditional researcher will try to reduce this complexity by limiting his experiment, for example, to two variables, in order to keep the problem methodologically and technically researchable. His « positivistic » methodology does not limit him in his choice of these (« independent ») variables. Strictly speaking, he need only make a bold conjecture, and subject it to rigorous testing. The researcher takes as it were a slice of a complex reality and examines it, without having to worry about a context or totality which are difficult to investigate in the first place. A second researcher having a go at this problem, has the same fundamental freedom in choosing a limited number of variables to investigate. In turn, he will personally fish out two (most likely) other very promising independent variables and thoroughly investigate their correlation with motivation, by means of a carefully arranged and laborious test procedure. It would come as no surprise at all if both researchers found support for their hypotheses concerning the determinants of the research subject. The two ad hoc theories of motivation, T_1 and T_2 would be formulated, both of which would be equally « true » according to 'positivistic' criteria, at least they could not be falsified. T_1 would be based on the independent variables (c.q. determinants) V_1 and V_2, T_2 on V_3 and V_4. The expectation is then that reality could be reconstructed, as it were, as a mosaic, simply by integrating T_1 and T_2. But will combining two partial theories guarantee the creation of a theory that describes and explains the essence of the subject?

Holzkamp does not think so. He urges that by means of theoretical research a distinction between essential and non-es-

sential determinants should be made in advance. For imagine that V_1 and V_3 are non-essential variables influencing the research subject only in limited spaces and at limited times. First of all, the results of the partial investigations having led to the theories are not likely to appear again under somewhat different historical and geographical circumstances. Secondly, the integrated final result will be subject to the same limitations. In this case as well the ideal of universally applicable laws seems to be unattainable and what appeared general, turns out to but one of the many fragmented bits of theory.

The question is, of course, why the natural sciences run up against this kind of fragmentation so much less frequent, despite the fact that there a « positivistic » approach is used as well. Holzkamp believes that in physics and chemistry in particular, the research subject itself got more and more an integrating function (that is, influenced the pattern of theory development). This because its basic dimensions, together forming an integrated system of fundamental properties (as mass, force and acceleration in classical dynamics) came increasingly to the foreground. These basic dimensions would then lead to a fundamental system of concepts which would also determine the interpretation of the results of research into aspects of a problem [2]. In the social sciences, however, there is no consensus over the basic structure of reality, partially because there is no method at our disposal to analyse existing material as to its basic dimensions. Because of this, the 'anarchistic' cancer of social scientific theories and hypotheses continues to spread. 'Positivistic methodology' does in fact contain formal validity criteria for truth. Though it is true that through the falsification principle and the verisimilitude thesis, the ideal of truth remains unattainable, we can nonetheless get closer and closer to it. But 'positivistic' methodology does not have any relevancy criteria. Such criteria would enable to distinguish between essential and non-essential dimensions of a research subject, in this case a variables model. Empirical testing is only a necessary, but certainly not a sufficient condition in determining the scientific value of a statement about the relationship between variables. Testing according to relevancy criteria, i.e.

[2] Holzkamp (1978, p. 147). The automatic process implied here seems to us a somewhat too naively realistic view of the nature of the natural scientific system of concepts, which are, after all, constructivistic (compare Kuhn, 1962).

answering the question whether a statement relates to the basic dimensions of the research subject, is just as necessary. We would then be able to avoid attributing the same importance to every succesfully tested statement. If we are not, choosing a theory would become a question of taste and fashion.

It would seem that an obvious solution to the problem of relevancy lies within the research subject itself. As we have seen, Holzkamp believed that in the natural sciences the research subject itself established the basic categories for research hypotheses. In the case of the self-analyzing social scientific research subject, « the human being », it would seem obvious that the often implicit theories and systems of concepts with which participants in experiments describe and interpret their world, should be made the basis for pre-structuring the research subject into essential and non-essential dimensions.

