Wulf, Christoph

Educational Science. Hermeneutics, Empirical Research, Critical Theory

Münster; New York; München; Berlin : Waxmann 2003, 158 S. - (European Studies in Education; 18)

EUROPEAN
STUDIES
IN EDUCATION

Christoph Wulf

Educational Science

Hermeneutics, Empirical Research, Critical Theory

WAXMANN

European Studies in Education

Educational Science
Hermeneutics, Empirical Research, Critical Theory

European Studies in Education

Europäische Studien zur Erziehung und Bildung
Études européennes en science de l'éducation

Christoph Wulf (ed.)

Volume 18

Christoph Wulf

Educational Science
Hermeneutics, Empirical Research, Critical Theory

Waxmann Münster/New York
München/Berlin

Die Deutsche Bibliothek - CIP-Einheitsaufnahme

Christoph Wulf
Educational Science
Hermeneutics, Empirical Research, Critical Theory

(European studies in education, Vol. 18)

Münster; New York; München, Berlin: Waxmann, 2003

ISBN 3-8309-1259-5

ISBN 3-8309-1259-5 ISSN 0946-6797

Postfach 86 03, D-48046 Münster, F. R. G.
Waxmann Publishing Co.
P. O. Box 1318, New York, NY 10028. U. S. A.

European Studies in Education

The political, economic, and social developments in the European Union pose new challenges to education in Europe, where each country has its own system. Under these circumstances, the relation between national, regional and local traditions on the one hand and supra-regional, transnational aspirations on the other must be conceived. The field of education is seeing the rise of new issues, responsibilities, and research requiring scholars from different cultures to work together.

European Studies in Education constitutes an international forum for the publication of educational research in English, German and French. The multilingual nature of this series mirrors that of Europe and makes it possible to portray and express cultural diversity.

Christoph Wulf

Table of Contents

Introduction

In Europe during the 1970s and 1980s educational science became one of the most developed disciplines in the humanities and social sciences. In Germany this development involved moving beyond the humanist tradition (which had dominated until this period) by drawing on the empirical tradition as well as on the Critical Theory of the Frankfurt School. These new developments were to bring educational science new and more complex dimensions, which were further amplified as a result of developments in the educational system and also thanks to institutional recognition of the discipline of educational science itself.

There is no doubt that it is in Germany that educational science developed as a scientific discipline in its own right when humanist pedagogics, empirical educational science and the Critical Theory of the Frankfurt School merged. Indeed, these three different *paradigms* have played such an important part in shaping educational science that it is essential that their convergence be reconstructed and critically reflected. Such is the purpose of this present book. In examining the main currents within educational science, we aim to help the reader gain an overview of the different approaches in this field.

In addressing the various controversies internal to educational science, questions relating to sensitive issues in other fields of the humanities and social sciences will be raised. Every field of research possesses its own paradigm with particular problems, questions and a particular relation to discourse and/or practice. These dimensions have been explored in a particular way by each of these currents. Thus, pointing out the specificity of each paradigm brings us to reflect upon the constitution and identity of educational science.

An inventory of the kind proposed addresses two audiences. Firstly, it is intended for students of educational science. It is essential for them to approach educational science from the start with a defined position, grasping the theoretical rudiments needed for a critical evaluation of this discipline. Indeed, knowledge of the theories and controversies inherent to a particular field is a prerequisite for developing a personal point of view and determining a particular position. The second potential audience that this work addresses are professionals, that is to say, teachers and educators of various academic as well as out-of-school institutions. This book could incite them

to reflect upon the theoretical concepts they use in their educational activities and to examine the validity and limits thereof. Such an evaluation requires confronting the numerous new points of view that are relevant to an understanding of educational practice.

Our present time may be particularly well-suited to engage in a similar endeavour, reflecting upon the locations of educational science. Pedagogical theory's precedent reference system (which was relatively self-enclosed) has come under questioning from different angles in the past few decades. A clear shift has occurred with diverse orientations replacing traditional positions. But things have not stopped there. The field of educational science has been increasingly confronted with various theoretical positions and controversies ranging clearly beyond its traditional scope. In this process, educational science has lost its monolithical character. Different orientations have developed, which have been distinguished through increasingly marked confrontations. The more engagement in these confrontations has intensified, the less space there has been for an objective, critical vision encompassing the whole field covered. These confrontations have certainly not completely disappeared today. But we are in the midst of a certain clarification process which justifies our attempted inventory. One of the principal objectives of such an inventory is to draw up the strengths and weaknesses of the theories and concepts that emerge in the confrontation between the differing positions. This book offers a comprehensive survey from which one may conceive the future evolution of educational science.

The historicity of education (and its relevance for an understanding of educational practice) was originally charted within the framework of humanist pedagogics (*Geisteswissenschaftliche Pädagogik*). This ran parallel to a realization of the importance of hermeneutic methods for understanding educational reality which helped to emphasize the necessity for a relative autonomy of education and educational science in relation to other social institutions. Education was first conceived following a model of the pedagogical relationship as a process of interaction between an adult and a youth. Humanist pedagogy defined itself as a theory of education for education.

Later on, empirical educational science attempted to distinguish itself from humanist pedagogics by developing its views on the significance of educational practice. Indeed, only in and through practice is it possible to differentiate between the various fields of education, and thus define what should be found in each one. This differentiation is also necessary to determine the limits of educational practice. The development of empirical edu-

cational science marks a progressive evolution away from a straight and narrow alignment on the positivist ideal. A more recent orientation brings into closer perspective the norms of critical rationalism, which constitute the ideological framework of most experimental work.

Critical educational science emerged in the aftermath of the Critical Theory of the Frankfurt School. Following the precepts of the Frankfurt School, critical educational science emphasizes the social character of education and of educational science. Its aim is to focus education on the emancipation of humankind. One of the conditions for this process of emancipation is a critical ideological analysis of the social context within which education occurs. Such an analysis calls for a rediscovery of the dependency links from which youths must break free. A constructive guide is necessary to accomplish such an educational process: this is what a critical theory of education can establish.

The object of this presentation is to assemble within stages or coherent landmarks, and throughout its genesis in Germany, the significant steps that constitute the founding debate within educational science. This brief description reveals that the positions described not only address educational theories or concepts, but also the different lines of thought which underlie the social sciences. The controversies between humanist pedagogics, empirical educational science and critical educational science echo the discussion between hermeneutics, critical rationalism and Critical Theory. An inventory of the discussions initiated by educational science is therefore impossible without taking into consideration the wider scientific and theoretical arguments which are needed to understand the background and foundations of the controversies.

This work not only introduces the reader to a multitude of pedagogical issues, it also provides an overview of the main theoretical themes that run through the social sciences and are necessary for an understanding of educational science. Its overall purpose is to show that the distinctions between various positions do not constitute a formal classificatory system but derive from the concept of *paradigms* developed by Kuhn. Kuhn considers a paradigm to be a sum of elements common to the members of a scientific community. A paradigm implies that there is a certain unity within particular scientific and social approaches, but also an agreement on norms, on the content of methodological concepts and on the proceedings and instruments of the scientific task.

The concept of paradigm serves to draw out and thus better understand what is most relevant to various scientific systems of reception and regula-

tion, as well as perceive the contradictions between them. The concept of paradigm also offers an important point from which to start the research we propose to embark on. It sheds light on the respective systems of the various currents within educational science, and, as such, has great heuristic value. But we cannot expect it to explain the transition from one scientific current to another, nor the ensuing social developments. In the end, the concept of paradigm does not provide sufficient criteria to judge the cogency of these theories.

What guidelines should be followed for an inventory of the different theories and concepts of educational science? How does one acquire a critical distance from the different positions currently held? One possibility is to list the criticisms immanent to each paradigm. As it is presented here, each current is not a doctrine, but rather the result of absolutely non-linear thought processes. The discussions inherent to each current can be used as a basis for critical evaluation. Moreover, the controversies between the different currents have led us to identify blind spots and points of rupture in each of the theories. A third basis for a critical evaluation of the different scientific currents springs from the following questions: How does each current respectively understand the link between theory and practice? How have the various paradigms contributed to educational practice? Research in this direction shows that perspectives for an action-oriented critical educational science can be drawn from an analysis of the different scientific currents. These perspectives must be systematized and completed so as to reveal how they may further the development of educational science and of education itself.

Such a vision of educational science is necessary, since consciousness of education's daily realities is no longer sufficient to orient educational action. Social and institutional contexts within which education develops and which clearly influence the educational process are much too complex. A simultaneously critical and constructive educational action will only be feasible when both the student preparing for educational practice as well as the active teacher or educator become conscious of the conditions of educational practice.

PART ONE

Humanist Pedagogics

German humanist pedagogics began to develop in the 1920s, based on the works of Schleiermacher (1768-1864) and Dilthey (1833-1911). As a scientific current, it was established in the universities and faculties of German pedagogics by 1933. Among its most important representatives were Herman Nohl (1879-1960) Theodor Litt (1880-1962), Eduard Spranger (1882-1963), Wilhelm Flitner (1889-1990) and Erich Weniger (1894-1961).

Following the collapse of national socialism, the humanist perspective lived on into the 1960s. So there was a continuity between the first period before 1933 and the post-war renewal (Klafki 1971). This tradition was maintained by Otto Friedrich Bollnow, Fritz Blätter, Elisabeth Blochmann, Georg Geissler, Hans Wenke, all of whom had a profound influence on the development of post-war educational science. The Göttingen school, represented by Nohl and Weniger, trained a great number of academics in educational science (such as Wolfgang Klafki, Herwig Blankertz, Klaus Mollenhauer). However, in order to understand these authors, it is necessary to refer back to the works of the precursors of humanist pedagogics.

In the first decades of the twentieth century, humanist pedagogics emerged in the works of Dilthey and, above all, Nohl. Both were strongly opposed to normative education. Humanist pedagogics tried to distinguish itself from Herbart (1776-1841) and his disciples (including Ziller, Rein, Stoy, Waitz). If one considers pedagogics as belonging to the humanities (as a science of the peculiar, in opposition to natural science which is only interested in the universal), it is no longer possible to let the problems of practice rely on general ethical norms. "Education can only be deduced from the aims of life; and morality has not been able to define these aims in a manner universally recognized" (Dilthey, *Complete Works*, vol. 6: 57).[1] The constitutive elements of humanist pedagogics can be characterized on the basis of this demand for a solid definition of education's objectives (which Dilthey opposed to normative pedagogics). From this demonstration of the primacy of "life" over ethics, Dilthey deduced the primacy of educational practice over moral discourses. For humanist pedagogy, this definition of the relation between theory and practice (which supports the primacy of practice over theory) has remained valid. It has led to the deduction that the foundation of all scientific and theoretical knowledge has always been educational reality and educational practice. Educational science was thus de-

1 The quotations from German sources in this book have been translated by G. Barillé and A. Lagaay.

fined first and foremost not as a theoretical discipline but as a practical discipline.

As such, it was a *theory of practice for practice* which deduced its objectives from the problems of practice. Educational practice was considered a part of the social practice by stressing its historicity. For educational science, this implied renouncing the tendency to view all periods and peoples in the same manner and along the same criteria, as was still the case in traditional pedagogics. Educational science today accepts that its historic validity is relative and variable according to situations.

By casting itself as a historico-social theory of practice at the service of this practice, this new educational science wants to contribute to the improvement of the practice. This self-affirmation has taken the shape of a critique. The new educational science defines itself as an independent institution in charge of educating children and in opposition to other social powers seeking to intervene in this education, such as the church, the economy, or the state. If humanist pedagogics was unable to thoroughly follow through this claim and did not sufficiently defend its autonomy, this is because it could not yet rely on a critical social theory which would have justified the worthiness of its intentions.

Focused on educational practice and aware of its historicity, humanist pedagogy is concerned with the specificity of each educational situation. For Dilthey, the task of pedagogics as a human science resides in comprehending the unique and individual aspect of any historico-social reality, in recognizing the laws that affect its homogeneity, and in defining the aims and rules that govern its development.

Thus, humanist pedagogics set out to recognize distinctive conditions in a general context and find support for educational practice through its research. Its use of hermeneutic procedures (which aim at the comprehension of particular situations) renders possible a satisfactory interpretation of the specific and singular concrete conditions of practice.

Humanist pedagogics also developed a theory of the pedagogical relationship, experiencing within this interpersonal relationship the "core" of education. It concentrated on an analysis of this unbalanced relational situation between a youth and an adult, the ultimate aim of which is the youth's autonomy.

In this section, we propose an extended inquiry into some of the elements of this theory of humanist education that was to have such a profound influence on educational science.

I

The Historicity of Education and Educational Science

Once Herman Nohl, Max Frischeisen-Köhler and Georg Reichwein had transposed Dilthey's thoughts on the historicity of humanist pedagogics within educational science, recognition of education's historicity became a nodal point of scientific pedagogics. The generation that followed referred to it with the works of Spranger, Litt, Weniger and Flitner, as well as their disciples.

Dilthey emphasized the significance of history on several occasions, as for example when he writes:

"Man only recognizes himself in history, never through introspection. We are all searching for him in history ... The significance of the human sciences and their theories resides in the fact that they help us to see what we have to do in the world, what we can do with ourselves, what we can do with the world, and what the world can do with us" (*Complete Works*, vol. V: 279 ff.).

Dilthey explains how man can only affirm himself through the interpretation of history, that he can only recognize his own historicity by examining the finality and reality of each historical phenomenon. It is only with the help of the human sciences, directed towards history and the comprehension of human history, that man can achieve self-definition. Through the importance given to history and the human sciences in helping man to define himself and act, the decisive function of history in the shaping of man becomes evident and achieves a central position in humanist pedagogics.

This idea of history's function is put forth in Dilthey's thesis on *The Possibility of a Universal Educational Science*, in which he writes:

"The meaning of education can only be deduced from the meaning of life. Ethics has preferred not to define this meaning of life in universal terms. Yet it can be found in the history of morals. What man is and what he strives for is something he comes to learn in the development of his being through time; but it can never be defined once and for all, universally. Man can only see the experiences of life that arise from the deepest level of his existence. But every attempt to formulate the ultimate meaning of man's life has been defined historically. No moral system has ever achieved universal recognition" (*Complete Works*, vol. VI: 57).

According to Dilthey, the meaning and goal of education can only be recognized by starting with "life" and its history. Ethics and moral history can offer no more than partial knowledge. To Dilthey, such a thing as timeless knowledge which does not take into account its own historicity seems impossible. The meaning and goal of education can only be defined historically, in conjunction with a given historico-social situation. This discovery of the impossibility of finding a final explanation, and therefore of finding an answer to the classical question of justification, must not be misunderstood. Dilthey does not place himself in a perspective of absolute relativism and historicism. Rather, Dilthey's goal should be understood as the search for a theory of science, education included, which would avoid the prejudices of universal values as well as absolute relativism and decisionism.

The acknowledgment of education's historicity developed by Dilthey, and in line with Schleiermacher, is reasserted by all the representatives of humanist pedagogics, but they draw different conclusions and their approach to the problem also diverges from that of the master. Thus, Nohl clearly embraces the Diltheyan tradition when he writes:

"Educational reality, with its dual aspect of actual pedagogic experience and pedagogical objectification, is the *phenomenon bene fundatum* (the well-founded phenomenon) upon which epistemology must be established. From it springs forth the significance of the history of pedagogics: it is not a collection of pedagogical curiosities nor an interesting presentation of great pedagogues, but it presents the continuity of pedagogical thought through its progression. We understand what it has made of this, what in fact education is, if we refuse to stop at personal experience, which is always limited, and engage in a systematic analysis of its history" (Nohl 1949a: 119).

For Nohl and humanist pedagogics, the knowledge of educational reality's historicity implies examining the historicity of the educational process both within educational institutions as well as in the concepts, methods and instruments of educational science. The structural elements of education which, according to Nohl, are pertinent for the present and the future, must be deduced from the historical analysis of educational reality.

The basis for this historical analysis is a direct interest in the acquisition of a capacity for educational action and therefore in the accomplishment of a historical educational practice.

However, Nohl provides absolutely no answer to the following question: how and to what extent can a historical analysis of educational reality determine and evaluate the pertinence of the goals for practical educational

action, and the forms and processes of education that one encounters in educational reality?

Is the historicity of education and of educational science really consequential in Nohl's work? For him, a reference to "the continuity of the pedagogical idea" must be drawn from a historical analysis with educational ends. Does this not amount to a "super historic" ontological grandeur posited as an invariable rather than understood in its historicity? This doubt regarding Nohl's conception of educational historicity is further reinforced by some of his formulations which bring to mind the Platonic ideas. In these formulations, for example, a "universal theory of education" is mentioned, which "is valid for all times and peoples, as it brings into evidence the variable structures of educational life, and renders all its historical forms comprehensible and usable" (Nohl 1949a: 120 ff.).

Such developments lead us to the conclusion that Nohl certainly considered himself in Dilthey's line, especially with regard to the historicity of education, yet without radically integrating it. Weniger, Litt and Flitner have pointed out that Nohl did not achieve a complete examination of the historical relativity of educational reality. On this issue, Weniger went further than Nohl. There are three reasons for turning to his work: firstly, Weniger showed a constant interest in the issues of historicity in education; secondly, as far back as 1926, he was dedicated to aspects of the historicity of teaching in the field of history teaching; finally, in Weniger's work, humanist pedagogy reaches the "end of its era", as the pragmatic title of his manifest indicates (see Dahmer/Klafki 1968).

Weniger has shown, more clearly than other contemporary representatives of educational science, the possibilities and limits of a philosophy of history for educational science and its theory. The most pertinent example of his contribution is his research on the teaching of history. In this 1926 post-doctoral thesis, he speaks of the historicity of history teaching, and not of the science of history, the philosophy of history, or of the theory of education.

His conclusions on the historicity of education within the framework of humanist pedagogics again interest us:

"Important reasons justify the attempt to find the basis of a hermeneutic didactic for the teaching of history. The historicisation of all the social sciences has given history a predominant position. It may just as well appear as 'the' social science, according to the strict definition of the word, and all the other social sciences would then be simple elements of an enlarged science of history. Furthermore, historical elements partake in the image that modern man has of the world, and have profoundly transformed him. Every

conception of the world is determined by history and a comprehension of the context of these world visions is possible only through history. Not only is science historical but life itself is part of this process of transformation" (Weniger 1926: 5).

For Weniger, the educational value of history, in the context of school, has not yet been discovered. On the contrary, history continues to be exploited only for "functions unrelated to its essence". It is therefore important to understand the significance of history for education and to let it bear its fruits for school and for life. Furthermore, teaching, history, life, conceptions of the world and education are perceived in their historical dimension. He links this knowledge to present-day pedagogical problems. What he expects from this historical analysis is not to acquire immediate props for action, but a solution to the theoretical and practical problems of education. Although he gives a powerful meaning to history in education, Weniger is nevertheless critical. He puts the historical tradition under continuous criticism:

"A criticism which aims to found and legitimise theory on the premise of history cannot avoid being reproached decomposition. It puts the present into perspective with the depth of the historical dimension and thus distinguishes itself from a simple progressive thought. But this criticism is also opposed to the naive belief that historical action would be moral by itself, that it would make positive actions possible" (Dahmer 1968: 59).

Weniger was right to recognize that educational science must proceed from the historicity of education and that a historico-hermeneutic analysis of historically defined educational contexts can reveal important aspects of the educational problematic. Such a perspective gives no precision regarding the concrete tasks of educational science. Educational science is, according to humanist pedagogics, an autonomous discipline. Based on its historical context, it must define its own problematics and its objectives in theory and practice. The historical and contextualised character of this perspective exclude any idea of a general educational science, outside time, decontextualised and pertinent to the present day, as could have been imagined by Nohl.

Historical analysis of educational reality contributes to the resolution of pedagogical questions by shedding light on the origins of contemporary questions and problems. The autonomy and specificity of educational science can be grasped in its relation to its own origins. Today, the principle of education's historicity is recognized. Emphasis is laid upon the political, economic and social conditions for a comprehension of education within a given historical time-frame, as well as upon the history of mentalities. In a

way, this extension constitutes a reorientation of interest in the history of education. This results from the fact that educational science is understood first and foremost not only as a hermeneutic science but also as a social science. This new approach to educational science includes an analysis of concrete social conditions of education, teaching and training within the context of a global social system. Besides, an analysis of the socializing processes, which are only comprehensible in a historically defined context of social mutations, in order to be understood, must be complemented by a socio-historical and comparative perspective:

"Historical pedagogy interrogates the factual conditions of socializing processes from the perspective of the construction of man. Its aim is to reconstruct the historical subject in the perspective of his future; it criticizes the self-definition and functioning of educational science, of the educator, as well as of the socializing and pedagogical instances; it analyses the factual and ideal conditions of the person's genesis in their historical context" (Hermann 1971: 285).

Thus, a programme is given shape to for educational science as a historical social science. Many new perspectives for a social history of education are found in this programme, the development of which can lead, in the long term, to a new, more realistic comprehension of the historicity of education and of educational science. In order to start applying this programme, historical pedagogy must be envisaged as a historical search for socialization. It must lead to an analysis of the socializing processes within the institutions of the educational system.

The elaboration of this programme could contribute to orienting educational science towards a historical perspective and thus remedy the lack of interest which can sometimes be observed, to this day, regarding the history of education and the historical dimension of educational science.

III

The Significance of Hermeneutics for Educational Science

Within humanist pedagogics recognition of the central significance of history points quite naturally to the importance of hermeneutics[2]. Following the works of Schleiermacher, Droysen and Dilthey, humanist educational science became interested in the hermeneutic process of comprehension. The objects of study of this current consisted, above all, in the sources of language, whose theories and past educational programmes had to be interpreted. This current also studied *educational reality* with its contemporary problems. An understanding of the historical background allowed for a better comprehension of educational reality. Historical analysis was to give rise to systematic formulations which could then solve the problems of the moment. In this context, reality was sometimes considered reality that had become historical, and sometimes a field of practice for the "educational act". Both of these frameworks for the utilisation of the hermeneutic process are still valid today.

Schleiermacher influenced humanist educational science through his understanding of hermeneutics. It did not suffice, in his view, to consider the core of hermeneutics to be rules of interpretation. He also called into question the grounds of these interpretation rules. Schleiermacher recognized that the simple historicity of a work offered no guarantee as to its comprehension.

He placed at the centre of his research the subject who does or does not understand. For in his mind, the "right object" of study was not the comprehension of others, but their incomprehension. With this affirmation, contradicted by Gadamer, Schleiermacher contributed to the *relativisation of the knowing subject*. Since then, the importance of individual subjectivity in the process of comprehension has been recognized.

Dilthey never quite clarified what he meant by hermeneutics. He uses the term in two main ways. On the one hand hermeneutics is considered as

2 Hermeneutics can be defined as the theory of the interpretation of signs as symbolic elements of a culture.

a way of scientifically grounding the human sciences within social practice. Thus, Dilthey successively speaks of the self-reflection of human science, of the introduction to human science, the hermeneutics of human science, and the hermeneutics of life. On the other hand, he understands hermeneutics as "the science of interpreting texts". In both cases, hermeneutics was to transform the dialectical relationship between subject and object. This process is described as a "hermeneutic circle". This means there is an interaction between subject and object:

"Comprehension implies experience, and experience becomes experience of life only when comprehension passes from the narrow and subjective level of experience to that which is global and general. In order to better understand a particular character, a certain systematic knowledge is needed, which depends on a vivid understanding of every unity of life. Recognition of inorganic nature is achieved through the construction of a science in which the inferior layer always depends on that of which it is the basis. In human science, all is defined from the start through the relation of reciprocal dependency between subject and object" (*Complete Works*, vol. VII: 143).

And, further on:

"Thus there is here a free relation between hypothesis and progress. Novelty does not derive formally from hypothesis. Comprehension moves from that which is already understood to that which is new and can be deduced from it. The internal relation is defined within the possibility of ulterior reproduction. This becomes a universal method as soon as understanding leaves the realm of words and signification and no longer seeks the meaning of signs but the more profound meaning of the manifestations of life" (*Complete Works*, Vol. VII: 234).

These texts indicate some fundamental features of Dilthey's understanding of hermeneutics, which focuses on the concept of "mimesis" (imitation, reproduction) in the expression of life. The latter is part of the methodological context of the construction of the hermeneutic concept in the sense of the hermeneutic circle of mediation between subject and object.

Dilthey's attempt to develop hermeneutics as a science of text interpretation and of the comprehension of intellectual objectifications (e. g. institutions, school programmes, educational action, etc.) was furthered by humanist educational science. In this context, there is a double link between hermeneutics and humanist education.

On the one hand, humanist pedagogics focused on historical texts as a source of scientific knowledge. Amongst these texts are the rules, school regulations, biographies and works of the "great" pedagogues. These were

considered objects of interpretation. The aim was to grasp their meaning in relation to their original contexts and to the history of their effects up to the present day. Insofar as these texts constituted a codification of intellectual objectifications, their interpretation was expected to yield a contribution to the comprehension of objectification which could be applied from the originating period up to the present day.

On the other hand, educational reality, perceived as the result of intellectual objectifications, can be conceived by applying the hermeneutic process to historical texts. This process has been described in humanist pedagogics as the "hermeneutics of educational reality".

Educational reality is a reality that springs from the history of life. It must be understood by taking into account its historical past and the contemporary forces at play within it:

"The true starting point of a universal theory of education is the fact of educational reality as a significant whole. Basing its development on life, its demands and ideals, the educational practice is a set of contributions; it runs through history, is constructed within the services, institutions and laws, and simultaneously defined on the basis of these processes, these ends and means, these ideals and methods within theory. It is a great objective reality, independent of the individual subjects that act inside it. It is governed by its own idea, that comes into effect in each properly educational act, and that is nevertheless only comprehensible in its historical unravelling" (Nohl 1949a: 119).

Humanist educational science was to set itself historical reconstruction and interpretation as an objective, as well as aim to achieve an understanding of educational reality as a significant whole. Both with Nohl and humanist educational science, comprehension of educational reality is achieved through historical analysis and the immediate comprehension of meaning (the two tasks of the hermeneutic process).

Bearing in mind these two constituent dimensions of hermeneutics in the field of educational science, one may note that humanist pedagogics privileged the interpretation of historical texts instead of turning to the interpretation of educational reality in keeping with hermeneutic research. A link between these two dimensions would have facilitated the development of educational science in the realms of the theory of knowledge, methodology and practice. It could have shown, for example, to what extent every piece of research, even empirical, and every interpretation of educational reality depends on historico-social conditions. Above all, this would have prevented certain short-cuts on the part of humanist pedagogics. But this field of (hermeneutic) research applied to educational reality has remained

largely unexplored in relation to the field of (hermeneutic) interpretation of historical texts.

Nohl, who can rightly be considered the founding father of humanist pedagogics, focused his interest on exploring the historicity of education and the necessity of historical studies for a better understanding of educational reality. He understood the limits of historical analysis in the quest for solutions to the problems of contemporary educational reality. Historical analysis can only contribute to outlining certain questions. But as historical analysis, it can only construct the genesis and reveal the evolution and change of reality in education.

Let us underline at this point one of the problems that arises with humanist pedagogics: the autonomy and specificity, that pedagogics has always claimed in relation to other disciplines such as theology, political science or economics, go against its own history. Based on the idea that historical analysis can solve present educational difficulties, one discovers that educational science, by taking into account the historicity of educational reality, can seize this educational reality as a principle open to the future and likely to change.

Later on, the works of Weniger take on and link together the relative autonomy of educational science and the theory/practice relationship. Indeed, Weniger tries to liberate humanist pedagogics from its symbiotic links with history-oriented hermeneutics. Flitner, too, tries to relativise the significance of historical research for educational science. This leads him to distinguish historico-hermeneutic research from pragmatic-hermeneutic research. Despite different orientations, either in relation to history, or in relation to educational reality, these two postures are both constructed against normative and abstract systems. Flitner favours the pragmatic-hermeneutic comprehension of educational reality. This is made possible only if one understands the existential and normative elements which exist in any given historical situation. Flitner clearly sees that every pedagogical interpretation of educational reality and of educational action upon this reality is determined by a normative position. He then demands, moving beyond Nohl and Weniger's hermeneutic comprehension, that educational science integrate an "engaged reflection":

"Reflection on responsibility is the crux of pedagogical science. It sums up all of the principles that are recognized as valid by the practising community. It gathers them into a universal pedagogical thought, evaluates it, ties it to scientific reflection in general, criticizes pedagogical principles and minimizes mistakes. From this point of view, pedagogical science is clearly an engaged science" (Flitner 1963: 18).

In the framework of humanist pedagogics, based on an interpretation of educational reality seen in its historical and pragmatic aspect, educational science is conceived as engaged in the social practice; this dimension will later be developed under the influence of the Frankfurt School.

Thus, we may note that hermeneutic understanding moved from history-oriented hermeneutics (Nohl) to a hermeneutics more focussed on the structure of the educational process (Weniger), and finally, to engaged hermeneutics (Flitner).

Having presented the hermeneutic understanding of humanist pedagogics, let us now return to the distinction, still relevant today, between the two tasks of hermeneutic analysis: the historico-hermeneutic examination of the (historical) texts pertinent to educational science and the hermeneutic study of educational research. At present the discussion has evolved, expressing more subtle points of thought.

Regarding the evolution of historical pedagogics, the discussion today has led towards a historico-hermeneutic methodology. We here refer to an example where Klafki (1971a) convincingly presents the work methods of hermeneutic research through the interpretation of a text by Humboldt. For historico-hermeneutic research, this is a "rational evaluation of the significant documents, studied in a methodical and verifiable fashion". In the course of his exemplarily interpretation, Klafki distinguishes certain criteria for historical methodology:

"– Perception of the conditions of each interpretation and the necessity of bringing to light that which is implied by the interpretation;
– Continual verification of pre-comprehensions based on the text;
  – Critique of the text, based on the context of its writing;
  – Consideration of semantic aspects of the interpretation;
– Development of the specific character of the position expressed in the text through an evaluation of the different positions of interpretation;
  – Consideration both of the contexts immanent to the text and of those beyond it;
  – Fair evaluation of the text's syntax in its interpretation;
  – Clear development of the text's articulation;
– Verification of the text's argumentative structure;
  – Interpretation of the text as a hermeneutic spiral;
– Consideration of the ideological perspective of interpretation" (op. cit.: 134 ff.).

Finally let us point out that within the context of Gadamer's philosophy (*Truth and Method* 1989) and the debate on hermeneutics to which Gadamer's works gave rise (Apel et al. 1971), a new discussion was born (see Kamper 1974; Bubner 1975; Uhle 1976) which was to define more clearly

the question of the significance of hermeneutics for the comprehension of oneself and the world.

III

The Autonomy of Education and Educational Science

Humanist pedagogics examined the question of the relative autonomy of education and educational science from two starting points. On the one hand, Schleiermacher, Dilthey and Nohl tried to liberate educational science from its dependence on ethics and psychology, and thus to define it as a specific and autonomous discipline. On the other hand, the relative autonomy of pedagogics had to be defined in order to uphold children's rights in relation to adults and the social groups influencing education. In this area, Dilthey, Nohl, Spranger, Litt, Weniger and Flitner were in agreement with the historical movement that took sides for the autonomy and the specificity of childhood, youth and education.

This movement dates back to Rousseau who considered education to be a specific and autonomous social practice, and a necessary human right. In *Emile*, Rousseau contends that we do men do not properly appreciate the significance of childhood and that the further progress, the more we follow false ideas. He explains that the wisest of men see what is good for an adult to know. But even they fail to think about what children can make of it. They always look for the adult in the child without considering what a child is before becoming an adult. Rousseau's claim (which must be seen in the context of the emancipatory movement of the rising bourgeoisie) to use the specific rights of children as the starting point of education was to have a major influence on classical pedagogy in the eighteenth, nineteenth and twentieth centuries, "first with Pestalozzi, Fröbel and Diesterweg, Herder, Humboldt, Herbart and Schleiermacher, then in the cultural critique of the nineteenth century's closing years with Nietzsche, Lagarde and Langbehn, and finally in the youth movement and the reform movement which was closely tied to it: the rural boarding-school movement (*Landerziehungsheimbewegung*) and the artistic education movement (*Kunsterziehungsbewegung*), 'child-centred pedagogics', 'pedagogics of experience and spontaneity', the policies of the work school and the movement for community school, the movement of the open university, and the movement of modern social pedagogics, including the efforts for a fundamental procedure in the execution of juvenile sentences" (Klafki 1971:359).

It is under the premises of this *new pedagogical movement*, that still influences humanist pedagogics, that the notion of "relative autonomy" must be understood. Weniger studied this issue, which remains relevant to the present day. The title of his collection of articles published in the 1920s and 1930s (*The Autonomy and Specificity of Education in Theory and in Practice*) is of particular interest. In this collection of articles, Weniger tries to define in two ways "the autonomy and the specificity of pedagogics". On the one hand, he underlines the incapacity of the other sciences to grasp educational reality and the pertinence, in education, of the world of children and youth. On the other hand, he directs his research towards the dependency of educational practice on educational theory, the development of which he sees as one of the central tasks of educational science. Practice cannot properly reach its aims without referring to theory:

"Pedagogics as a social science has a double origin: on the one hand, the other sciences' insufficiency to take into account educational reality and to understand the conditions of its achievement, on the other hand, the incapacity of simple practice to fulfil pedagogical tasks in a tangible and adequate manner, for every practice needs such theoretical securities. But the autonomy of pedagogical behaviour does not depend on pedagogy's situation as a science. It is only either favoured or hampered by it" (Weniger 1953a: 76).

Furthermore, education's autonomy is recognized because of *the educator's responsibility for the being who is under his charge*. The teacher must defend the child's future, without loosing himself in the "demands of the moment". He must also take into account the child's past against the demands of the present and the future, which are constantly referred to by the state, culture, family, work ... Finally, Weniger notes that "the forces of life want to appropriate the youth as a relief force, that is to say that youths become servants, civil servants. They claim man, body and soul. Education's autonomy is to dare insist on man's liberty, on his profound identity and on his will." The aim of "pedagogy's autonomy" is to allow educational action. But "its specificity and autonomy can only be very relative" (Weniger 1953a: 154 ff.).

Weniger's argument for the relative autonomy of educational action rests mostly on the practice of pedagogics, but also refers to corresponding institutional conditions. "The autonomy is therefore both autonomy of the institutions and autonomy of behaviour and pedagogical action" (Weniger 1953a: 76). The close tie that exists between educational action and the theory of educational action in humanist pedagogics, as well as the other sci-

ences' short-comings in defining the tasks of education, justify both the relative autonomy of pedagogics and that of educational science.

Due to its responsibility towards the rights of childhood and youth to self-fulfilment, educational science must remind teachers of their moral duty towards pupils. From this, a *critical distance* can be deduced in relation to social reality and to dominant social pressures. An educational critique of the world then becomes possible. "World" is here to be understood as the institutional conditions of education, the conditions of individual lives and the general social conditions. By taking into account the historical context in which it occurs, educational science is obliged to help the child towards self-fulfilment. When the given social conditions are unfavourable to this self-fulfilment, educational critique must alert public opinion to the existing tensions between what ought to be and what is. Having said this, humanist pedagogics has never been able to conceive this critique as a self-critique of education, notably in relation to the processes and institutions of education. Only in marginal terms has this critique become a critique of the obligations proposed to education by science or by influent groups in society. Thus, the relation between education and power, economy and politics remains poorly explained by humanist pedagogics.

The movement of ideological critique allowed further opposition to the forces that wanted to limit the relative autonomy of education and of educational science. This critique helps pedagogics explain its understanding of society. The drawing together of ideological critique and the theory of education allowed one to think out the relative autonomy of education and educational science, but it remained to be put into practice. For the autonomy of educational science also places itself in terms of the organisation and of the institutionalisation of educational science.

How can educational science be organised and institutionalised in order to gain independence from the various social groups? The issue of the relative autonomy of educational science becomes even more pressing when one bears in mind the ties between educational science and the other social sciences. Humanist pedagogics has been able to justify the existence of its discipline in relation to the other sciences, based on its problematic specifically linked to practice. Due to increasing interdisciplinary research in the field of education, educational science today can be considered a discipline cooperating with other social sciences to produce the research that society's development requires. Educational science is often considered a science of integration which strives to apprehend and integrate into the framework of social science the numerous facts of knowledge pertinent to education.

IV

The Pedagogical Relationship

Nohl wanted to develop a theory of education based on the personal relationship that structures the encounter between teacher and pupil. In the same spirit, Dilthey had already emphasized that the science of pedagogics can only start with a description of the educator in relation to the student. Dilthey, Nohl and humanist pedagogics as a whole saw in the pedagogical relationship the core of education. Nohl's theoretical reflections on the pedagogical relationship are as follows:

1. Nohl describes as the basis of education a "compassionate relationship between an adult and a developing being who attains his life and shape on his own" (Nohl 1949a: 134). Education therefore occurs in the context of a relationship that exists "for the youth". In this relationship, the educator must defend the youth's individual right to development and self-realisation against unjustified external interventions. Above all, he must help him accept the influences of society which are themselves not always justified. From here stems the imperative of accepting pedagogical responsibility for youths, allowing the safeguard of their interests.
2. Educational action that exists for "the youth" has consequences which can only be defined in the existing historico-social context and not once and for all.
3. The pedagogical relationship is interactive; the adult educator and the youth have a relationship of exchange. The pupil is not only the object of an educative intervention, but is also considered a subject whose right to act on the pedagogical rapport is recognized. The relationship between the educator and the youth is one of trust.
4. The educative relationship cannot be the product of coercion and manipulation. When successful, it is spontaneous. Furthermore, it is partly defined by phenomena such as sympathy or antipathy, which, to a certain extent, elude rationality.
5. The link between the youth and the adult, that constitutes the pedagogical relationship, must be understood from the start as temporary. "The pedagogical relationship strives from both sides to ultimately become superfluous and dissolve" (Nohl 1949a: 153). It is only when the pupil

learns to untie once and for all his links to the adult that the aim of education, that is to say, the capacity for autonomous action, is achieved. Coping with this tension between the need to bond and that of independence calls for a particular style and ability, a certain "tact".

6. The adult's pedagogical effort towards the youth is diffuse. On the one hand, the educator must examine the youth's present situation, his interests and momentary needs; on the other hand, he must concentrate his pedagogical efforts on "the youth's still unrevealed possibilities". Nohl writes: "The educator's rapport to the child is always double: love for him in his reality and love for his goal, the ideal of the child, the two being not separate but united; to make a child based on what is feasible in him, stir in his heart the superior life, lead him to performances that are related to it, not because of the performance but because man's life is accomplished through it" (Nohl 1949a: 135 ff.).

These ideas of humanist pedagogics have influenced the science of education up to this day. Insofar as the model of the "pedagogical relationship" represents one of the first attempts, within the framework of educational science, to explain the "pedagogical rapport", it deserves attention even if research on pedagogical interaction has partly gone beyond it. How can this pedagogical rapport be evaluated within educational science as a whole? To answer this question, certain points of view must be discussed, in the light of which we will evaluate human science's theory of the pedagogical relationship.