Use of such strategies has, in fact, been supported by Winch (1970). He stated that the social sciences were not completely free in choosing a system of concepts through which human behavior is described. Indeed, how behavior in a social context is interpreted by the « actor » and his public is greatly dependent upon the system of rules adhered to in that context. Whether certain behavior, or better still, a certain activity should be interpreted, as sport, or suicide, can differ according to the cultural context and « language » community. Often a sharp distinction between suicide and a very dangerous sport cannot simply be drawn from ethologically describing as objectively as possible the externally perceptible elements of a system of behavior, resulting in a voluntary death one inflicts upon oneself. The social sciences must therefore derive the structure of the research subject from the framework of interpretations of the « participant ».

There is, however, a fundamental problem with this and similar approaches (cf. Glaser and Strauss, 1967). This is the phenomenon of rationalization and of unconscious or subconscious motives, which can play an important role in the self-interpretation of a participant in an experiment. This approach assumes, in fact, an idealistic notion of people, in which the emancipated human being is the complete master of him — or herself and the world. In reality, however, an « everyday » framework of interpretations without ideological distorsions is nearly unimaginable (Holzkamp, 1978). In the view of the world of the participant, reality and appearance flow into one

another, and science cannot blindly rely upon the ability of the individual.

CRITICAL HEURISTICS: « DER DREISCHRITT »

Holzkamp believes that the solution to this undoubtedly extremely fundamental problem of developing an adequate system of concepts and a hypothetical model of the research subject, can be found in the Cultural Historical School. Leontiev (1973) in particular, demonstrated that only by analysis of the historical, social and phylogenetic background of a subject its essential traits and structures can be made discernable. The behavior of participants in experiments in the framework of contemporary psychological research is not only the result of their individual development. It is also a result of the development of the (biological) species and of the social structures in which the species seeks assurances for its survival and reproduction.

The basic dimensions of the research subject emerge when the question arises what the function of particular behavior is for the material process of production and reproduction of life of the individual and the species. At the same time, the question at what social development level this process occurs must also be investigated (Jäger, 1977). Leontiev distinguishes three methodological steps in the functional-historical method, all of which have been adopted by Critical Psychology:

1. Analysis of the *natural historical (phylogenetic) development* seen as the (re)production of humans as biological organisms.
2. Analysis of the *social historical development* seen as the (re)production of the culture, that is the life of the individual within the group.
3. Analysis of the *individual (ontogenetical) development* in a particular social context and class, seen as the (re)production of the individual.

Three presuppositions lie at the root of the functional historical method. First, that the historical development of a phenomenon has left a mark on its fundamental structure. Secondly, that the necessity of (re)production of the individual and the species determines the basic dimensions of a phenomenon. And thirdly, that this (re)production is maximalized in a

social context, that is in the group. In short, human behavior is characterized by its historical, material and social nature.

The assumption here is, of course, that while the question of the function of behavior will be answered differently at each stage of development, each stage leaves its mark on the next stage.

The three fundamental stages of development:

1. the stage of biological phylogenesis;
2. the stage of the origin and development of life in society;
3. the stage of life in a specific (capitalistic) type of society,

do not replace each other entirely, but are bound up in each other.

In this view, the actions and thought of a contemporary individual are not only determined by the necessity to reproduce and contribute to the reproduction of the species in a specifically capitalistic society. They are also determined by remainders of the two preceding stages, that is the stage of (re)production of the biological organism and the stage of maximalizing this (re)production in the context of the group. The motivation to learn a particular amount of material is therefore not only determined by variables arising in the actual situation (structure of the material, kind of teacher, relationships in the class, etc.). It is also determined by « residues » — paradoxically enough of essential importance — of times past; in particular from the time that the biological organism had to display a certain amount of exploratory incentive in order to adjust as well as possible to an ever changing environment. The importance of these remainders of natural historical phylogenesis, stored in the 'biological inheritance' should not, however, be overestimated. Critical Psychology attributes the 'leap' from phylogenesis to social development to the uniquely human capacity of conscious construction and use of tools. This led to the development of a sort of social memory — the « cultural inheritance » in which solutions to problems which confronted preceding generations are stored. This extensive cultural inheritance covers as it were the biological inheritance without neutralizing completely the influence of the latter.