1. The concept of the "pedagogical relationship" implies trust between the adult and the youth. This is an important condition of the educative process. A positive climate is necessary for the processes of interaction and communication, as has been underlined by social psychology as well as the theory of communication. In human relationships, a certain level of relation determines the significance of the interaction.
2. Humanist pedagogics fails to take into account the fact that the quality of the relationship between the adult and the youth is not only defined by their arbitrary will. Rather, it is largely determined by the role they play in the context of institutions such as school or the family. Thus, the educational situation is asymmetrical. It limits the teacher and the student in their communication possibilities. The teacher's social and institutional power over the student can but influence their relationship. For indeed, the teacher must, for instance, enact certain functions (such

as the evaluation of performances) which he/she may not always appreciate, as they go against Nohl's claim that one must act "for the child" and take into account the youth's interests with regard to the institution of school as well as with regard to the social influences that can effect his/her development.

3. The theories of humanist pedagogics were not scientifically verified. Humanist pedagogics failed to help teachers put their model into practice. It did not take into account the historical and social conditions of education.
4. The pedagogical relationship is studied as a binomial one, which is insufficient to explain the complexity and the transversality of school education as it is developing today in the context of classrooms with large groups of students, etc.
5. We may wonder if this model of education does not belong specifically to the middle classes. There is perhaps amongst them an expectation for a certain type of behaviour between adults and youths, which does not always take on the same importance in the other strata of society.
6. One may also question the fact that this view of education is thought solely in terms of an intense (and dynamic) personal relationship. A less compassionate relation between adult and youth may also offer possibilities for self-realization. The "pedagogical relationship" described by humanist pedagogics runs the risk of creating types of dependency which do not allow the youth to become independent and autonomous.
7. In this model, the meaning and the aim of education are placed too exclusively on a personal educational rapport. The relationship "in itself" becomes the aim of education. But other factors influence the educational process. The social functions of education must, for instance, be considered. Thus we are witnessing an over-investment in the "educational relationship". The educational process therefore demands a critical discussion of the model based on this vision of the "pedagogical relationship".

V

Theory and Practice in Education

In our historical presentation of the problems with humanist pedagogics, we have addressed the issue of the relationship between theory and practice in education and educational science several times. To thoroughly understand how humanist pedagogics conceived the relation between theory and practice, we shall now turn to the work of Herbart. Indeed, his understanding of this relationship constitutes the basis for both Schleiermacher and Dilthey's reflections, as well as for humanist pedagogics.

In *General Pedagogics*, Herbart bases his understanding of the theory/practice relation on the following theory:

"What we strive for in educating and in demanding of education certain things depends on the horizon we set ourselves" (Herbart 1968: 28). "From the educator, I expect science and the capacity to think" (Herbart 1968: 32). "Pedagogics is the science that the educator himself needs. He must also have a science to transmit. And I here confess that I am unable to conceive education without teaching" (Herbart 1968: 33). "Humanity continually educates itself through the thoughts it generates" (Herbart 1968: 41).

These few quotes indicate that Herbart, dominated by the Enlightenment, starts with the idea that the educator's primordial task is to decrypt thought through science. This entails a differentiation between pedagogics as a "science" and pedagogics as an "art". The preoccupations of pedagogics as a "science" are the aim and object of education and its field of work: practice. Pedagogics as an "art" is concerned with developing the skills that are necessary for teaching. This distinction between pedagogics as a "science" and pedagogics as an "art" corresponds to the distinction between a pedagogics that is oriented towards theory, and a pedagogics that is more oriented towards practice. Between the two there is a gap that is not easily breached. To find a link between the two constitutes the educator's "tact" (the know-how), which is acquired progressively through "praxis":

"There is, therefore, a preparation to art through science. It is only in action that one learns one's art and develops one's tact ... But even in action, only he who has first learned the science will learn the art" (Herbart 1964, vol. 1: 127 ff.).

Through these considerations, Herbart gives priority to the objectives of education:

"It would suffice to orient the tact, which is naturally created during practice, according to conceptions regarding the content of education in order to have this tact act simultaneously as servant to the theory and as regent of the practice, so that it may move, by decisions and rapid judgement, from the concrete relations of practice closer to the ideals of conceptions" (Schmied-Kowarzik 1974: 144).

Thus, for Herbart, theory has the upper hand over practice. Schleiermacher does not accept this domination of theory over practice. For him, the theory/practice relation is defined by a dialectics whereby the practice of education tends to have the advantage. The theory of education is linked to the practice of education on two levels. Firstly, practice is always preliminary to any theory, and secondly, theory is always based on historico-social reality, without renouncing the realization of its intentions:

"In becoming particular, every theory needs to be linked to the facts without which there is no theory. Theory of education is the application of the speculative principle to certain given facts" (Schleiermacher 1965: 19).

A theory of education which does not refer to concrete historico-social data, something that still seemed possible for Herbart, is thus relegated: "we therefore always return to the fact that a universally valid theory is impossible" (Schleiermacher 1965: 22). Every educational practice needs a theory for the educator who takes on the normative and ethical claims of society. Through this appropriation, he can develop his educational art. Such an educational responsibility "rests on a moral perception that is part of a whole life context which includes pedagogics" (Schleiermacher 1965: 27).

In theory, the moral responsibility of pedagogics is influenced by its historical conditions. Through theory, the educator becomes conscious of an increasing tendency to moralisation, thanks to which he can then control educational action. And so, for Schleiermacher, life, or the pedagogico-social practice, wins over theory. Whose task is it then to define the development tendencies of educational practice?

"We now have nothing more to do in the theory than to expose pedagogical activity as the control or assistance of the child (and the combination of both these dimensions). We must leave to life itself the responsibility for what must be done in every moment. Theory only provides the service of a conscience thought out in practice, for where true

conscience lies, there is also perception of the complexity of the educational task, which always goes beyond the present moment" (Schleiermacher 1965: 53).

Schleiermacher reduced the theory/practice problematic by taking for granted the increasing moralisation involved in the process of life. As a result of this hypothesis and the priority of practice over theory, Schleiermacher failed to find a critical position in relation to social practice. This would have allowed him to question and verify the notion of a morality supposedly independent from life. Instead, his point of view excludes the idea that education, as a science, can be critical towards social practice. A similar reduction is found in Weniger's work on the theory/practice relationship.

Weniger's 1929 *Theory and Practice in Education* linked him directly to the debate over the theory/practice relation initiated by Theodor Litt in *Das Wesen des pädagogischen Denkens* (*The Nature of Educational Thinking*). For Weniger, a study of the theory/practice relation should serve a better understanding of educational action, its theoretical and political conditions and the practical accomplishment of education. Pedagogics as a science holds the same responsibility towards the pupil as scientific pedagogics does towards educational action. For Weniger, the aim is to build a pedagogical theory that includes practice and its development. Such a theory is the result of pedagogical practice and formulates its development. The fact that pedagogical theory takes pedagogical practice as its starting point, and that it interprets and determines it as has been described, demonstrates the specific scientific character of educational science. For a science of education which takes into account the practical problems of education, a classification of the rapport between theory and practice is necessary.

Weniger therefore tries to differentiate his concept of theory along three lines:

Firstly, he defines a theory of the first degree that describes the latent theory in practice. This cannot be conceptualised by the practitioner. It operates in his subconscious, affecting his perception of the field of education and the tasks achieved there. It is the result of forgotten socialisation processes. Moreover, since this is a theory that one is not conscious of, it is very difficult to control. It is "the hidden rationality that exists in intellectual behaviour, a force that summons, and an instance that has always existed within man" (Weniger 1953: 16).

From this, Weniger deduces a theory of the second degree which includes the practitioners' know-how. Even if latent, it is not always expli-

cated. One can become conscious of it, with the help of an explanatory effort, and point out its function as a guide for educational action. For Weniger, it is "everything that is formulated in one way or another, that is at the disposal of the practitioners and that they use", even if it is not "conscious in the sense of a direct utility" (Weniger 1953: 17).

Finally, Weniger develops a theory of the third degree whose object is the theory/practice relation in practice. Its purpose is to highlight the theory/practice relation in the context of educational action. Starting with a basic definition of the theory/practice rapport, this third degree theory aims to clarify and enlighten the theory applied in the educational field. To do so, it must refer to practice, since the theory/practice relation is such that the theory depends on each given practice. "But it is not the sole function of the scientific theory of pedagogics to explain the state of things; its place is also the context of practice. It takes on the function of theory in practice as an active conscience, a clarification of the theories inherent to practice, a conscious pre-knowledge and an ulterior acquisition of consciousness. Focusing, as the theory of theory, on the explanation of the relation between theory and practice, the theory of the third degree can be self-sufficient; when it observes from far and above what is happening in the field of education, it is intimately linked to the practice, it simply depends on it" (Weniger 1953: 19 ff.).

In order to properly understand the theory/practice relation in Weniger and in humanist pedagogics, one must realise that in this perspective, what is at stake is the construction of a theory of educational science that is only distinguishable from the direct educational act through its increasing rationalisation. It is important that one understands that educational experiences are "in truth always the result of a questioning, that is to say, of a theory, even if inexplicit" (Weniger 1953: 11). This means that one must reach a theoretical enlightenment of theory in order for experiences to influence the educational act. This can occur on different levels in the theoretical elaboration. The theory of the first degree (which stems from the educational practice) defines the type and possibility of experiences which are transformed by the practitioner into principles, into rules of life, routine, know-how, that is to say, into a theory of the second degree. However, since the practitioner's experiences are not always determined by second degree theories, a real theory must be expected to transform in a satisfactory manner first degree theory into second degree theory.

Thus, according to Weniger, one of the central tasks of educational science is to allow a concordance between the theories of the first and second

degree. But one wonders if this is possible, for the very difference between the two types of theory suggests that one cannot make them coincide: theory of the first degree cannot be verbally articulated; it cannot therefore be compared to that of the second degree. For if it were possible to articulate it, it would no longer be separable from the theory of the second degree.

Numerous studies on the behaviour of teachers have brought to light the fact that educators tend to act on the basis of defined theories, but judge their acts on the basis of other theories. However, this does not provide any criteria to judge the superior validity of one or the other theory. To do so, one must consider Weniger's theory of the third degree, the "theoretician's theory". This assumes the function of theory in practice. It directly attaches itself to educational reality and tries to help the practitioner evaluate the practice in a satisfactory manner through a "pre-elucidation" and an "ulterior elucidation". To this extent, the third degree theory is more valid than the other two with whom it shares an engagement in practice while at the same time distinguishing itself from them.

According to the master of this "traditional" hermeneutics, recognition and clarification of practice stem from a theoretical pre-comprehension through practice and the reflection that ensues (theory of the third degree). Weniger then goes on to demonstrates that the purpose of the third degree theory is to provide an explanation "of the state of theory and practice". This theory thus plays the role of a *meta-theory*. It develops a meta-theoretical regulatory system for humanist pedagogics in which the issue of the theory/practice relation holds a central position.

According to Weniger, "the pedagogical act ... is embedded in theory and protected by it. Practice contains theory as the condition of its acts and becomes 'experience' through theory seen as the consequence of action" (Weniger 1953: 16). The primacy of practice over theory is clearly underlined here. Theory is conceptualised as an aide for the explanation of practice, that is to say, primarily as an aide for the improvement of educational reality and the educational actions inherent to it.

Long before H. Garfinkel or P. Bourdieu, Weniger explained the theory/practice relation using the model of a circle between theory and practice. He realized that the necessity for a scientific theory only appears when the continuity of this circle is called into question. As long as the practice and its inherent norms are not called into question but are handled in the traditional framework of representations and models for the resolution of problems, only a given theory of practice is really necessary to direct and perfect this immanent practice. If, however, the inherited practice, with its

norms and goals themselves inherited, is called into question, if theory can thus no longer be tied to the pre-given practice, then it must attempt to evaluate practice and give it new forms using new criteria. This means, in other words, that theory must first have a critical, and then a constructive function. Otherwise it can do nothing but sanction the given educational practice. When Critical Theory considered traditional educational practice as part of the bourgeois society and therefore as a practice to change the role of educational theory for the improvement of the educational practise was reconsidered and re-evaluated and led to a "revalorisation of theory", even though the primacy of educational practice within social practice has never been questioned.

Summary and Outlook

1. By opposing the traditionally normative gesture of pedagogics, the current of pedagogics influenced by human science (humanist pedagogics) claimed that education and educational science must take into account the historicity of their field. The purpose of this development was to move away from the idea that educational science could be independent from given historico-social conditions. This conception is still pertinent today. An understanding of history based on the history of ideas must be complemented by a socio-historical comprehension of the socialization of mentalities.

2. For humanist pedagogics, educational reality is part of social reality. However, according to contemporary norms, its understanding of the structures of society is rather undeveloped. It lacks a developed social theory upon which it could have then defined the missions of education in the context of social practice. Critical Theory later bridged this gap.

3. Humanist pedagogics defined itself as a theory both of and for educational practice. It saw itself as a science of action. As such, it developed a certain understanding of educational action. On certain levels this understanding is still valid.

4. The notion of a "pedagogical relationship" developed by humanist pedagogics could contribute to the development of a theory of educational interaction in today's education. However, the model is limited to the extent that humanist pedagogics idealised this relationship by considering the educational situation solely in its terms.

5. Consideration of the historicity of education and of the particular and unique character of each educational practice leads to a hermeneutic perspective which was used extensively for the interpretation of historical texts. In the study of educational reality, which humanist pedagogics recognized as having a central function, the hermeneutic perspective was hardly used at all. Only recently has it been systematically referred to. Today, we believe that the hermeneutic method remained little employed by humanist pedagogics because it was not sufficiently enriched by an ideological-critical perspective.

6. Because humanist pedagogics made little use of hermeneutics for the study of educational practice, it did not develop as a real "science of experience" (following Dilthey's conception of human science as the science

of experience or *Erfahrungswissenschaft*). Humanist pedagogics was thus undoubtedly incapable of basing its theoretical declarations on concrete educational processes as well as of engaging in theory-based practical reforms. On the contrary, it idealised its theoretical declarations and took them for solutions to the problems of educational reality. This resulted in a distancing in relation to practice. Humanist pedagogics thus failed to live up to its ambitions to help improve educational reality.

7. Humanist pedagogics based its right to autonomy and specificity as a science on the fact that no other science or discipline had claimed the responsibility to analyse the educational process. Pedagogics thus took on the task of defending the individual rights of children against the demands of the "social powers". In the light of such clear promises of emancipation, the capacity of humanist pedagogics to carry out its claims may well be questioned.

8. It were above all the representatives of critical rationalism who pointed out that the language of humanist pedagogics was not precise enough due to a lack of differentiation between "descriptive" and "normative" affirmations, and due to the inexistence of a *metatheory* of normative principles. Humanist pedagogics did not have sufficient criteria to differentiate historically-given educational practice and the normative terms pertaining to this practice. Due to the fact that the reality of educational practice was replaced by normative representations of this reality, an idealisation of the educational practice often occurred. This idealisation sometimes led humanist pedagogics to consider legitimate what had in fact merely imposed itself historically.

PART TWO

Empirical Educational Science

From the twentieth century onwards, empirical-analytical research became one of the constitutive elements of educational science. The aim of the empirical thrust was to enrich humanist pedagogics through experimental scientific research. This research wanted to prove that humanist pedagogics was "non-scientific". However, for a long time attempts made by the new current remained unsuccessful in challenging the dominant position held by humanist pedagogics. As a consequence, empirical pedagogics developed at the margins of educational science.

In the late 1950s and early 1960s, empirical educational science gained importance in relation to other scientific currents. The empirical tendency persistently stood up against humanist pedagogics' methodological naivety in describing contemporary educational reality, meaning the analysis of all processes, institutions and factors that determine education. On the conceptual, methodological and instrumental level, this tendency refers less to the German works of the twentieth century's first decades (that were at times still insufficient) than to American empirical research. For it is above all in the United States that, from the beginning of the twentieth century, under the influence of behaviourism, operationalism and positivism, empirical-analytical research became educational science's privileged perspective.

In the 1950s, during which German research in sociology and psychology was largely dominated by the Americans, the first empirical-analytical works were produced in the Federal Republic of Germany. These were mostly carried out by young specialists in educational science, while the representatives of humanist pedagogics maintained a rather expectant and critical distance towards them. Contributions from other disciplines in the social sciences were crucial for the development of empirical-analytical research in the field of education. Thus, in examining the different issues relating to education, sociology and psychology were the first to show the relevance of empirical-analytical research in this field. Important studies in methodology had an influence on educational science, and as a result of this evolution, the tasks of educational science were expanded. It is in this context that the relevance of sociological, psychological, economical and political research was discovered.

During the 1960s and the first half of the 1970s, empirical research settled in the field of educational science, where it plays an important role today. The evolution of empirical research has been closely linked to efforts in educational reform. It was hoped that it would provide support to an educational policy in terms of quality, development and valorisation of

the reforms, as well as from the point of view of research into a kind of social science more explicitly oriented towards education. These social expectations still apply to empirical research in educational science today. Indeed, there is today no field of educational science in which empirical results do not play an important role. This development has also affected the other social sciences which have increasingly shown an interest in the field of education. As scientists from different disciplines have come to examine similar or identical issues, the clear boundaries between disciplinary territories have gradually disappeared. This has called for a distinction to be made between empirical research in educational science (educational research in the narrow sense) and research in education in a broader sense. The German Council (*Deutscher Bildungsrat*) for education formulates this distinction as follows (1974):

"Research in education can be approached in a broad sense or in a narrow sense. The narrow sense has always concerned research in teaching. The broad sense can refer to education as a whole and its reform in the context of the State and society, as well as to extra-curricular educational processes. Though one may squabble over the extent to which these borders are open, one may only speak of research in education when the task to be accomplished, which is the object of the research, refers, either theoretically or empirically, to formative processes (apprenticeship, teaching, socialization or educational processes)."

With reference to this distinction, it can be said that empirical research in educational science is present above all in educational research that is pedagogically oriented. According to this statement, the tasks and methods of educational science cannot be better defined than in the context of research from the perspective of social science.

At present, about fifteen per cent of the members of the *German Society for Educational Science* (roughly three hundred people) work in an empirical mode. The complexity of the object of research and the theory/practice relation in the field of education raises numerous particular problems which have not to this day been successfully solved. Further difficult issues are the institutionalisation, organisation and financing of research, which reveal the dependency of research on politics and the planning of education.

After rather hesitant development in the first half of the twentieth century, becoming swifter in the '50s and '60s, empirical research represents today an uncontested field of educational science. Our presentation of empirical educational science must take into account this evolution. We shall therefore present the most significant moments of the evolution of this re-

search by distinguishing educational science research in the narrow sense from educational research in a broader sense. This distinction will above all be made in relation to theoretical reflection, where the meta-theoretical system of principles that validate empirical research is defined. The scientific paradigm of critical rationalism is inherent to this research. Although the influence of critical rationalism on the practice of research can be called into question, it must be taken into account from an epistemological point of view. The encounter between critical rationalism and empiricism allows for a better comprehension of the epistemological situation of educational science.

VI

The Empirical Approach to Educational Science: Historical Perspectives

The paradigm of empirical pedagogics emerged in Germany at the turn of the twentieth century and struggled until into the 1960s to be recognized. During these seventy years, the current went through different, sometimes contradictory approaches. Four phases characterize this evolution until the arrival of critical rationalism and the *dispute* over positivism:

1. The work of the two founding fathers of experimental pedagogics, W. August Lay (1912) and E. Meumann (1920).
2. The efforts of Else and Peter Petersen (1965) to found research on pedagogical facts.
3. The work of Aloys Fischer (1966) and Rudolf Lochner (1927; 1963), who sought to establish a descriptive educational science.
4. The efforts of Heinrich Roth to found a "realistic turn" in educational science.

This evolution culminated in critical rationalism.

1. Lay's and Meumann's Experimental Pedagogics

Right from the start of his career, W. August Lay, who published in 1896 *A Guide to Writing* and in 1898 *Elements of Calculus in Small Classes*, tried to verify through experiments the efficiency of specific teaching techniques. This work was completed by Lay's *experimental didactics* and the new, shortened version of his *Experimental Pedagogics with a Particular Interest for Education through Action* (1908). Central to these publications are experimental pedagogics and the new teaching-oriented research methods, whose tasks are defined as follows:

"We will demonstrate theoretically and practically that we are able to apply the experimental research method, experiments, statistics and cautious or systematic observation,

with best results, in the pedagogical perspective, to obtain solutions to the questions of teaching and education" (Lay 1912: 1).

Realising that experimental research is the most efficient method in the natural sciences, Lay applied this method to pedagogics. Thus, he distinguishes paedology, oriented towards questions pertaining to the body and soul of the child, and experimental pedagogics, interested in the practical questions relating to teaching and education. Experimental pedagogics must make use of experiments, statistics and systematic observation to solve practical questions. Lay describes the relationship between the two fields as follows:

"It is not always easy to distinguish a 'paedological' exploration from an exploration in experimental pedagogics: both are experimental and deal with the development of youths, children, schoolboys and schoolgirls. Whereas 'pedological exploration' is only directed from a theoretical and not practical perspective, research in experimental pedagogics aims to resolve practical questions, questions pertaining to education and teaching" (Lay 1912: 2).

Experimental and empirical pedagogics are attributed the mission of solving the practical questions of education. Lay and Meumann are committed to emphasizing the competence and responsibility of empirical-experimental pedagogics in educational practice which constitutes, with its questions and problems, the field of empirical research. For them, there is no doubt that a reference to humanist pedagogics is necessary in order to anchor experimental research in the educational practice.

We have already described the efforts of humanist pedagogics to acquire relative autonomy and a scientific character; likewise, Meumann notes:

"There is nothing missing in pedagogics for it to be a strictly systematic science: it has a homogenous system of concepts unified in the concept of education. Pedagogics has its own empirical foundations in experimental pedagogical research. It defines the aims of education itself, as no other science has done ... The aim of educational science is to establish a homogenous *system* of *educational aims* and rules or normative principles which must be followed. *Knowledge* of these aims can only be constructed on the basis of empirical experimental research anchored in life and humanity's engagement, above all in the present, but also in understanding the ways and means through which these aims may be attained ... Pedagogics as a whole rests on empirical foundations ... Experimental pedagogics reveals these empirical foundations only in as much as exact research becomes accessible" (Lay 1912: 9-11).

In experimental pedagogics, the following aspects are considered:

"1. Everything that is defined through the nature of the child in education ...
2. All that is decided directly in relation to educational work ...
3. All the means, materials and topics of education ...
4. The experiment ... as the strictest form of empirical research" (Lay 1912: 11).

The object of experimental pedagogics is "knowledge of the youth" in a wide sense. It creates the necessary conditions and tools for educational work. Educational work, from this point of view, rests on systematic comparative trials in the experiment. The purpose of the experiment is to obtain a vision of the "psychological causal context" and the global network of causes of precise phenomena in the educational practice. Furthermore, verification and improvement of the means, educational tools and topics of study, as well as the development of experiments as a central element of research in empirical pedagogics belong to the tasks of experimental pedagogics. Also belonging to the empirical research process are: the genetic method, collection of childhood memories and childhood performances, direct observation of procedures, and the development of experimental pedagogical work. According to Lay, experimental pedagogics is a science which defines "each pedagogical phenomenon as the effect of certain causes" and he concludes that the results of experiments "require judgement and pedagogical measures that must be confirmed in practice by scientific experimentation in relation to reality" (Lay 1912: 12 ff.).

This perspective of empirical educational science supposes that hermeneutical analysis based on the significance of contexts in the field of education cannot be admitted as scientific. This limitation of the scientific paradigm to the *validity of the causal principle* is not acceptable in educational science. From empirical results, data is drawn that is not directly pedagogical. For it to become pedagogically relevant, the empirical results must first be interpreted. Constructive conclusions are thus required that are based on these interpretations of the acts of research. Such constructions are no longer part of an empirical process. Indeed, most crucial to this approach is the ability to criticise and verify hypotheses by means of inductive methods. Moreover, normative determinations and the assumption that scientific experiments can be verified on the basis of educational practice also play an essential role. However, scientific experiments are not always verified through educational practice, and the concordance between cause

and effect is not always established in experimental situations or in daily practice. As a result, a number of simplifications were to be made in experimental pedagogics which were later criticized in the context of critical rationalism.

2. Else and Peter Petersen's Study of Pedagogical Facts (*Pädagogische Tatsachenforschung*)

Another significant moment in empirical research within educational science was marked by Else and Peter Petersen and their research into pedagogical facts which started in 1927-1928. Their methods and procedures only became operational at the beginning of the 1930s. Their aim was to elaborate a methodology for educational science based on the empirical method developed in psychology or sociology. Peter Petersen began by noticing that available studies were unable to answer certain pedagogical questions. Approving the ideas of the *new school*, the Petersens tried to develop these in their research at the university school of Iéna. In their *study of pedagogical facts*, they found the means to carry out their ideas on teaching, social learning, the organisation of school and the training of teachers.

To reshape and improve school education, the Petersens used the method of observation. Else Petersen introduced an "analysis of adequately planified and articulated observations" (E. and P. Petersen 1965: 102). Within this framework, data to be observed is selected. The observation activity concentrates on actions and behaviour that are relevant to education. It is oriented towards the pedagogical situation and its description, which is central to the *study of facts* in pedagogics. It is defined as

> "... problem situations (from which questions arise), constructed according to a plan, are destined to offer the best environment for the maturation of purely human constructions and the intellectual powers of children and youths. Problem situations stimulate youths and give them a variety of tasks through which each and everyone of them must express himself as a whole being, a whole personality, and must be active, that is, act and respond by taking and expressing sides quite completely" (E. & P. Petersen 1965: 109).

Examination of the above-defined pedagogical situation is difficult as the envisaged problems are very complex. Numerous elements are involved in the pedagogical situation. In the context of the university school of Iéna,

one must count among others: the organisation of teaching and apprenticeship given through comprehensive teaching, group work and getting beyond the principle of annual promotion, the ensuing roles played by teacher and pupil, and the insistence on evaluation of oneself and one's schoolmates.

One of the objectives of observing the pedagogical situation is to help teachers improve their educational sensitivity. Observation must essentially be carried out by the teachers themselves, and have its place in the training of teachers, as well as in continuous in-service training. According to Else and Peter Petersen, the teachers' disposition and capacity to explore their educational practice must be developed in order for them to attain a knowledge that can help them improve both their behaviour as teachers as well as the social position of education.

At the centre of the study of pedagogical facts is the written account of the observations arising from a pedagogical situation. E. Petersen has described this process as a recording. The concept of "recording" is used in three ways. It can be:

a) a written description;
b) the use of an observation grid;
c) a definitive recording.

On a methodological level, three processes are thus distinguished: individual recording (observation of a pupil, for example), the recording of the teacher and the recording of the whole, described as follows by P. Petersen:

"1. Singular recording, which means the recording of a single child or at most two or three children.
2. Recording of the teacher, that is to say, what the teacher does in relation to his students and to his environment, how he acts and what he says, how he expresses himself and behaves.
3. Comprehensive recording, that is to say, the global pedagogical situation, 'everything that is incited by the teacher and the pupil on the pedagogical level, from the hour-long lesson in an over-crowded state school classroom to the optional lesson with few children as found in the new schools' " (Petersen 1965: 135).

The goals these methods aim at are diverse.

In the study of individual cases, the first aim is to understand a particular child's relationship to the world of school, the relationship between teacher and child, the relationship between the children themselves, and to

discover the positive and negative effects of educational influences on the child.

In recording the teacher the aim is to "record" the teacher as a singular person in all his actions and communication references.

Comprehensive recording of the group is particularly significant to understand the pedagogical situation, but it is also the most challenging on the methodological and technological level. It captures the different communications as they unravel. In each recording, "every significant unit must be recorded".

What this definition of the objectives clearly suggests is that the study of pedagogical facts is a preamble to comprehensive social research. In this context, facts will be recorded, not just mechanically as behavioural data, but also as constituted social situations, organised by a meaning.

For all forms of recording, the following criteria must be taken into account:

"1. The pedagogical situation must be *authentic*.
2. Recording must be *target-oriented*.
3. The description of the situation must be *detailed*, if possible word by word.
4. The recording must be *continuous*.
5. Transcription of the situation must be *clear*.
6. The transcription must be *pure*" (Petersen 1965: 244).

Four further elements must be taken into account:

1. time
2. the evaluation of what is to be recorded
3. the recording performance itself
4. interpretations (comments, supplementary remarks, etc.).

The information thus gathered must then be organised, systematized and interpreted. Petersen distinguishes:

1. a descriptive method
2. a phenomenological method
3. a logical method
4. a numerical method
5. a causal method.

Finally, there are five different ways of presenting the acquired and organised information:

1. geometric presentation
2. graphic presentation
3. presentation through image or book
4. the static or dynamic observation mode
5. the differentiation between cause and effect.

Numerous points of criticism could certainly be formulated in the context of a comprehensive evaluation of this qualitative pedagogical research. They would in part apply to the specific situation of the university school of Iéna, its exclusive focus on questions of organisation, and the insufficiency of interpretative criteria. Nevertheless, E. and P. Petersen's study of pedagogical facts certainly constituted an interesting enlargement of empirical research in educational science because it tried to *link directly the research and its results to the people concerned*, and thus *to improve their active competences*. This can be facilitated by the use of the hermeneutic method of interpretation which results in more concrete annotations and in the improvement of educational practice.

The use of these methods of observation and the results they produce allow for a reflexive attitude towards educational practice. This reflexive relation is far less possible within empirical-analytical procedures which, as in Lay's and Meumann's experimental pedagogics, only allow for causal explanations and corresponding prognoses. Finally, the relative ease of procedures allows them to be engaged in the initial and in-service training of teachers. This comprehensive research of teaching has been the object of particular interest in recent years. In the context of the development of action-research and the use of qualitative or ethnographic research, a renewed esteem for the study of pedagogical facts is apparent.

3. Aloys Fischer's and Rudolf Lochner's Descriptive Pedagogics

Neither Lay's and Meumann's experimental pedagogics nor the Petersen's study of pedagogical facts were to have a large influence on educational science. This is equally true of the work of Aloys Fischer and Rudolf Lochner who developed the foundations of a descriptive educational science in

1914 and 1927 that were illustrations of positive educational science. In his 1914 article on *descriptive pedagogics* in which he describes his programme, Fischer speaks of a distinction between education as a fact, and education as a mission. In Fischer's words:

"Whoever teaches, educates and attempts to improve is not engaged in the production of knowledge. The educator's task does not involve *knowing* the child who is being taught, or knowing the topic that is being transmitted through teaching, or even the methods being used. The educator must of course master the discipline that he wishes to transmit. It also goes without saying that he necessarily acquires other types of knowledge while performing the educational activity, such as for instance regarding the particularities of each child. Furthermore, the educator will necessarily acquire experiences with regard to the effects of his pedagogical initiatives and make use of them again instinctively" (Fischer 1966: 83).

What is interesting here is the extent to which the practitioner is described negatively, and his ability to think contested, although he is forced to act. Recognition and understanding of educational practice and research is attributed solely to the theoretician who must here be distinguished clearly from the practitioner. It rests on the theoretician to achieve the "decisive task of a pure pedagogical theory, as disinterested as possible, to serve knowledge". This theory is prepared through an objective description, without theory, presenting the starting point for a systematic theoretical formation. Fischer explains:

"At the beginning of any science, one must expose, that is to say question what constitutes the things and factual content that are described with the words of the given field; that is, question this factual content in its natural and pre-theoretical constitution, as the facts that make the problems of the science called into question at all possible" (Fischer 1966: 91).

What Fischer expects of pure description is clear. Inspired by Husserl (whom he does not seem to understand very well), he infers that recognition of an object is possible without the invocation of theory and without referring to hermeneutical and analytical procedures. However, since the emergence of critical rationalism, this vision of an objective knowledge devoid of pre-established theory is no longer defendable in today's social sciences. What is described as a *pedagogical fact* or as a *pedagogical situation* depends on a *preconception*, which is itself determined historically, socially and linguistically. In fact, the distinction between normative and descriptive pedagogics amounts to a step backwards in relation to humanist

pedagogics which had demonstrated the shortcomings of normative pedagogics. Furthermore, descriptive pedagogics can also be criticized for claiming to be the only scientific pedagogy.

In a similar manner, Lochner describes educational science as a descriptive science devoid of value judgement:

"Educational science is theoretical, autonomous, pure science ... based on educational phenomena as a whole. It observes and describes them based on the abundance of other phenomena in life, and explains, tries to understand and interpret them. It sets out to understand, visualize and cast light on selected pieces of reality with the help of previously acquired provisional concepts. From this point of view, educational science is a phenomenological discipline or a literal search for meaning, and nothing more. Thus, with regard to its positive, descriptive, empirical and explicative character, pedagogics can hardly be distinguished from other similar sciences, such as economics, psychology, or biology" (Lochner 1963: 415).

In accordance with Fischer's conception of educational science, this scientific perspective represents the clearest incarnation of a positivist position in educational science. It comprises the demand for a unity and independence of science in relation to values, and a formalism to describe the science of education and the establishment of facts.

4. The "Realistic Turn" in Educational Science (Heinrich Roth)

A reorientation of educational science, opposed to humanist pedagogics, imposed itself in the 1960s as the "realistic turn in educational science". Humanist pedagogics, which again had become dominant after the Second World War, excluded the realm of experimental scientific research, which was no longer accepted. Humanist pedagogics thus remained far beneath its claims to being a theory of educational practice for educational practice.

On the contrary, humanist pedagogics had set itself the objective of historico-idealizing research and had transformed the hermeneutic-historical method into the only method of educational science. It therefore became necessary to recognize what could be important for educational practice.

Finally, another consequence of this exclusivity was that educational science was failing to integrate the bulk of empirically-obtained knowledge which was nevertheless important for pedagogics. A variety of sciences

such as psychology, sociology but also psychoanalysis and the economics of education had elaborated useful information.

With Roth's critique of his era's humanist pedagogics on the one hand, and with the realisation, on the other hand, that with the development of knowledge in the social sciences the danger of educational science being dissolved into these close disciplines had increased, the "realistic turn" of educational science established itself as:

1. an attempt to go against the tendency of pedagogics to disintegrate into a multitude of independent sciences (e. g. sociology, psychology ...),
2. an effort to avoid losing a pedagogic interest in educational action,
3. an attempt to remedy the rupture between theory and practice in action.

For Roth, the idea was not only to replace humanist pedagogics with a practical educational science or by welcoming the increasingly important results of empirical research being carried out in other social sciences. Rather, his efforts were to focus on constituting a new educational science as a discipline in its own right.

Against pedagogics' tendency towards disintegration into a multitude of independent sciences, Roth always remained faithful to his idea of educational science as an "integrative science" that should incorporate into an educational problematic the knowledge accumulated in the sciences (most of which were the product of empirical work). Because, in his view, only through integrating them could one prevent such knowledge and facts remaining without effect. This could be achieved thanks to a "pedagogical anthropology" which looks at man's capacity to both learn, evolve and to give his life meaning (Roth 1965:215). But is such a possibility of integration at all feasible? Especially considering the fact that the knowledge acquired in other fields results from different questions. Indeed, an interest in knowledge does not necessarily imply an interest in pedagogics. Such an attempt at integration, insofar as it believes itself capable of correcting the social and historico-scientific conditions which have led to this specialization and to this disintegration of modern science, is more than dubious.

To avoid the loss of pedagogical interest in educational action, the unity between theory and practice must be reaffirmed (notably in relation to humanist pedagogics which often disregarded practice). But this is valid above all for empirical research which sometimes does not take into account the interest for pedagogical action. It is only when educational science takes into account the interest for pedagogical action that it can contribute to the

improvement of practice (an issue which does not arise in the other disciplines).

Finally, in the context of a "realistic turn" of educational science, a new definition of the relationship between theory and practice is needed, which Roth (1965) and Thiersch (1966) tried to find. They agreed that in the interest of providing a solution to the practical problems of educational reality, cooperation between hermeneutical and empirical procedures in educational science must be established, as they are complementary. Indeed, both postures have a similar object even if they differ in terms of their form and results. Hermeneutics must contribute to the formulation of questions and the interpretation of empirically-obtained results. Its field of action is therefore the control of practice. Practice then takes on the issue of collecting information on educational reality which can contribute to elaborating more precise knowledge on education.

Roth and Thiersch hoped to find a common ground between pedagogical theory and an empiricism that is "blind" to the significance of practices. Aware of the difficulties of conciliating theory and practice, Thiersch wanted his work to be considered as an attempt to develop "medium term" theories. Although this idea of the complementarity of hermeneutics and practice is indeed interesting, the legitimacy of this attempt must be questioned, for with it hermeneutics becomes functionalised and objectified in a way that seems contradictory to its original vocation.

VII

Critical Rationalism in Educational Science

Before analysing the scientific foundations of critical rationalism, let us present the work of Brezinka, which is very much oriented towards critical rationalism. It is the most interesting model of an educational science based on the scientific programme of critical rationalism. Brezinka considers educational science to be a "sub-science" of the universal science that he postulates. A series of exemplary elements characterising critical rationalism can be established on the basis of his work:

- the distinction between context of discovery and context of justification
- the contradiction between the normative decisions that affect value bases and science's claim to independence from values in the field of objects;
- negation of the inductive principle that remains valid in positivism;
- the deductive construction of theories that are confirmed by the fact that there is no falsification;
- intersubjective falsification when it comes to the verification of affirmations.

Critical rationalism imposed itself within the social sciences in the mid 1960s. Brezinka drew on it largely in his 1971 presentation of his programme for the "development of pedagogics towards educational science". His starting point is the dispute over positivism, which was gaining ground at that time. Beyond the controversies over positivist works (such as Lay's and Meumann's experimental pedagogics or Fischer's and Lochner's descriptive pedagogics), the controversy originating from Brezinka's programme finds originality in the radical and dogmatic character of his argumentation.

Influenced by Lochner, who said that "the goals of educational science are not to influence action but the knowledge of facts" (c. f. Brezinka 1972: 25 f.), Brezinka developed the problem of a science whose purpose would be the acquisition of knowledge and whose mission is not to question the conditions of data production or the conditions of its evaluation. He writes: "The makers of science are expected to produce knowledge, not to shape the world or influence men. They behave theoretically, not practically. The

goal of science is knowledge. The goal of a science of reality is the knowledge of reality" (Brezinka 1972: 20). And further on: "The unity of science can be defined by two sets of questions: on the one hand, definition of the objectives and tasks of science, and on the other hand, the general rules of the scientific method. It is then possible to differentiate science from the other fields of human activity such as politics, economics, education, art, and religion" (Brezinka 1972: 20).

Science is thus defined as an activity of research oriented towards the knowledge of reality thanks to the scientific method. Can such a conception of educational science be employed for all the tasks that are taken into account in the field of educational science or in pedagogics up to the present day? Certainly not. Brezinka must therefore extend his scientific programme. In accordance with analytical philosophy, he supplements educational science (1) with the philosophy of education (2) and practical pedagogics (3). He then divides educational science in the broad sense into a theoretical educational science (a) and a historiography of education (b). The latter is essentially conceptualised on the basis of theory. The field of educational philosophy is also divided into the epistemology of pedagogical statements, and moral philosophy. Practical pedagogics is defined following the concept of apprenticeship.

1. Educational Science

The basic scientific principles on which a theoretical educational science and the historiography of education are founded, are defined within the framework of educational science in general.