The plough for example, is then the objectivation of one of the solutions man has discovered in the course of evolution for the problem of increasing the yield in agriculture. By « Aneignung », that is actively acquiring its cultural inheritance, every generation is enabled to climb on the shoulders of the prece-

ding generations and, by doing so, achieve a higher level of adjustment to the environment of production and reproduction of collective and individual life, of satisfaction of the basic urges (compare Sève, 1975). At this level of social development, the « social specificity level », the individual is dependent on the group for maximum adjustment to the environment, and his contribution to collective production and reproduction is simultaneously a contribution to his own (re)production as an individual. In this view, the age of saying: « homo homini lupus est », the bitter struggle for (individual) existence is replaced by an almost idyllic view of harmonious communal life in which each member is an indispensible link. This is all the more surprising as we are not concerned here with a traditional 'adjustment ideology' of the individual but with an « anthropology » based on historical materialistic principles. But this notion is concerned with the general 'social specificity level' and not with a specific solidifying of it in the form of an « antagonistic class society ». This view therefore has a « contrafactual » character, that is, it is possible but not always — and in the case of capitalism hardly ever a reality. Furthermore, this concept is concerned with the modal individual and not with a unique individual. Holzkamp described this modal individual as follows, based upon the results of functional historical analysis: « Of all living things, only the human being has the species-specific biological capability of objectively changing nature through cultural activities. He is therefore capable of participating individually in the cultural supervision of the conditions of human life by actively acquiring objective, historically accumulated experience. At the same time, he therefore participates in creating and improving the conditions for his own existential security » (Holzkamp, 1978, p. 155). The essential characteristics of this critical « anthropology » of the modal individual are therefore:

a) a series of unspecified biological capabilities (biological inheritance) for cooperatively changing nature with a view to preserving and enriching the conditions of life of the species,

b) whereby the individual actively acquires culturally collected experiences (cultural inheritance), stored in products of manual and cognitive work, enabling him to attain that level of development,

c) that in maximalizing the collective condition of life he maximalizes the individual conditions as well.

What is then essential from a functional-historical point of view, is that knowledge and ability, those attitudes and needs of the individual that firstly enable him to stay alive and develop, and thereby contribute to the (re)production process as society demands. Secondly, they must also enable him to gain control of his own life conditions by participating in society's control of reality. Thirdly, they must also enable him, by actively acquiring society's cultural inheritance, to approach a developmental level which the developments in society as a whole, make possible.

Of course, the central question arising from this functional historical deduction of a theoretical « model » of the human being as subject of psychological research is to what extent the presuppositions of the method have (entirely) determined its results. We have seen that the historical materialistic roots of the method consisted of principles of the historical, material and social nature of human behavior. These principles determined the questions concerning the function of behavior. The principle of the historical nature of behavior makes it worthwhile to dig deep into the history and phylogenesis of man when confronted with the question of the structure of the present day subject. It is therefore no surprise that in critical « anthropology » the biological determination of human behavior is mentioned (without further delineating what the nature of this determination is). This applies to the principles of the material and social nature of behavior as well. These principles are found in 'anthropology' only in another form. Because of this, the journeys through man's natural and social history seem a bit superfluous; in fact, the cards have been cut in advance. And yet, when functional-historical analyses have been worked out concretely, they result in drastic changes in existing conceptual methods of structuring research subjects in advance. With the aid of functional-historical analysis, Holzkamp-Osterkamp (1975, 1976), for example, develops a totally different motivational needs structure than, for example, Maslow (based on humanistic psychology) or Freud (based on psycho-analysis). On the basis of ethological and biological material in particular, Holzkamp-Osterkamp attempts to show that two kinds of fundamental needs exist. The first are the so-called 'productive' needs, that is needs directed towards mastering the environment, in this case the relevant, collective and individual conditions of life. The second are the so-called 'sensual-vital'

needs, directed towards direct satisfaction of individual needs, for example, nourishment, sexuality, etc. Man's urge to master his environment is expressed in the 'productive' need, among other things by anticipating possible future needs. For this, a collective effort is most suitable.