The central task of educational science, applying also to the sub-divisions we have just defined, is to uncover the conditions for attaining the object of education. Educational science describes facts, but it is oriented above all towards a search for causality (Brezinka 1972: 31). "Regarding the problems which must be solved within the framework of educational practice, educational science is primarily a technological science" (ibid., 32). "It can be said that educational science searches for the conditions for realising educational objectives which are influenced by action or are relevant to action" (ibid., 33). From this derives the fact that the object of educational science constitutes an essential element of education. "Educational science is described as the system of intersubjectively verifiable statements in the field of educational reality (field of objects)" (ibid., 34).

"Educational science can thus be defined as a special discipline, as a sub-science of the integrated science of social behaviour or of the psychic objectifications of man" (Brezinka 1972:38). Thus the tasks of educational theory and the historiography of education are defined: to explore the object of educational science on the basis of different proceedings.

a) Educational Theory

The aim of educational theory, which Brezinka simply describes as educational science, is to acquire nomological knowledge. In this process educational science cannot avoid making use of so-called facts and predefined hypotheses about educational reality. On the contrary, it is grounded in its own questioning and the effort to solve the issues raised. As Brezinka says, "science does not begin with fact, but with problems and the quest to solve them" (Brezinka 1972: 50).

Following Popper and Albert, the purpose of research can be described as the acquisition of theories. Theory here is understood as "the set of nomological hypotheses which are tied to one another, and to which one appeals in order to explain and justify the behaviour of a phenomenon in this realm" (Albert 1973: 76). These hypotheses must be formulated in statements of the type "if ..., then ..." (conditional sentences). As scientific propositions, they can be verified intersubjectively. In contrast to classical positivism, according to which one could verify theoretical propositions inductively, Brezinka appropriates Popper's falsification principle. According to him, science cannot demonstrate the veracity of its affirmations from the inside. It can only confront the hypotheses or phenomena with experience. According to Popper, an empirico-scientific system should be able to be falsified when faced with experience. But if the falsification fails, the hypothesis or the theory can be considered to have been validated.

For example, the statement "all swans are white" can be formulated as "there are no swans that are not white". But if one happens to see a black swan, one can use the formula "there are", that is to say, "there are black swans". This is a basic statement which rejects and falsifies the basic statement "there are no". One then points out the contradiction between the two affirmations and deduces from it the falsehood of the general rule on the basis of a specific experience that contradicts it.

Brezinka thus requires that within educational science a language be used in which a distinction can be made between the language of observa-

tion and the language of theory, in order to avoid the "information gap" (as critical rationalism calls it) which characterizes the language of traditional pedagogics.

Furthermore, Brezinka holds to the distinction, which is characteristic of critical rationalism, between the context of how a situation is described and the context of how scientific statements are justified. The question of the origins of questions and hypotheses belongs to the realm of psychology. One can only determine whether an affirmation can be considered scientific by falsifying it with the scientific method in the context of justification. Regarding the system of scientific propositions, still with reference to Albert, the need for science's independence in relation to value judgements is also underlined.

Compared to positivism, the scientific statement system integrates an important relativisation of the claim to independence in relation to values. We will examine further below the distinction between description and explanation of facts. This differentiation is pertinent in education, and is necessary in the realm of educational science. The use of scientific knowledge (constructed in this way in educational science) in the field of educational practice will, finally, and most importantly, be examined in the context of the use of theories for technological ends or for forecasting.

b) The Historiography of Education

Educational theory must draw on the results of the historical science of education or the historiography of education in order to be able to fully grasp its object, that is, educational reality. Without this historical approach, important dimensions of educational reality would be ignored. In contrast to a theoretical object, the complexity of the object of historical science means that it can only ever be partly or indirectly comprehensible.

The difference between the goals of these two spheres of research is more important: "In the realm of theory, one tries to find universal laws, to construct a systematic theory of one's field of work. At the forefront of historical science is an interest in reconstructing past events intellectually" (Brezinka 1971:91). According to Brezinka, emphasis on the uniqueness of the historical phenomenon goes back to the influence of historicism. Early in his work he became increasingly interested in the study of phenomena and regularities in addition to his interest in a science of historical reality.

Historical research relies on the need to base its theories on as large a body of experiences as possible. Historical research is also useful to educational theory. "It is necessary to be able to choose, describe in a differentiated fashion and explain relevant historical phenomena" (Brezinka 1971: 95). Regarding the historico-systematic mode of observation of humanist pedagogics, Brezinka explains that Dilthey's disciples "do not use the word *systematic* in the same sense as *theoretic* in rationalist theory, but rather as a synonym of *philosophic*, in a world-vision inspiring itself from a philosophy of life" (Brezinka 1971:96). For him, the historical writings of humanist pedagogics are thus non-historical. They are even, he claims, non-scientific insofar as they claim an ability to propose norms for education. This claim remains a task for the moral philosophy of education. For his project of a universal science, Brezinka also refuses to distinguish explanation from comprehension and thus to admit hermeneutics as a method for educational science. Furthermore, he requires that one differentiate between the history of pedagogical ideas and the history of educational reality. It is on the latter that a historiography of education must concentrate.

We shall criticize Brezinka's theory at a later point. Let us now, however, emphasize the following: Brezinka's definition of history, which he presents as a "conceptual reconstruction of unique past events" seems limited, for such a reconstruction is only a moment of the historical work. The fact that interpretation of the past is always linked to interpretation of the present, which is in turn explained by its own past, is essential to the history of education as a science.

This process, according to which interpretation of the past is at the centre of present issues sends us back to interpretation and to what is specific about historical writings. Fundamentally, it is essential to reconstruct the past as the sum of past events. What is possible, is to try to recognize the past on the basis of existing sources and to interpret these in the present.

Benner continues this reflection as follows: "We admit that historical facts, as past realities, are given to us specifically through the present continuity of their significance" (Benner 1973: 257 ff).

To reduce the historical perspective as Brezinka does, or to underestimate historical writings in educational science, has the effect of making the scientific programme of the discipline *a*-historical.

2. Philosophy of Education

To justify the need for a philosophy of education we must start with the following question: "What problems arise within educational action and reflection on education, which cannot be addressed by an educational science oriented towards practice?" (Brezinka 1971: 117). The following are among such issues:

- defining the goals of education;
- the philosophical foundations of educational science;
- the hermeneutics of educational reality;
- the philosophy of education and ideological pedagogics.

In order to systematically address the issues which arise within these realms, Brezinka distinguishes two main fields of intervention for the "philosophy of education": a) "moral philosophy of education", and b) "theory of pedagogical statements".

a) Epistemology of Pedagogical Statements

Epistemology of pedagogical statements includes logical analysis of concepts and pedagogical statements, the methodology of knowledge in educational science, and the critique of the theory of the knowledge of educational systems. Logical analysis of pedagogical concepts begins with "an explanation of the concepts through definitions and analyses of meaning, explores everyday language and tries to shed light upon the concepts and statements. The epistemology further rests on the critique of educational systems. Its aim is to distinguish the different methods that are used and it must differentiate normative statements from empirical statements" (Brezinka 1971: 142 ff.).

b) Moral Philosophy of Education

Brezinka's definition of educational science as a technological science free of all values, the task of which consists in examining the possibilities of attaining given goals, calls for a moral philosophy of education to build and insure the choice of goals. Its mission is defined as follows: "To examine

ethical value judgements that relate to a duty in the context of education, and to justify them, here is the task of a moral philosophy of education" (Brezinka 1971: 151). According to Brezinka, moral philosophy must accomplish that which educational science cannot. It must help education affirm itself in the face of dominating power struggles and – as humanist pedagogics had indicated – defend the rights of children against other social powers. According to Brezinka, this task is the responsibility of moral philosophy which must allow scope for the advantages of a normative reflection in the field of education to be developed. This is necessary to the extent that Brezinka shows the ethics of educational goals remain rather undeveloped, and the norms of educational behaviour are unclear. Brezinka recommends a better distinction between moral and practical issues, and between "ethical" points of view and "questions touching upon ethical issues". He then develops a way of solving the normative problems of education, for which the background was defined by Albert as follows:

"The central task of a critical moral philosophy is not the analysis of ethical texts, but the critical verification of moral principles, and the critique of predominant ethical systems and dominant ethics" (Albert 1971, quoted by Brezinka 1972: 157).

The "solution to the normative problems of education" thus defined must take into account the following points:

"1. One must try to justify the normative formulas through intelligent argumentations (or good reasons) and not by referring to any arbitrary authority.
2. The rules of logic must be followed.
3. The educational goals demanded by the person to educate, as well as the norms and tasks of the educator, must be clearly formulated.
4. The pedagogical demands must be verified with regard to their feasibility.
5. The pedagogical demands must be verified in relation to their expected effects" (Brezinka 1972: 159-162).

Brezinka's work thus constructs a *moral philosophy of education* that stands in contrast to a neutral educational science free of values. This philosophy must make explicit the issues of norms and values, which are essential in the field of education. Yet this perspective can be criticized, for the issues regarding the moral philosophy of education are only addressed analytically. The normativity of the mentioned contexts is only envisaged in terms of given norms which are the object of a rational analysis. It remains impossible to play upon the evolution of the normative representations themselves. A moral philosophy defined in these terms is therefore

unable to push back the limits of educational science. It remains tied to things as they are, and only has a limited scope in which to stand back, as it were, and develop criticism. Moral philosophy of this kind thus tends to be affirmative. A second shortcoming of the moral philosophy of education is that it is developed in an a-historical fashion and without any link to society. Normative representations can, however, only be interpreted adequately when the given historical context is properly taken into account. Science must reflect a given social context, and be considered in its relationship to the dominant structures of the existing social order.

Finally, concerning certain values not already questioned:

"Our world and our lives have always been perceived as having an immanent meaning and value. We cannot escape this. They cannot even be described as value-free; every description and every explanation is always founded on the hypothesis that meaning and value are admitted" (Bollnow 1971: 702).

Ultimately, and in contrast to hermeneutics and to the philosophy of language, Brezinka does not allow any room in his moral philosophy for a confrontation between normative hypotheses and any action or particular social knowledge.

3. Practical Pedagogics

Practical pedagogics is defined by Brezinka as a "normative theory of education, applicable to action or to the explanation of action" (Brezinka 1971: 189). Brezinka thus associates himself with a *model of teaching* and a *teaching of education* such as have been developed in various manners throughout the history of educational science. Teachers cannot wait "until social research has become more accessible" (Brezinka 1971: 202). Educational practice, according to Brezinka, cannot be defined in parallel to practical psychology, as a science of applied education. Neither should it be developed any further as a science. Its task is not to separate practice from educational directives. On the contrary, it must exercise a motivating influence on the educator to prompt him to further his own development. In the German-speaking countries, humanist pedagogics is considered the representative form of educational practice. In its confrontation with reality, it becomes aware of theory's limits and encourages examination of the problems caused by practical theories of education. This refers to the issue of

educational science's sphere of validity as a theoretical science of the real, following Brezinka's definition, but also to the following question: To what extent, in order for it to attain its goal, can educational practice be approached scientifically? In the context of a practical pedagogics free of science and of philosophy, the following points must be taken into account:

1. Information about the educational reality must be provided for the people concerned, and access facilitated to orientation advice for action or educational policy.
2. The meaning of the propositions must be clear.
3. The rules of logic must be followed.
4. In value judgements, the perspectives from which one judges must be defined.
5. The content of norms must be formulated as clearly as possible.
6. The language of the pedagogical practice must be clear and easy to understand.
7. The emotional use of language should not dominate or replace its cognitive use, but serve to emotionally defend rational moral judgements.

A critical observation must be made in relation to this concept of practical pedagogics: it is clear that Brezinka does not believe in the possibility of a practical science. In his view, for reasons relating to epistemology, one must distinguish science, educational teaching and practical theory. Science cannot direct practice. This task falls to educational practice as the link between practice and science. To the extent, however, that educational practice is defined as a field that must be conceived as separate from science, it is not the object of scientific knowledge, but remains in the antechamber of science. As a consequence, the field of educational practice remains entirely unexplored. Educational practice is not one of the priorities of science. It offers few opportunities of change for the better. In our opinion, yielding autonomy to a separate field of educational science that is responsible for the educational action of practical pedagogics can be in the interest neither of practice, nor of educational science, which would thereby elude its field of intervention, namely the field of practice. This distinction is at the origin of a reductionistic conception of both science and practice. It prevents the issue of practice from being envisaged as the constitutive issue for educational science. Satisfactory reflection on this constitutive issue for educational science supposes that educational science be considered a practical science of action.

4. Critique

Brezinka's project ought to have been to justify his three-fold division of pedagogics into educational science, philosophy of education and practical pedagogics; yet this justification never occurs. Such a division is difficult to justify, even in relation to the objectives of critical realism. Indeed, these different dimensions are too tightly interdependent. In the scientific practice of concrete educational science, there is an interpenetration of norms and descriptions. Further, since a verification of the descriptions' validity is impossible, and the researcher's choices precede such descriptions, the logical pre-eminence of descriptions in relation to norms is not as clear-cut as Brezinka would hope. This demonstrates that the system developed by Brezinka would lead to a loss of recognition for each element and its context, rather than constitute a further explanation of its value in the comprehensive social programme.

Brezinka's distinction is also problematic in that it introduces hierarchy between the different sub-domains. Thus, he grants science a greater social value. He judges dishonest the fact that philosophers and pedagogues wish to benefit from science's social prestige.

As Brezinka never tries to bring together, through synthesis, fields that are analytically separate, his comprehensive educational theory utterly fails. This is due to the ideology of critical rationalism, according to which there is only one scientific paradigm. Brezinka's project of a comprehensive educational theory would encounter another difficulty: it would contradict science's claim to being a science of synthesis and a union of all the sub-sciences. Critique could also be applied to the ideological assumption that science can be thought independently of its objects.

Finally, Brezinka's stance is not pertinent with regard to his own objectives. By reducing educational science to a scientific comprehension of the unity of science, the causal-analytical methods become the only recognized scientific procedure. Ever since the debate over positivism, the idea of a unique and unified epistemology has been challenged by dialectical thought and comprehensive scientific research. Regarding educational science, to recognize educational reality as a science is not pertinent, as this paradigm only allows for the acquisition of a certain scientific knowledge. Furthermore, this process only allows one to make use of the results of a science of educational practice on a technological level. It is only following the acquisition of scientific knowledge that is independent of values that the results of science can be applied to elaborate technologies that can help educa-

tional practice. Thus, it is important to guarantee a distinction between the acquisition of knowledge and its application in practice. To the extent that, applied to technologies, scientific results are used to influence and change practices, the relationship between science and practice can be characterised in terms of the inferiority of practice in relation to epistemology.

We can see that the theory-practice relationship is defined differently here than from the perspective of humanist pedagogics (*Geisteswissenschaftliche Pädagogik*), which placed practice above theory. The consequence of Brezinka's position for educational science is that educational practice is defined as the achievement of a science and its corresponding technology. Brezinka overestimates the scientific perspective. Thus, the relationship between science and practice, defined in this way, remains to be questioned, since technologies would exercise a domination over practices without one being clearly aware of them.

VIII

The Scientific Programme of Critical Rationalism

Having sketched out the evolution of empirical educational science, let us now introduce the central elements of critical rationalism. Several aspects of the ideology of critical rationalism are relevant to empirical research in educational science, even if they have not been integrated into a comprehensive system thereof. For it is above all through its ideology that critical rationalism has influenced educational science.

Seven central elements can be distinguished within critical rationalism:

- definition and explication of concepts,
- the operationalisation of concepts,
- scientific affirmations,
- theories, hypotheses, and their falsification,
- technology as fields for the application of theories,
- value judgements, value bases and evaluations,
- new developments in critical rationalism.

1. Definition and Explication of Concepts

Critical rationalism is based on the fact that science cannot grasp reality directly but that the latter is always related to the former through language, and becomes its object as a "world of experiences more or less intentionally pre-constructed through concepts", of which the direct consequence is that "this intellectual mediation between object and subject of experience is a *sine qua non* condition for the processes of scientific knowledge" (Mayntz et al. 1972: 9). Thus, it is necessary to define words and the content of representations. With the help of this effort in definition, one can arrive at simple and unambiguous propositions. Every definition is constructed through language, which implies certain values. This reference to values that are *a priori* embedded in language cannot be avoided. However, such values are to be distinguished from the evaluations that occur in value judgements.

Behind the notion of definition, one can distinguish either a real or a nominal definition. In the first case, the aim is to define a things' "being".

In the second case, the aim is to formalize a "situation" in which a given formulation A1 must have the same meaning as another formulation A2, of which the meaning is presumed to be known. A nominal definition is thus composed of two parts:

1. A first formulation, the meaning of which is assumed to be understood, is referred to as *Definiens*.
2. A second formulation, which must be synonymous to the *Definiens*, is called *Definiendum*.

Depending on the objective of knowledge, each definition has different advantages and drawbacks. Critical rationalism often grants greater importance to the nominal definition due to its greater precision in defining the themes examined in empirical research.

In the context of an empirical research project, concepts are defined by taking into account historical contexts and by the choice of signification given to the concept. During the definition process, the three following aspects must be considered:

1. The definition must not be circular, that is to say, the *Definiens* must be definable without reference to the *Definiendum*. (Counter-example: comprehension = the fact of allowing thought; thought = proof of comprehension)
2. The definition must not, as far as possible, be negative.
3. The concepts used in the Definiens must have as precise and univocal a meaning as possible.

The form and definition of concepts must be clarified. One can then see how, for empirical research, the type and function of applied concepts may vary. For example, concepts can serve to classify propositions, evaluate them, orient individual action or render communication possible. In these cases the function of the concepts is respectively, to affirm, evaluate, act and communicate. Three conditions must be met for concepts to fulfil these functions:

Firstly, there must be correlation and continuity in the classification of the relation between concepts and words (i.e. the content of defined words). Secondly, and in close bearing to the precedent, concepts must have been defined precisely and accurately. Thirdly, the concepts applied to empirical research must have an empirical dimension.

Apart from reflection on the definition of concepts, critical rationalism calls for clarification and explanation of concepts with a broad bearing. Here a strong reference to language must be emphasized. Concepts must refer to contents of representation without ambiguity, in order to facilitate an intersubjective verification of the propositions. Concepts used in everyday language often have a different meaning in a scientific context. There are a variety of ways according to which the precise meaning of concepts can be clarified in the context of research. The pertinence of a concept can be judged with the criteria of similitude and exactitude. We speak of similitude when there is but a marginal difference between a word's meaning in the scientific context and its usage in everyday life. Exactitude implies that the meaning of a given concept is constant and invariable. However, despite the need for precision in concepts, one must avoid excessively simplifying a complex state of affairs by supplementary clarifications that are "artificial". Popper himself condemned the "exaggerated" demand for concept clarification when he explained that although to him the idea that the exactitude of science or of scientific language could depend on the exactitude of concepts was certainly completely plausible, he still considered it to be no more than a simple preconception (Popper 1992).

2. The Operationalisation of Concepts

The demand for conceptual exactitude extends to the application of concepts used in the context of empirical research. Explicit concept definitions are thus further developed as a consequence of their application to the extent that "an application is used for a research operation, and with its help one can decide whether the phenomenon described in this way is satisfactory ... An applicable definition is therefore the result of a translation process that is necessary in technical or research operations" (Mayntz et al. 1972: 18). An applicable definition supposes an empirical application, though one must distinguish concepts that have a direct empirical application from those that have an indirect empirical application. The first are characterized by the fact that the described phenomena are directly usable, whereas the second are only indirectly usable. Included among the latter are processes of political education, and the fostering of social skills, etc. The usual definitions of these concepts offer no help in verifying their empirical applicability.

In order to confirm their applicability empirically, certain indicators have been conceived. If the phenomena that are taken as indicators can be

demonstrated empirically, the phenomena described by the original concept can also considered as given. A full examination of the concepts and their operationalisation as required by "operationalism" is certainly no longer possible in the light of modern knowledge of the philosophy of language, but the demand for a correlation between concept and application is maintained. "Interpretations and conclusions remain uncertain between the application (i.e., that which is really measured) and the phenomenon that the concept evokes" (Mayntz et al. 1972: 22). The use of indicators thus depends on their validity, that is to say, their ability to account for a non-perceptible phenomenon, and their reliability, that is to say, whether or not they resist repetitive usage. The difficulties involved in applying concepts through chosen indicators have already been mentioned. In educational science over the last few years, this problem has been encountered in the context of the development of school curricula. But the indicators' reliability itself necessitates the exactitude and precision of processes and instruments, which is what one is trying to establish through the standardisation of processes and instruments.

There is no doubt of the necessity to make the object of research operational in the context of empirical research. However, the danger of transforming objects of research through their application is underlined from various angles. There is indeed a sense in which reality may not amount to the sum of the sub-aspects into which objects of research are divided.

3. Scientific Affirmations

What we have just spoken of refers to different types of statements, which are employed in the classical social sciences. The following are to be distinguished:

1. logical statements whose meaning or value can be examined in terms of the very signs used in the affirmation;
2. analytical statements;
3. contradictory statements (true logical phrases, false logical phrases);
4. prescriptive statements (those which introduce indications, implications, or positions held in relation to events or phenomena);
5. empirical statements (affirmations made about objects and relations to reality. In contrast to prescriptive statements, these constitute factual assertions).

In specific cases, empirical statements are divided into a) descriptions of unique events, which can be defined precisely in time, and b) hypotheses that are based on isolated facts and used to build definitions. Different phenomena are put into relation here, so that one can define interdependencies. Hypotheses are particularly significant to empirical research, for they contain presuppositions that can mostly be formulated according to the models "if ... then ..." or "the more ... the more ...".

Furthermore, different statements must be distinguished from one another according to their respective validity claim, relation to reality, and field of validity, as well as according to their respective evaluation and information content.

A validity claim can be established a priori or a posteriori. In the first case, a claim is made that cannot be verified in reality. In the second case, validity is possible through confrontation with reality.

Another characteristic of statements is their pertinence to reality.

Regarding the evaluation of statements, a logical and an empirical level are to be distinguished. The linguistic symbols contained in statements relate to logic. They must obey the rules of logic. The possibility of contradiction is evaluated; the statements' deduction must be correct. Empirical evaluation of a statement is formulated on the basis of its relation to reality. Three conditions must be taken into account: the realism of the statement, logical correctness, and the information content of the statement. This last level is of great importance to critical rationalism. According to Popper, it is one of the most central characteristics of the empirico-analytical system. It is only to be found in those statements that have a bearing on reality, i. e., in ones that have empirical content or explanatory force.

In empirico-analytical research in social science "if-then" affirmations play an important part. Their purpose is to find affirmations that offer:

a) as precise consequences as possible for as big a number of events as possible,
b) as precise qualities as possible for as large a quantity of objects as possible.

Hypotheses are functional when they fulfil both these conditions.

Following Popper's falsification principle (Popper 1992), a hypothesis is refuted as soon as a single element appears that should not appear according to the hypothesis. The hypothesis' information content is all the stronger if the latter exclude more affirmations. From here arises the fol-

lowing question: how are we to conceive a statement in order to increase its information content? The "if" leads to greater precision the more it reduces the statement's information content.

Critical rationalism proposes an epistemology based on the theory of language. Wittgenstein underlined the notion that isolated statements are only valuable in the context of a defined "language game". Indeed, language must constitute the basis of any definition of the criteria of "validity" and "realism".

4. The Falsification of Theories and Hypotheses

According to Popper, theory represents a net which we cast to catch "the world" – in order to rationalize, explain and dominate it. We are always busy tightening the net's mesh.

Theories are thematically oriented towards different fields of study. They constitute the logical link between hypotheses and the statements that are logically deduced from axioms. Theories are considered falsified when a single statement contradicts the hypothesis. In order to verify a theory it must therefore be transformed into hypotheses. Through such theories or hypotheses, statements can be further generalised. These explain an increasingly wide field of reality.

The main problem here is to grasp the truth value of empirical theories. It is therefore necessary to distinguish between the context of discovery and the context of justification. In the first case, issues relating to the existence of theories must be explained, and in the second case, the intersubjective truth of the hypotheses in their relation to reality must be proven. Popper neglected the context of discovery. Indeed, he writes: "A study of the context of theory construction seems neither possible nor desirable for the purpose of a logical analysis." Popper prefers to insist on logical analysis which is primarily concerned with questions of legitimacy, such as whether a statement can be justified, and if yes, how? Does it logically depend on other statements, does it contradict them, etc. At the centre of critical rationalism, there is a methodology which helps one to avoid logical errors and thus bring us closer to truth.

In the positivism of the past, truth had to be deduced from affirmations with the help of the induction principle. One was thus able, through the description of observations and experiences, to construct them into hypotheses or theories. Hypotheses thus had to be verified in their relation to reality. In

practical terms this implied a full examination of reality. However, since this is rarely possible, verification of a hypothesis with universalistic claims is in fact impossible. Hypotheses are not verifiable; as Popper showed, they can only be invalidated. Accordingly he defines the method of critical verification of theories, which can lead to their inference or confirmation:

"Logically speaking, conclusions are drawn from non-founded anticipations of the idea, of the hypothesis and of the theoretical system. Deductions are compared with one another and with other statements in order to put into perspective the logical ties (e.g., equivalences, conclusions, links, contradictions) that exist between them" (Popper 1992: 7).

The logic of the conclusions must be verified, for it can reveal contradictions. Verification must also bear on the legitimate character of the theory. It must compare the evaluated theory with other theories to see if it allows progress. It must also evaluate the theory in relation to its practical utility.

The deductive verification process of hypotheses or theories requires one to reduce all statements down to basic affirmations, which can then be confronted with reality. The logical process of falsification can be described as follows:

1) The drawing up of a nomological hypothesis: "When people fall out of a plane in flight, they die."
2) A logical transformation of the nomological hypothesis into a "there is no" type sentence: "There is no-one who has fallen out of a plane in flight and who has survived."
3) The drawing up of a second singular statement: "On the 23rd of April 1995 at 9 PM, John Smith fell out of a plane in flight 10 km South of Nairobi and survived."
4) The logical deduction of a general statement of the "there is" type based on the original sentence: "There are people who have fallen out of a plane in flight and who have survived."
5) Confrontation of statements 2 and 4. If both are in contradiction, the hypothesis is invalidated. The affirmation "There is no-one who has fallen out of a plane in flight and who has survived" is false because there are people "who have fallen out of a plane in flight and who have survived".

This argumentation refers back to the Hempel-Oppenheim model which allows the formulation of prognostics. According to this model, prognostics have the same structure as explanations. When a universal law binds two

phenomena to each other, we can formulate a prognostic: the occurrence of the first phenomenon guarantees the occurrence of the second.

The structure of an explanation is characterized by the fact that the reality that must be explained (Explanandum) is given in the shape of a description or of several statements, whereas the explicative element (Explanans) is composed of two types of affirmations. It must include at least one nomological hypothesis or a law, as well as at least one singular descriptive statement. We can offer the following schema:

1. Law + 2. Contextual condition = Explanans.
Sentences to be explained based on 1. and 2. = Explanandum.
From an example we can deduce the explicative process:
Hypothesis/law: if there is a law according to which all metal is an electrical conductor.
Contextual condition: and if a given rod is made of metal,
Explanandum: then this rod is an electrical conductor.

Specification of a logical argument must not hide the difficulties that exist on the level of the theory of knowledge. Basic hypotheses and statements are not on the same level as perception. They are about the labelling of reality. They refer to a verbally transmitted reality. Concordance between reality and statement is always but relative, although it is the central objective of empirical analytical research. Doubts always remain as to the concordance between a base statement and reality: this implies that there can be no guaranteed verification. For critical rationalism, it is the researcher who accepts or refuses the base statement. Truth then becomes a matter of consensus within the "scientific community".

The more theories or hypotheses withstand falsification attempts, the stronger they emerge, and thus the more efficient. To the succession of examinations is added the value of the instruments used and the number of falsification attempts. In social science, information is further limited by the fact that generalisations cannot be made without being situated in space and time.

Social science uses hypotheses that have non-deterministic validity claims, that is to say, problematic hypotheses (= hypotheses with a degree of likelihood). Their validity claim is statistical and can only be expressed as a percentage. For example: "about ninety five per cent of convicted people will commit a further offence". This statement signifies that there is a ninety five per cent likelihood that a convicted felon will commit a further

offence. For the abstract concept of probability this means that the affirmation "When objects have the characteristic A, there is a probability P that they will have characteristic B" signifies: "in every set N of objects having the characteristic A, P x N objects have the characteristic B".

This affirmation implies that statistical laws are in principle equivalent to deterministic laws. There is however a double space for error in statistical hypotheses: that one consider true what is false, and refute true hypotheses because of contradictory experimental data. Due to greater factors of uncertainty in probability, it is conventionally the task of the scientific community to establish consensus between scientists as to what is to be considered valid.

Due to science's demand for independence in relation to values, critical rationalism has few criteria at its disposal to judge the historico-social influences at play in the construction of consensus. This is one limit to this scientific paradigm, which some of its defenders wish to correct by calling on the Critical Theory of the Frankfurt School.

5. Technology as a Field for the Application of Theories

According to critical rationalism, theories serve to explain, deliver prognostics, and develop technologies. The logical structure of these fields of application is the same in all three cases. In social science, technology as a field for the application of theories is particularly important. It is distinguished from prognostics by its immediate application in practice. Technologies are procedures and products that are independent from whoever establishes them, and allow an intervention in the field of social practice. Logical structure in the processes of explanation and application of the technologies is the same, it allows for the extension to the goal-and-means model of thought. Technologies (such as teaching methods, for example) are used to attain specific goals that have been pre-defined by theory. Processes that do not pertain to this goal/means relation are excluded, for they do not allow one to reach the goal that has been set. To the extent that one's purpose is to educate, technologies are a means to attain this goal. If a technology becomes too dominant, we are faced with a danger that has been underlined by Critical Theory.

The relationship between theory and practice is such that practice is dependent on theory. Practice must be defined according to the goals stated in the theory. The possibility of finding foundations, within educational prac-

tice, to the goals given in the theory is excluded. The theory-practice relation is conceived as a dependence of practice on theory, as can be seen clearly in the goals-means relationship.

Due to this dependence of practice on theory, which appears in the utilisation of technologies, the utilisation of technologies in educational science – as well as in other social sciences – leads to a contradiction between scientists and practitioners.

With the development of the "interactionist" perspective, the limits of the classical concept of technology should be easier to overcome. The theory-practice relationship should no longer be defined according to a linear, rational orientation. Rather, it should be seen in the context of an "interaction" between theory and practice. However, it is by no means clear that the criteria developed by epistemology in order for that technology to be put into practice are to be found in relation to such a "technology". Does it make sense to even speak of "technology" in the way it was understood by critical rationalism? It would seem not. For the "interactionist" perspective in education leads to a substantial modification of the hermeneutic process, which cannot be perceived by critical rationalism.

6. Value Judgements, Base Values, and Evaluations

Hans Albert suggests distinguishing "value judgements", "base values", and "evaluation" (Albert 1965). By "value judgement", he means the solely normative affirmations in scientific language (for example: "teachers must be fair"). He further distinguishes science's "base values" as containing the normative frameworks of the different sciences (values to which scientific works refer, their effects on theoretical scientific hypotheses, the variety of research themes, the choice of given techniques or methods as well as the choices concerning the application of the research results). Finally, he distinguishes those studies in which values are the field of study of a science, of which the empirical examination of normative statements springing from it are a part, for example: "twenty three per cent of children going to school have serious psychosocial problems."

According to critical rationalism, such an affirmation is not normative but descriptive. It can be verified on the basis of critical rationalism's foundations. This distinction between different types of values allows critical rationalism to justify a science independent of value judgements.

But one problem remains: with the demand for independence from value judgements, the problems of social practice remain scientifically unsolvable. By remaining faithful to the idea of a science free of all value judgement, a conscious development of practice through science becomes impossible. Criticism of the idea of science's independence from values is valid both in positivism and in critical rationalism. In classical positivism, normative statements are considered empty of meaning, which excludes from the realm of an intersubjective discussion any value-anchored practice. The problem is further developed by critical rationalism in which statements and norms are made into the objects of research. But their significance in the context of social practice remains undiscussed.

Albert formulated a series of meta-theoretical rules to be used to verify normative statements. On the one hand, the logic of normative statements must be analysed and confronted with possible logical contradictions. Normative statements must therefore be examined in order to reveal whether "in the process of their justification metaphysical statements occur". On the other hand, the relation of normative statements to reality must be examined in order to verify that the requirements they contain are attainable. As for the fact that critical rationalism's system of meta-theoretical rules can be deduced from the critical verification of statements (both descriptive and normative), one wonders what meaning the idea of independence can still have. This question has been raised by positivism. Throughout the controversy, one sees clearly how difficult it is for critical rationalism to justify its own meta-theory. Albert underlines the irrational character of a choice of theory. According to Habermas (1972), this knowledge is in fact no more than an act of faith. For Albert there is but one alternative, "between a blind choice and a choice of which the consequences have been perceived with open eyes, and constitutes therefore solid knowledge" (Albert 1972: 297 f.). This difficulty shows that even in critical rationalism, the opposition between the principle of "critical examination" and the principle of "justification" cannot be maintained throughout.

7. Further Developments in Critical Rationalism

We shall now turn our attention to certain issues relating to the construction of theories and critical verification.

If reality can only be apprehended with the help of theories, Feyerabend argued that it is necessary to maximize the evaluation of knowledge. To do

so, he developed two principles that allow the progress of science: the "principle of proliferation" (*Proliferationsprinzip*) and the "principle of insistence/limitation" (*Prinzip der Beharrlichkeit*). Based on the first principle, he inferred that it is necessary to elaborate theories in discordance with the spirit of the times (Feyerabend 1965). Feyerabend sought to develop as many alternatives as possible, even in the context of well-established theories. Such alternatives are necessary, he claimed, since they may reveal elements that call into question accepted theories. Thus, the evaluation of socially accepted theories is no longer achieved through a confrontation with facts or basic statements, but rather through confrontation with competing theories. For Feyerabend, a pluralism of theories has become necessary because it is the condition for any knowledge claiming to be objective. But Feyerabend also recognized that it is not sufficient to take into account the "proliferation principle" for the critique of theories. He also called upon the "principle of limitation". In scientific practice, a theory is not automatically abandoned when contradictory points of view emerge. This tension allows for reinforcement and a progressive analysis. The fact of recognizing or rejecting a theory can only be solved in the course of historical development. Critical rationalism acquires here – as with Popper – a historical dimension to complete the structural analysis. Feyerabend thus formulated two principles necessary to the development of science.

There remains the question of the link between these two contradictory principles. Feyerabend opts for an anarchist theory of knowledge which "elevates classical proliferation to the rank of a superior principle", rather than for a scientific stagnation which would be the "necessary consequence of the limitation maxim".

Lakatos can be seen to have developed and refined the classical falsification process conceived by Popper. Whereas the verification of theories is at the centre of Popper's methodology, Lakatos considers the scientific research programme as the encompassing perspective to be studied. As opposed to theory taken for itself, the research programme's "why" is characterized by its continuity. In this context, the theories recognized as unacceptable are replaced by better ones, without prejudice to the research programme's continuity, which must be maintained in order to guarantee the identity and continuity of the research programme and the theories linked to it, which are reformulated or modified and established in a new form throughout the course of the research programme. In opposition to Popper, Lakatos considers it rational and scientifically justifiable to keep theories despite their falsification, as moments of a process.

Lakatos goes even further in rejecting the validity of Popper's falsification principle by trying to apply it to Popper's own theories. He develops a meta-criterion for the verification of scientific methodology. A theory is thus to be rejected if it is in contradiction with recognized basic statements. But furthermore, a theory of rationality must be rejected if it is in contradiction with the normative statements accepted by the community of researchers.

Popper himself had to admit that there are examples in scientific history which would be considered non-scientific according to his own scientific principles, but which nevertheless remain recognized as being of great scientific importance by the scientific community today.

Without developing the discussion any further, let us accept two conclusions that are important for critical rationalism. On the one hand, with Feyerabend, the falsification principle as Popper developed it finds itself relativised. On the other hand, what is highlighted is the dependence of theories on the researchers' community that decides what is to be considered "the progress of knowledge and an increasing convergence of our scientific theories towards truth".

By attacking the absolutism of the falsification principle, due to the fact that scientific theory is moving closer and closer to scientific practice, recognition of the importance of the researchers' community allows for recognition of the part played by the history of science. Kuhn, Lakatos, Feyerabend and Popper all worked towards this end. Today, this history must be considered an important part of critical rationalism. For ultimately, the validity of theories is decided through a historical process. Rationalism thus takes into account an essential argument of Critical Theory. Certain questions remaining unanswered in critical rationalism have found an answer in scientific practice. The question of the significance of contexts is taken into account on the level of scientific practice. One can thus see an example of the opposition between epistemology and scientific practice.

IX

Engaged Empirical Research

Based on a criticism of the priority granted by critical rationalism to science's neutrality in relation to values, a series of works for the development of empirical research in educational science was published between 1965 and 1975. This research introduced action as educational science's new paradigm.

In this chapter, we shall approach the works of Mollenhauer, Blankertz, Lempert and Klafki, who attempted to define the link between empirical research and Critical Theory in the context of educational science. Regarding the possibilities and limits of emancipating research in educational science, certain questions must be formulated:

- How are we to define the relation between a critical theory of education and committed empirical research?
- How can research in education satisfy scientific demands and at the same time contribute to the development of humanity?
- Finally, how is the relation between the different paradigms (such as "empirical", "hermeneutical", "critical") to be conceived in educational science?

1. Mollenhauer (1966) is among the authors in educational science who have examined the need to establish *a link between empirico-analytical research and the project of emancipation.* The starting point of his reflection is the distinction between a) an educational science oriented towards the validity of norms and their justification, which he describes as being a science of principle, the purpose of which is to transmit general conceptual frameworks for educational action, and b) an educational science that formulates concrete rules for everyday educational action to be applied within defined conditions of space and time. Critical rationalism goes in the direction of an experience-based educational science, with its scientific autonomy. Regarding the link between principles and experience, Mollenhauer suggests that theoretical statements must be linked to experience. He indicates that basic conceptions are necessary for an engaged educational science, conceptions which, from the start, do not contradict the logic of the

statements established on the basis of that which is empirically observable. Mollenhauer criticizes the linear method of critical rationalism: he points to its "conservative moment" which limits possible questions in order to coincide with existing methods. All too often, the answers from that which is being questioned are induced by the researcher's very questions.

In the empirical method, the object of research is independent, or constructed as distant. This leads to a reification of the object. This reification is in contradiction with the objectives of empirical research, which sets out to be a "critical reaction to the existing process of man's reification in bourgeois society". Mollenhauer explains that empirical research may in fact be led astray from its aim to the extent that the instrument of research limits one's capacity to find a theory that is independent from the instrument of research. The aim of the quested theory would be to establish an interest that legitimises empirical research and also carries it out.

All too often, the empirical approach searches for an application in social sciences, which is contrary to its purpose of constituting a critical reaction to the reification of man. To remedy this difficulty, a superior Critical Theory must be elaborated.

This general theory of education grants a fundamental role to engagement and the targets of emancipation that must respect meta-theory. Practical research linked to issues in the field must remain in concordance with the objectives of development and emancipation. This choice implies renouncing science's neutrality in relation to those values asserted by the partisans of critical rationalism. The aims of empirical research in educational science must then, on the contrary, be put into perspective with the general aims of an engaged education.