For instance, protection against natural catastrophies such as floods, is achieved most efficiently by collective efforts in connection with building dykes. On the other hand, 'sensual-vital' needs are directed towards the present, towards the consumption of social products, in part for the reproduction (physical rehabilitation, procreation) of the individual (Holzkamp-Osterkamp, 1976, p. 23 ff.). While Maslow places a 'productive' need to explore the environment relatively low in his hierarchy, after the satisfaction of physical needs, and Freud 'sensual-vital' needs, such as sexual needs, at the top, Holzkamp-Osterkamp stresses the 'productive' needs. We will not expand on the background of and differences between the 'needs theories' mentioned above. But it is clear that a functional-historical analysis may have a great effect on empirical-psychological research on motivation. How great is unfortunately difficult to say, as Holzkamp-Osterkamp's motivation theory has yet to be subjected to empirical testing.

FUNCTIONAL-HISTORICAL METHOD AND BIOPSYCHOLOGY

The functional historical method once again draws attention to the biological contribution (not determination) to human behavior, and in doing so, introduces a « biopsychological » perspective into psychology. Of course, this perspective must be placed in a specific context. Functional-historical analysis makes clear that there are limits to human activity arising from an organism's phylogenetic adaptation to the environment and which are directed to increasing the chance of survival (functional reflection). Only in the light of « biological inheritance », which evolution has given each member of the species since ages, can we understand the individual's present behavior. The same applies to the phase of the species' more active and collective adaptation to ever changing environmental conditions. In this phase, in which actively acquiring (« Aneignung ») one's cultural inheritance becomes more important than acquiring one's biological inheritance, man acquired specific adaptation

strategies that are also influential in present situations. According to functional-historical analysis, the concrete individual forming the subject of psychological research is built around a phylogenetically determined core or basic structure, around which traits and characteristics arise from the socialization and collectivization of life.

Finally, a layer of characteristics developed around this that enables (re)production of the species and the individual in a specific capitalistic society. These final characteristics are not universal in nature but limited to a specific historical social context. The first two kinds of characteristics mentioned, are universal and therefore essential to a Critical Psychology, that holds on to the (nomothetic) ideal of discovering universal laws. In Fig. 1 the layered structure of the individual is shown schematically. The objective of functional-historical analysis is to analyze and structure the apparently inextricable mixture of biological and cultural inheritance and characteristics bound to a specific kind of society by means of a three-step approach (« der Dreischritt »). This in order to determine which dimensions of behavior are essential and which are less or not essential. The natural historical analysis step provides the characteristics of the research subject that can be looked upon as essential general biological traits of the human organisms. At this stage, a distinction must be made between these general biological characteristics and those that are an expression of the socialization of the modal individual and are therefore universal in nature. After the most general and essential biological and social traits have been distinguished in this way, a residue remains of what is specific to life in capitalist society.

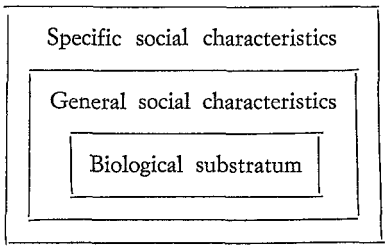

FIG. 1. - A functional-historical model of the concrete individual.

In the light of this kind of advance structuring of the research subject, systematic hypotheses can be developed and tested in empirical research. At the same time, research results can be adequately interpreted in the light of a system of concepts derived in this manner. In other words, an interpretation preserving the distinction between essential and non-essential dimensions of human functioning.

A CRITICAL APPRAISAL: THE PROBLEMS OF CONTAMINATION AND INTERSUBJECTIVITY

The material the functional historical method is concerned with is the « Gesamtwissenschaft » (Jäger, 1977, p. 125). That is all the information regarding the research subject to be found in all relevant disciplines, such as biology, ethology, economy, sociology, etc. Holzkamp-Osterkamp's functional historical analysis of the motivation concept is based largely on ethological and biological material (compare also Schurig, 1976). Past results of scientific research should form the base of such analysis so that frontier research becomes possible.