2. Blankertz (1966) follows the same path. He indicates that *theory is the tension between possibility and reality.* This vision of theory's critical character lays the requirement of a theory of education which refers to the whole, to totality, and goes beyond empirical theories (which are reductive and lack involvement). All practice is thought out in relation to its objectives. The researcher as well as the practitioner can maintain a dialectical tension between theory and empirical research. Pedagogical theory can only go beyond the framework of empirical research theories because it fits into a normative framework which it must justify.

Blankertz insists on the link to be established between education and the "transcendental" subject. As a social phenomenon, pedagogics finds its meaning and orientation in emancipation and action. A theory understood in this way criticizes the reification and alienation of human kind. Educa-

tional theory must therefore be situated on another level than that of practice, not out of contempt for practice, but because practice must be founded on a project that goes beyond it.

3. Lempert's work emphasizes the notion of *engaged research.* His aim is to articulate research and action. Lempert's starting point is the issue of defining goals and the possibility of developing a practice based on these goals, and what the consequences are for research. Three aspects of empirical research must be taken into account:

a) Educational research, like all research, is defined by its aims, i.e., it is not a question of choosing between neutral research and engaged research, but rather between blind research and one that is aware of its own engagement.
b) On an intersubjective level, one must be able to evaluate the research on the basis of the legitimacy of its basic principles.
c) New interests help redefine the tasks of educational research.

By taking these three aspects into account, Lempert comes to require that educational research be engaged: it must be both critical and self-reflexive. The goals of educational research must not be limited to an individual or group perspective, but directed towards the interests of humanity at large in its historical evolution.

In his formulation of the programme of engaged research, following Habermas (1969), Lempert distinguishes technical, practical and emancipatory knowledge and interests, according to which he defines the following three paradigms: the empirico-analytical, the historico-hermeneutical, and the critical-emancipatory. These three paradigms are significant in the context of research in educational science, but the emancipatory interest is dominant.

Interest in technical knowledge is closely affiliated with empirico-analytical research. It aims at the technical utility of objectified processes, the rationalisation of work and the technological utilisation of knowledge.

Practical interest concentrates on developing the subject in its orientation towards action, as well as on improving communication processes.

Finally, emancipatory interest introduces engaged research in educational science in such a way as to help man find autonomy by freeing him from constraints of all kinds. "Emancipation struggles against constraints which are not only due to material violence, but also to the power of prejudice and ideologies. This power must be investigated at its roots and analysed critically through self-reflection" (Lempert 1970: 318).

The link between the first two objects of interest and engagement in educational science affects the content of research and requires the transmission of research results to the subjects implied in it. Educational processes thus involve:

- analysing the conditions of dominance rarely taken into account in the educational field,
- deducing the knowledge that they contribute to the horizon of individual understanding,
- evaluating the results of this second phase.

4. Klafki conceives educational science as *critical and constructive science.* For him, practice must be incorporated into an educational science that integrates the different paradigms outlined above.

Critical empirical research must define its hypotheses and evaluate its results on the basis of its own goals. It must be developed through a critical questioning of ideologies, and through an orientation of analysis and criticism that is based on the idea of man's liberty in a free and equal society.

In the context of a socio-critical educational science, following Klafki, one can describe the relationship between empirical research and the hermeneutical method as a dynamic and reciprocal process: hermeneutics develops problematics and hypotheses; empirical research verifies these hypotheses through experiments. Hermeneutics evaluates the results thus acquired, and deduces from them new hypotheses for new empirical research. In this process, the complementarity of hermeneutics, empirical research and Critical Theory is clearly visible. Empirical research enables us to establish new rules or laws. But these laws may be analysed by ideological critique, and perhaps modified.

Summary and Outlook

1. Since the beginning of the twentieth century, in its critical opposition to humanist pedagogics, which by concentrating on the history of educational science obscured the dimension of experience in the development of educational practice, empirical educational science has shifted the focus of educational science onto experimental scientific research. Empirical educational science is considered a positive science whose task is to enable the transformation of "facts" about educational reality into knowledge. Empirical educational science does not, however, recognize that what science considers "fact" always depends on theories and on a meta-theoretical system of rules.

2. Empirical educational science has evolved through different phases. It has essentially followed the orientations of the positivist scientific ideal. Without dwelling on the works of Roth and Thiersch, in order to establish the link between hermeneutics and empiricism, or on the works of Blankertz, Mollenhauer, Lemper and Klafki, in order to establish the link between Critical Theory and empirical theory, the substantial contribution of critical rationalism to empirical educational science oriented towards positivism is clearly visible. This scientific teaching, first and foremost developed by Popper, has not only defined empirical educational science, but also, through the work of Brezinka, led to the outline of a comprehensive educational science based on the scientific comprehension of a unified science.

3. The global aim of empirical educational science is to describe, explain and influence a given social reality in the realm of education. Thus, it is to be distinguished – in the light of the scientific teachings of critical rationalism – from the positivist works that consider "educational facts" as given. Contemporary empirical educational science, on the contrary, is based on the fact that educational social reality can only be grasped in the light of previously elaborated theories, and that it is impossible to access such theory without previous conceptualisation. Attempts to find explicit concepts precisely and operationally defined, and the verification of theories in relation to reality – or in relation to basic statements about the reality grasped in the light of theory – thus play a central role in educational science that is inspired by critical rationalism.

4. Starting with the fact that theories cannot be verified, Popper developed the falsification principle in order to evaluate theories. The aim is no

longer to indicate the truth content of a given theory through its evaluation, but rather to invalidate it. A theory is considered valid if it cannot be falsified. The more attempts to falsify a theory fail, the more that theory is considered well-founded. This process presents a considerable improvement on the method of truth-evaluation internal to theory. But Critical Theory sees in this method an unacceptable reductionism, which obscures the extent to which the development of epistemology and the history of humankind are determined by the value of theories. With the falsification principle, the criteria of critical rationalism become the only ones from which to judge the scientific character of a theory. This indeed is reductionistic.

5. This claim to hegemony on the part of a unity of science must be criticized. Critical rationalism developed a meta-theoretical system of defined rules, upon which the decision is based as to what can be considered scientific or non scientific, without being able to justify this system of rules. Critical rationalism must therefore rely on pre-scientific arguments to make its reference system acceptable.

6. The claims of critical rationalism concerning the specification, definition, explanation, and application of concepts must also be criticized. For it overlooks linguistic analysis as well as the historical dimension. Indeed, the significance of scientific concepts can only be seen in the context of historical analysis. Further, we may question whether the universal application of basic theoretical concepts in social science is at all possible. Wittgenstein's reflection on the failure of his attempts to "justify a universal language as the only one which would make sense on the level of linguistic criticism", which led him to discover the wealth of real language and to recognize that the explanation of everyday languages can only be made in everyday language, reveals the narrowness of the extent to which it is possible to specify language in the social sciences. However, the circle within which any comprehension and explanation of language is limited indicates that there is a link between learning to speak and learning to live: language constitutes a basic element in the practice of life.

7. Educational science inspired by critical rationalism sets out to establish "quasi-laws". The aim is to point out the regularities at the origin of the stability of phenomena and the constancy of evolution. Regularity, stability and constancy are interpreted as the expression of contexts that constitute laws. What is not taken into account enough, however, is the fact that in the field of social science, the contexts of phenomena are socially defined and send us back to experiences of interaction where the social conditions of the interaction and the structure of social relations are presented. These

contexts can, in principal, change at any time (contingency of the quasi-laws).

8. Hermeneutics and systems theory (Luhmann) have drawn attention to the limits of explicative models. According to these two currents of thought, interpretation of a system depends on more general reference contexts that have not been taken into account by the explicative models. Because of this limit, these thought models have created a rift, indeed a total divide, between cause and effect. However, the theory of systems underlines the interactions between the two and even shows that the separation between cause and effect is sometimes insignificant.

9. This critique of the causal-analytical explicative model, founded on the cause/effect relationship, is developed even further by Critical Theory. The latter reproaches the unity-of-science model for only allowing for immediately applicable knowledge that is indifferent to other dimensions of knowledge. However, if the acquisition of a solely technically usable knowledge constitutes the goal of critical rationalism, the research that stems from it also tends to verify the given contradictions in the field of the social object. This attitude tends to deny the contradictory dimensions of the social, which results in a reduction of the knowledge produced and a tendency to reify human relations, which can lead to manipulation and even conformism.

10. Finally, critical rationalism's focus on the founding context of scientific theories must be criticized, forgetting as it does its contexts of development (who uses it? and why?). Critical rationalism reduces epistemology to the level of methodology. This limit leads to a reduction of the issue that is unacceptable to the social and human sciences and which, according to us, cannot be solved by the hypothesis of a neutral science. For at stake in social science is not only the acquisition of "pure" scientific knowledge, but far more the revelation of the meaning of social practice, that is to say, in our case, educational practice. Questions about the contexts of science are thus of central importance to social science. There is no way in which they can refer the question of context back to a pre-scientific dimension that would not be of concern to science. For already in the context of a theory's appearance, its quality is affirmed. Relations and contexts are set up that define the character and value of the theory. For a practice-oriented science such as educational science, this is naturally important, especially with regard to the utilisation of science, because the value of theories and of knowledge cannot be evaluated without reference to its social consequences.

11. Can a theory only be evaluated in the context of this theory or would it not be preferable to take a superior criterion into account, like that of the subject or that of the "development of humanity" (Habermas)? Answers to this question vary. Critical Theory has reproached critical rationalism for its "subjectivism" in assigning the researchers' community the right to decide on the "social" value of scientific knowledge.

12. This claim by scientists to be able to decide, individually or in the framework of the researchers' community, is in contradiction with the issue of the subject being transformed into the object of research. For the scientist, the living subject is only of interest in view of his theories; it is not taken into consideration as a historical subject. In order to be objective, science installs a clear separation between the researcher as the subject of science and the object of research. Scientists distinctly detach themselves from the "rest" of society that for them only represents possible objects of examination. In this way, critical rationalism constructs a "dualist" social system where divergent social groups have different rights. Critical rationalism forgets that empirical research is only possible in a society that allows science the right to research. Consequently, it is of considerable interest for science that the social conditions that allow it to exist are maintained.

13. The limits of this scientific paradigm's theory/practice relation must also be shown. It is characterized by theory's superiority, with the help of which technology must be acquired, thus allowing for a different comprehension of the educational practice. The intervention of technologies is possible on the basis of previously theoretically defined objectives. One thus gains from practice the possibility of an action that may modify theory. But this means forgetting that scientific theories only appear in the context of practices that already have a meaning. The link between the context of a theory's appearance and practice is underestimated. These theories are thus not reflexive. They remain at a distance from the educational practice that reifies them. The practical framework of theory is thus forgotten.

14. According to Critical Theory, critical rationalism reduces theory of knowledge to methodology. However, the knowledge acquired through methodology often has no more than the appearance of scientific objectivity. We remain at the level of appearances without attaining the essence of things or of research contexts. A science that does not take into account the essence of phenomena can only produce a "semblance of knowledge". This knowledge is indeed without contradiction to critical rationalism's internal demands, but this is only so because the contradictions inherent to social and educational contexts (reality, in fact) are excluded. Since this knowl-

edge is constructed on the basis of a status quo of the socio-educational practice, it is a static knowledge. It is not in a position to grasp historicity, and cannot provide orientations for change.

PART THREE

Critical Educational Science

Breaking clearly with the traditions of humanist and empirical pedagogics, another current in the educational science developed out of the paradigm of the Critical Theory of the Frankfurt school. Opposed to the humanist and empirical movements, the new orientation emphasised the social and historical character of education, and relied on a critical theory of society, science and the subject. According to this perspective, any educational science, in order to avoid being manipulated, must take into account, in its effort towards self-understanding, an analysis of the social conditions that exist at the time of its emergence and development. This new critical current allowed for engagement in accordance with the teachings of Critical Theory. Here, education is defined as an inseparable part of social and human evolution.

The reference to Critical Theory does not, however, limit educational science to a reduced paradigm. Critical Theory originated as a negation of traditional thought. Its purpose was to criticize bourgeois society and its scientific activity. Thus, Critical Theory did not develop a "positive" theoretical concept. Yet on the other hand, the new educational science stood for plurality and variety in its designs and references. It drew from the knowledge resources of the social sciences that were closest to Critical Theory. Furthermore, one ought not to forget the influence on the world of education of social thought developed during the era of the Weimar Republic (1919-1933).

Despite all these different origins, critical educational science is structured around a series of elements that are common to the different sources:

1. A reflection on the socio-political limits of educational ideas; a rejection of the idealist autonomisation of the educational in relation to the social.
2. An understanding of the objectives of educational practices in terms of their concrete social conditions.
3. What is understood as theory is an elaboration based on educational practices themselves; technocratic interventions and ideological issues are taken into account in the analysis; educational objectives and "responsibility" are evaluated in terms of their effective realisation in practice.
4. The subject in its becoming constitutes the theory's central reference: "how to structure the educational field so as to educate the subject, develop its consciousness and build its historical identity?"

Critical educational science strives to be a science of educational practice, both for and through practice, in which self-reflection and self-criticism are constantly active. Its proponents' central aim is to perceive what is possible under given social conditions in order to ensure success and a constant improvement of the education process.

X

Critical Theory: Historical Perspectives

Critical Theory had a major influence on the social sciences and contributed significantly to the student movements of the 1960s and 1970s. However, here are certain perspectives within Critical Theory that, we believe, could still influence greatly the development of educational science. In what follows we propose to elucidate them.

1. Traditional and Critical Theory (Horkheimer)

In the 1930s, Max Horkheimer formulated in several articles published in the *Journal for Social Research*, a "self-definition of the Frankfurt School" that was to greatly influence the social sciences after the emigration of its first main advocates and their return after the war. For the philosophers and sociologists who, before the war, had been part of the Institute for Social Research at Frankfurt University, criticism of political economy constituted the cornerstone of the theory. In a situation in which fear and mass poverty seemed as common as the concrete hope in a revolutionary solution to the conflict between the classes, Marxist theorists were still able to define their theoretical work in terms of a step towards, or as the critical conscience of, the revolutionary struggle. Max Horkheimer clearly formulated the basic principals of Critical Theory in his article *Traditional and Critical Theory* (1937). These ideas are still highly relevant today.

The study in question deals with the incapacity of bourgeois science to understand itself. Max Horkheimer demonstrates that theory, within a defined field, constitutes the incarnation of certain propositions that are so interdependent that on the basis of a single one of these propositions, one can deduce many of the others. The smaller the number of fundamental principals there are, the more a theory is considered perfect. The real validity of a theory depends on the relation that exists between scientific propositions and facts. If contradictions emerge between a given theory and experience, then one of the two must be revised: for either the observation was wrong, or something is not right in the theoretical principles. When facts are taken into account, then theory becomes nothing but hypothesis.

The task of traditional theory is to construct a "universal system of science", the order of which can only be established in the "context of deductive thought". Such a theory is linked to the system of labour division. Its function is determined by the social division of work. But it does not question the contexts in which it exists, or the grounds of its legitimation. It is with good reason that Horkheimer pointed out that this vision of theory is close to that of natural science and the work of science in that field. In his view, it is necessary to develop a vision of the "material basis of knowledge" with the help of hypotheses. Without this attitude, the technical progress of the bourgeois era would not have been possible. This work no doubt leads to a continual modification of the natural bases of society.

Horkheimer attempts to distinguish between a traditional theory that is oriented towards appearances and a critical theory that recognizes the essence of society. Appearances are defined as the products of social practice in general. The world that is for some a given thing that must be accepted and taken into account is in fact (as it exists and continues to exist), the product of a global social practice (Horkheimer 1970: 21). As such, it must be clarified by theory, analysed in terms of its historic origins and interpreted, while the historicity of theory itself must also be taken into account. Theory must then grasp the social world as being a product of work and the division of labour that is characteristic of bourgeois society, as well as the result of certain given conditions of production.

Critical Theory defines appearances on the basis of their essence. Max Horkheimer has demonstrated that critical thought is motivated by a concrete attempt to go beyond the tension that exists between a consciousness of objectives, the spontaneity and reason that exist within the individual, and the relations within the processes of work that are fundamental for society. Critical thought refers to a conception of man as one who is in conflict with himself. For indeed, if to act according to reason is a specifically human condition, and yet contemporary social practice is inhuman, then man must live in contradiction with his own being.

The difference between reality in the bourgeois society and "the idea of future society as a community of free humans" is thus formulated (Horkheimer 1970: 30). The individual, due to his will to dominate, does not live in isolation, and human relations are not reified through the principal of exchange. In taking into account this interest in "reasonable conditions", Critical Theory must be opposed to the reproduction of social injustices that do not present a problem to traditional theory, for the latter claims to take

on without restriction "a positive role within a society that functions" (Horkheimer 1970: 37).

From the point of view of Critical Theory, concepts such as class, exploitation, surplus, profit, impoverishment, collapse, etc. constitute parts of a conceptual whole that one must not seek to explain through a reproduction of society, but rather in its modification towards something more righteous and fair. Insofar as Critical Theory refuses the arbitrary and coincidental, from the point of view of prevailing thought, it may seem subjective, speculative, and incomplete. To the extent that it is opposed to the habits of the prevailing attitude that contributes to maintaining the past and is concerned with the activities of an out-dated order, from the point of view of the guarantors of this intrinsically partial world, Critical Theory must act in a partial manner.

Since Critical Theory fights against the exploitation and oppression that never cease to reappear in society, its purpose must be to confront a social order that is contented with appearances. Because Critical Theory links the reduction of dominion and violence on the one hand, with an interest in the evolution and development of humanity on the other, it has often been called upon as a theoretical banner in the fight for engagement towards social reform. This implies the need for ideological criticism and the development of perspectives to improve social conditions. For in order to move from the present social form to a future social form, humanity must first develop a conscious system and actively define its own forms of living. Although we may already have achieved some elements of the "future culture", a transformation of our economic relations is still very much needed. And people's "indifferent animosity in relation to theory" constitutes a major obstacle towards this development. Horkheimer rightly underlines the fact that human fate depends on our overcoming this difficulty. Critical Theory, the social sciences and educational science must take into account these conditions if they wish to be involved in directing the course of history.

2. Horkheimer and Adorno's *Dialectics of Enlightenment*

In *Dialectics of Enlightenment* (1947), Horkheimer and Adorno show how enlightenment and, more generally speaking, any emancipatory movement, can revert into its opposite. Enlightenment can no longer be interpreted linearly as an increase in freedom. For indeed, certain negative side-effects

can be linked to the process of emancipation. Enlightenment can therefore no longer be defined either with Kant as "man's release from an incapacity that he is himself responsible for", or following Hegel, as the dialectic movement of becoming, as the Absolute Spirit's coming-to-itself, whereby nature is defined as its "relinquishment" (*Entäußerung*), and history as its "acquisition of consciousness".

The Marxist position is quite different: enlightenment occurs through a dialectic process in which a modification of the social practice must be achieved. Marx borrowed Hegel's dialectic method, but applied it to real history. For it is through man himself and through human labour that history accomplishes the effective dialectics of the history of the emergence and production of man. In capitalist society, "the natural production of man changes through human labour". The ensuing political-social relations imply a total negation and alienation of man by man and call for a negation of this negation. However, the social conditions of capitalism are still far off from this situation. The decisive question is to establish whether enlightenment is at all possible without a complete transformation of the social conditions of capitalism. In the eyes of Horkheimer and Adorno, the human process of enlightenment is no longer necessarily to be sought within the progress of capitalism.

Horkheimer's and Adorno's dialectics of enlightenment take the shape of the following double theory: myth, they say, is itself already a light, and light can be diverted into mythology. They show how myth turns into light and nature into pure objectivity. Man pays for his increase in power by being alienated from that which is under his power. Thus, enlightenment behaves in relation to things like a dictator does in relation to man. In this process of dominating the world, which the process of alienation is so intimately connected with, technology and the sciences, as well as traditional philosophy, all play an important part.