A problem remains, though, that Critical Psychology does not have criteria at its disposal to test the validity of the material functional-historical analyses are concerned with. In this way, the validity of the results of the analyses themselves are thrown into doubt. As we have stated, Critical Psychology criticized traditional research rather vehemently. Traditional research could not provide valid, reliable, objective, generalizable and relevant results, among other reasons, because of the structure of the research situation. This was the opinion that Holzkamp in particular so articulately defended in his famous volume of 1972. But these same research results, though partially from different but still 'positivistic' disciplines as ethology, and biology, are the bases of functional-historical analysis in constructing a theoretical model and system of concepts for the research subject. The question then of course is whether the shortcomings of this research material directly or indirectly influence the functional-historical results. The method itself does not have the means of preventing this from happening. Critical as it is of traditional scientific study, Critical Psychology should actually assume the inevitability of this kind of negative influence. Of course, available research material is not

accepted in functional-historical analysis at face value. Apparently though, what is and is not accepted is a relatively subjective and arbitrary business. For instance, it is not clear on the basis of what criteria Holzkamp-Osterkamp evaluate the work of the biologist-ethologist Lorenz, contested even in traditional scientific circles. This very Lorenz, with his wild speculation concerning the biological determination of human agression, has repeatedly hazarded unfounded generalizations from results of ethological research to the area of human behavior, an area as yet hardly explored by ethology (Lorenz, 1963). Even prominent colleagues are vehemently opposed to such generalizations (Hinde, 1978). And yet it is the very same Lorenz whom Holzkamp-Osterkamp consulted extensively in constructing her motivation theory.

Aside from the problem of 'contamination' mentioned above, a second important problem occurs in the functional-historical method, that of « intersubjectivity ». This problem concerns the vagueness of the method itself, which is only outlined by a very general three-step procedure and a few presuppositions. It would be naïve to believe that any other well-intentioned researcher could actually work with such a description. A « method » pretending intersubjectivity (we may assume that functional-historical analyses are not made in such a way as to be unmatchable) will at least have to make explicit what kind of strainer is used in evaluating the usefulness of results available from the « Gesamtwissenschaft ». As things stand now, the functional historical method is not « learnable » and the results of the analysis are not testable on grounds of the way in which they have been brought about, simply because crucial criteria have not been made explicit. For the time being, the method must therefore be considered elitist and esoteric, that is useful only to a small number of insiders.

CONCLUSION

With the aid of the functional-historical method, Critical Psychology attempted to help find a solution to a fundamental problem in traditional scientific studies: the swell of ad hoc theories and hypotheses resulting from the methodologically sanctioned anarchy in the context of discovery. On the basis of this contribution, it is understandable why Holzkamp did not

wish to call Critical Psychology a separate school among the current schools within psychology. Has Critical Psychology succeeded in filling the undeniable gap in theory and concept development within Traditional Psychology, and thereby made the functional-historical method indispensable to every psychology researcher? That question can only be answered when the problems of 'contamination' and 'intersubjectivity' have been solved. Critical Psychology does not have criteria at its disposal to test the validity of the material functional-historical analyses are concerned with (the problem of contamination). The method itself is only outlined by a very general three-steps procedure and is therefore not learnable (the problem of intersubjectivity).

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Summary - In the sixties and seventies, a critical psychological school developed around Klaus Holzkamp in West Berlin. This school criticized 'traditional' psychology, especially in the area of theory development. 'Traditional' psychology has not developed a methodology of the discovery context and leaves the induction of hypotheses and theoretical models of empirical research to coincidence. The result is a hodge-podge of disconnected research results. The connection between empirical results and the broader historical cultural context also remains unclear. Klaus Holzkamp's Critical Psychology believes to have corrected this defect with its functional-historical method. This theoretical research method is derived from the work of the Soviet Russian Cultural Historical School, and in particular from publications of Leontiev. There are three steps in the functional-historical method — the phylogenetic analysis, the cultural historical analysis and finally the ontogenetical analysis. The three stages of analysis result in a tentative theoretical model and a system of concepts with which further empirical research can be conducted. The functional historical

method guarantees empirical research results which are coherent, and historically and socially relevant. There are, however, a number of problems with this method. First of all, it is not clear what concrete criteria are applied in screening the phylogenetic and historical research material from which the theoretical model is constructed (the so-called contamination problem). In addition, the method demands a great deal from the researcher, who must be at home with the « Gesamtwissenschaft », that is with all relevant interdisciplinary scientific research results. Here there is the danger of an esoteric and elitist approach, as critical as its intentions may be (the so-called intersubjectivity problem). Finally, we point to the fact that there is no proof of this pudding. The Berlin Critical Psychology has as yet too little empirical research experience to demonstrate the fruitfulness of the functional historical method.

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