As long as the ideal of the unity of science remains the only norm of the theory, its practice must follow the clear movement of the history of the world. Along the path from mythology to logic, thought has lost an element of its reflection, and the world of machines is now disfiguring man even at the same time as it feeds him. With the abandonment of thought that takes its revenge on man for having forgotten it by reifying himself in mathematics, in the world of machines, and in organisation, enlightenment has put an end to its own realisation. In this very context, however, enlightenment is transformed and comes to serve the present in complete betrayal of the masses.

On the basis of such a pessimistic view reflecting the aftermath of the Second World War, the ability of criticism, such as it was defined in 1937, to explain and improve social practice, may seem disturbing and doubtful. In the *Dialectics of Enlightenment*, for the first time, criticism turns against itself and attempts to grasp the moment of reflection that it is in danger of losing, through the process of criticising the reifying process, in which criticism becomes itself reified.

3. Negative Dialectics (Adorno)

Adorno's *Negative Dialectics* (1966) can be seen as an attempt to re-examine systematically the issue approached in the *Dialectics of Enlightenment*, that is to say, the inversion of enlightenment. Adorno believes the word *dialectic* to mean at first no more than the fact that things are not equivalent to their concepts; they contradict the traditional norm of equivalency between a thing and its concept. It follows that contradiction is the non-identical from the point of view of identity. To the extent that this principle confronts the limits of thought, thought overtakes them. Dialectics is first of all the logical consequence of non-identity. It does not concern a preconceived point of view. Its inevitable insufficiency creates the dialectic movement (Adorno 1966: 15).

Dialectical thought is defined as the principal task of contemporary philosophy. Only through dialectics can thought avoid reification and the reversal of its content. It is only in the context of "negative dialectics" that thought can escape the reification of its concepts and keep its subject accessible to philosophical experience. The task of philosophical thought is to comprehend that which, within a concept, remains non-conceptualisable. This, at least, is valid for contemporary philosophical thought, whose "real interest is that which is without concept, unique, specific", that which must be defended against seizure and overthrow, through the reification of positivism's traditional theory. "Negative dialectic" thought must protect itself from reification, as it is the only available means to cancel reification. The main quest of "negative dialectics" may thus be summarized, as well as its engagement against the "fury of identification in positive science", in the interest of a "differentiation between that which is conceptualisable and that which is non-conceptualisable in the thing itself".

In order to escape enlightenment's dialectics of inversion, it is necessary to go via "negative dialectics" of knowledge, which refuse any con-

ciliation between concept and reality, and remain open to the experience of a "non-identical" objective which is non-identifiable by thought. Adorno sees the origin of "the illusion" in the presumption of a concrete subject. The establishment of thought categories, constitutive of bourgeois society, has been such a radical failure that the "sovereign" subject finds himself defeated, deformed and divided. The logic of the domination of ignorance against which thought wanted to fight, has resulted in a "domination of logic", which occupies the mind of contemporary man as a dominant ideology, and causes the history of living men to stop (Kamper 1974a: 81).

Adorno's radicalisation of dialectics and reflexive thought constitutes a provocative challenge to philosophical thought. In the context of a science of action, it is of central importance to know whether the "negative dialectics" of social practice can still become conscious of, or indeed, protect themselves against, their own reification. The view that social practice lies outside the field of reason suggests that rational thought can substitute the role of human action. In this movement, the subject can escape the reification of society as well as its own reification.

For educational science, the inclusion of practice into theory leads to the destruction of the practice in itself. It is the consequence of the "negative dialectics" which can be understood as the rejection of a science of action. As an educational practice, however, educational science must remain true to its responsibility for action. Without this responsibility in relation to practice, the exploitation mechanism in today's society would be abandoned without resistance, which would squander any room for even the slightest measure of improvement. And yet, an educational practice that succeeds carries in it the development of humanity. Furthermore, an educational practice is tied to society, whether thought acknowledges it or not. The idea of abandoning practice in order to avoid the reification of thought does not make sense here. In the context of educational science, thought, even at the risk of being partly instrumentalised, must attempt to make educational practice more conscious by drawing attention to its possibilities of emancipation. Indeed, emancipation depends upon educational and political action.

4. One-Dimensional Man (Marcuse)

Recognition that the creation of all social existence is so complex that we do not have the possibility to perceive the totality of this process, plays a central part in the work of Marcuse as well. Indeed, this topic is expressed

by Marcuse both in an article entitled *Philosophy and Critical Theory*, published in 1937 in the *Zeitschrift für Sozialforschung* (Journal for Social Research), as well as later, in *One-Dimensional Man* (1967). However, in this work, which was published in the same year as Horkheimer's *Traditional and Critical Theory*, Marcuse begins with the fact that the totality of social phenomena can only be correctly understood as the result of capitalist production. As a consequence, Critical Theory of society is intimately tied to materialism. Marcuse demonstrates that social theory is an analysis of the economic system rather than a philosophical approach. Foremost at stake are two moments binding materialism to the right theory of society: concern for human happiness, and the certitude that this happiness cannot be achieved without a modification of one's concrete mode of existence.

Marcuse sees the path to happiness in economical and political relations. The task of theory or philosophy is not to attain happiness, nor to create a new society, that would be "the free work of a liberated individual". Thanks to imagination, the task of reason is to sketch out such a society before it is realised. According to Marcuse's definition of the relation between reason and social practice, with the concept of reason perceived as freedom, philosophy seems to have reached its limits: what remains, the achievement of freedom, is no longer philosophy's task. This association of reason with "human freedom" is central to Critical Theory. It maintains our awareness that the conditions of a reasonable society, outlined through imagination, are not always achievable. For it seems that humanity's revolutionary potential could be paralysed by neutralising mechanisms. The possible and the real could in that case merge into one dimension. This is a central theme in Marcuse's *One-Dimensional Man*, just as in Adorno's *Negative Dialectics*. In the contemporary social situation, Critical Theory, whose task is to analyse society in the light of its capacities to improve humanity's condition, finds itself caught in the grip of a complex social structure.

Society exerts an irrational domination which the majority of the population is willing to accept because it is satisfied with a programme in which one's standard of living and freedom of consumption constitute central values. This reformist programme conceals from the majority of the population their own interests and possibilities for self-realisation. Human technological globalisation and the ideological duty of social progress participate in this. In this situation, the difficulty for Critical Theory resides in the fact that the irrationality of domination and the total administration of human life in the face of the "totality of advanced industrial society's conquests"

(Marcuse) must be brought to light, and that humans must become aware of them. Society incorporates everything, even contradictions; thus, there is no space left for criticism.

Marcuse reveals how magic and science, life and death, joy and misery, that is, all the previously antagonistic fields now merge together through technology and politics. Beauty reveals its terror in nuclear power plants, and laboratories become "industrial parks" in a pleasant environment.

This integration mechanism is so dominant that it even triumphs over criticism, for it gives it an appearance of irrationality whereas in fact it takes society's irrationality as a model for rationality. This is a central characteristic of the one-dimensional man.

At present, technological controls are perceived to be the incarnation of reason itself, in favour of all groups and social interests – in the sense that contradiction seems irrational, and opposition impossible. It is therefore not surprising that social controls have been introduced in the most advanced fields of this civilisation and that individual protest itself has been smothered. The intellectual and emotional refusal to "participate" is considered a sign of neurosis and powerlessness.

In this social situation in which the rational has the appearance of the irrational and the irrational that of the rational, the only resort left to individuals is the "power of the negative". Refusal constitutes the only possibility of opposing oneself to the shift of reason towards the irrationality of domination. But refusing the irrationality of domination is almost impossible, for such a complete domination is exercised over man through technology and its apparent "neutrality", that their thoughts are immunized against criticism. One-dimensional life necessitates "one-dimensional thought" which must be immunized not only against transcendence, but also against criticism. Strictly speaking, it is closed to any reflection. The liberating character of technology, according to Marx, has been inverted. Technology has become the means to rationalize production processes and production relations, but also a means of subjection to the logic of domination, which man himself can no longer escape. The relations of domination, which produce man's one-dimensionality, have secured their position in society and in thought so well, with the help of new forms of control, the exclusion of the political and the integration of criticism, that any hope of social transformation has been weakened. Even if we accept this analysis on the whole, one may still question whether the consequences drawn from this analysis (the refusal to participate and take part) are pertinent for a science of action such as educational science.

5. Knowledge and Human Interests (Habermas)

Critical Theory has been much stimulated by the work of Habermas, who focused on developing and clarifying numerous questions that have preoccupied Critical Theory since its origins. Habermas has had a great influence on educational science, even more so than Horkheimer, who studied issues relating to the politics of education and socialization in the 1960s, or Adorno, who studied the function of teaching in society. The reason for this is that in the work of Habermas, educational thought that was previously implicit in the Frankfurt School, and revealed as a rough draft in the writings of Horkheimer, Adorno and Marcuse, is finally made explicit.

For educational science, Habermas' contribution is essential to epistemology, communication, and language, as well as role theory, theory of action, theory of socialization and social theory.

In his first lecture in Frankfurt in 1965, Habermas referred philosophy back to its position as the critique of knowledge. A philosophy of knowledge and social criticism is aimed at the self-reflection of science. Habermas establishes an intimate link between the theory of society, critical philosophy of knowledge and science. All three fields have a common interest in autonomy and emancipation, though they are not aimed solely at the processes of individual development, but also at the processes of humanity's education. It is only with reference to the species' process of development that processes of individual education and emancipation can be suitably evaluated. Processes of individual education depend on the historico-social state of development in the world and the situation of "the human species". For a critical educational science, this idea is central.

This implies establishing a link between practical, instrumental and critical reason, as well as its justifications, on the basis of three different interests of knowledge:

- an interest in *technology* that aims to make its objects as widely accessible as possible;
- an interest in *practice*, oriented towards an understanding of life's central questions; and
- an interest in the knowledge of *emancipation*, which strives to eliminate domination over man.

Habermas explains what he understands by interest of knowledge:

"The interest of knowledge is a particular category that is something other than the distinction between empirical and transcendental, or between factual and symbolic, or again the distinction between definitions, motivations and knowledge. For knowledge is neither an organism's simple instrument for adapting to a changing environment, nor the act of a being of pure reason. As contemplation, it is far removed from the problems of life" (Habermas 1973: 243).

Theory does not make the status of these knowledge interests very explicit. The typology into three interests is not structural, but circumstantial. The fact that the different "interests of knowledge" are defined as distinct constitutes the expression of a given historico-social situation, in which the interest for domination over the world, human comprehension, and emancipation are distinct. Whereas the interests of technical and practical knowledge, deeply founded in the structures of action and experience, find themselves closely linked to the constitutive conditions of society, the interest in emancipatory knowledge has another status: it links theoretical knowledge to the practice of life. The practice of life itself rests on a systematically deformed communication and a repression that seems legitimised.

Unlike Horkheimer and Marcuse, Habermas does not try to go beyond this division of reason into three. He accepts it as a given fact. In order to illustrate Habermas' approach, we could mention his input to the debate on positivism, his contributions to the criticism of hermeneutics, and his criticism of systems theory. In these epistemological works, Habermas criticizes the hypotheses of a variety of schools. As a critic of ideologies, he raises questions about those hypotheses that are not made explicit in contemporary works, and strives to weaken the claims to universalism of critical rationalism, systems theory, and hermeneutics. Insofar as he is interested in the function of contemporary scientific theory for capitalist society, in which science has become a "productive power" that is instrumentalised by the dominating system to further its own interests, Habermas establishes an ideological criticism. The criticism that Habermas formulates against the different scientific programmes is always both scientific criticism and ideological criticism. It is opposed to the universality claims of the different contemporary scientific fields.

In a second period, among the many fields he has studied, Habermas favours *constructive action* to a merely critical approach. He enriches science with a self-reflection that always includes criticism in anticipation. He complements criticism with "constructive action". When "the idea of a theory of society sketched out for a practical purpose" (Habermas 1972: 10) is

taken seriously, it must link its scientific claim to a theoretical structure based on practice. For this transmission of theory and practice to succeed, reciprocal knowledge of the following three aspects is needed:

- the creation and development of critical theorems that are able to resist scientific discourse;
- the organisation of explanation processes according to which these theorems may be used and verified in relation to the emergence of processes of reflection; and finally,
- the choice of appropriate strategies, the resolution of tactical issues, the conduct of political struggle.

The first of these aspects corresponds to affirmations, the second aspect corresponds to verifiable affirmations, and the third to judicious choices.

In distinguishing between these three functions, which a theory drafted in view of a practical purpose must take account of, Habermas surpasses the negativity of Critical Theory. The goal is no longer simply to criticize, but also to organise the processes of explication and develop appropriate strategies. Critical Theory thus finds the way back to practice as a field of action; the relation between theory and criticism acquires a new quality. As a consequence, Critical Theory discovers a new interest in educational practice.

XII

Main Concepts of Critical Theory

Throughout its history, Critical Theory developed a range of important basic concepts. We have chosen to present the concepts that are useful to educational science. To approach the central concepts of Critical Theory in educational science does not imply that Critical Theory already possesses a theory of education. Rather it can be seen to provide elements towards such a theory. A Critical Theory of education must rely on these concepts that provide the guidelines upon which to build a theory of education.

There is a difficulty in presenting Critical Theory's points of reference. The concepts are so tightly linked to each other that a clear distinction between them is impossible; one is bound to constantly switch from one concept to another. We will therefore attempt to structure a chain of thoughts so as to interlock the contexts of the respective concepts, so that a global context emerges. However, we do not wish to develop a system of Critical Theory, for this would be contrary to its intentions.

1. Enlightenment (*Aufklärung*)

In the course of what has been said so far, it has become clear that Critical Theory is closely tied to the European tradition of enlightenment and attempts to develop it. Indeed, Critical Theory is inscribed within the historical movement for human liberation, of which Kant defined the goals. For him, enlightenment corresponds to man's effort to break free of the dependence for which he is himself responsible. Dependence is the incapacity to use, by oneself, one's own reason. We are responsible for this powerlessness when it originates not in a lack of reason, but in a lack of courage to use this reason. *To have the courage to use one's own reason!* is thus the motto of enlightenment.

There is a systematic and a historical aspect to this vision of enlightenment. Its definition can be interpreted as follows: the movement of enlightenment is considered a historical movement the content of which is human autonomy, that is to say, freedom through self-determination. Thus, the ef-

fort to achieve reason's emancipation has both a philosophical as well as a social character.

Kant saw clearly both aspects of the enlightenment, but his concept of enlightenment is limited because according to him man's capacity to use his reason is primarily defined as a performance that must originate in the individual himself, and is only partially restricted by the social conditions of the moment. To the extent that Critical Theory stresses the dependence of people's liberty and self-determination on humanity's historico-social state of development, it modifies Kant's vision of the emancipatory movement of enlightenment.

Critical Theory claims that the emancipation of reason does not solely rest on the good use of reason in education and the development of the individual, but that social conditions, against which one must struggle in the political field, must also be taken into account. Seen from this angle, enlightenment involves challenging any authority and domination which cannot be justified rationally, and insisting on autonomy and on liberty as objectives for human development.

Within the present social conditions, the process of emancipating reason, whilst aiming to establish individual autonomy, can sometimes backfire and result in nothing but the opposite. Horkheimer and Adorno describe this danger as follows:

"The emancipation of reason, meaning the comprehension of evolved thought, has always pursued the goal of liberating man from fear in order to make of him a sovereign being; but the world, entirely illuminated by reason, shines under the sign of a triumphant disaster" (Horkheimer/Adorno 1971: 7).

Horkheimer and Adorno thus underline the transformation of enlightenment into myth and "madness". Myth and madness threaten enlightenment when the individual, through his use of reason, comes to dominate the world by the sheer strength of his self-affirmation. Liberation from the dependence under which man chokes now becomes a new chain, from which he must in turn break free. An individual's attempt to affirm himself against society leads to his isolation and reification. His insistence on the rationality of the organisation of human society submits him to the rationality of domination, which is so completely organised that it totally dominates him.

"From this point of view, what happens is in fact contrary to the intention. The logic that enlightenment made possible, and which seemed beneficial for the order of human

relations, became, as the dominant logic of the apparatus of power, a 'logic of domination' that the individual accepts under a rigid constraint. Society can impose this constraint almost without opposition, for the 'one-dimensional individual' is predisposed, through his 'one-dimensional thought', to identify with the constraint that weighs on him" (Kamper 1973: 102 ff.).

In the face of this situation, three directions have been sketched out, in the context of Critical Theory, that aim to attain enlightenment despite the constraining conditions which tend to oppose the process of reason's emancipation.

The first direction consists in avoiding the danger of reification of the emancipation process, and is outlined in Adorno's "negative dialectics". Its concern is to re-establish the truth of reason's emancipation by shining onto enlightenment itself the light of the criticism that has always been inherent to it. The effect of enlightenment must be to liberate every human being from his powerlessness and reification. This work must be made possible through a critique of the (apparent) rationality of instrumental action, which in fact continually reifies the processes of cognition and conceals the objectives that were originally set. From this point on, critical thought must examine the processes and events that have not yet been conceptualised or that have remained unconceptualised due to the degree of abstraction of the concepts, and have therefore eluded the work of reason. Adorno sums it up as follows:

"Philosophy finds its true interest, according to the historical situation, at precisely the point where Hegel, as tradition desired, manifested his own disinterest: that is, at the level of that which is without concept, unique, and particular, at the level of that which, since Plato, has been abandoned because it was considered temporary and insignificant, and that which Hegel labelled lazy existence. The object of philosophy is that which the concept cannot reach, that which its mechanism of abstraction eliminates, that which is not entirely exemplary in the concept" (Adorno 1966: 17).

According to the second direction put forward by Critical Theory, emancipation processes must focus on liberation from the pleasure provided by reification. The goal is to eliminate social repression. Marcuse placed this concept of enlightenment at the centre of his reflection. In the context of his work on student protest for example, Marcuse considers the student movement to have led the rebellion in two main directions: it associated the field of non-material needs (self-education, non-alienated human relations) to the political struggle as much as to the physiological dimension of existence, that is to say, to the field of nature. The common ground is emanci-

pation in relation to sensuality. Indeed, according to Marcuse, pleasure leads to new experiences of a world that the demands of established society violently threatens, and calls for a total transformation.

In Marcuse, we return to the connection between enlightenment and the emancipation of reason. Furthermore, liberation from the powerlessness for which one is not responsible must be achieved not only with the help of the individual's reason, but also on the basis of "communicative perception" that is not based on domination whereby social conditions and the domination structures are experienced as chains that one cannot escape from.

Finally, a third variant of enlightenment can be distinguished that Habermas developed by finding inspiration in the model of the "therapeutic discourse". Here, self-reflection aims at enlightenment, grasped as the interiorisation of a "therapeutic discourse":

"The thinking subject must play at least two parts, just as the reflecting subject, when the argumentation must not be simply analytical (and replaceable by machines). This causes no problem in the context of interiorised discourse. The position of the participants is equal and interchangeable, which is why the internal division of dialogue-parts causes no problem to thought. It is not so in the case of (interiorised) therapy. In psychoanalytical discourse, the partners' position is asymmetrical. It changes often in the course of the communication, and only ends at the end of a treatment that succeeds in an asymmetrical relationship that exists from the start between the participants in the discourse. An isolated subject's self-reflection thus requires a quite paradoxical performance: one part of the self must be detached from the other part so as to enable the subject to help himself" (Habermas 1972: 34).

Thus we see how the process of enlightenment becomes a process of reflection, during which reifications and hedges to thought and communication are eliminated. It may be possible that the asymmetrical relation of communication between analyst and patient that we have just described also provides a model for educational processes, which can be defined as processes for the emancipation of reason. According to Habermas, teaching nowadays has taken on a central role in the realisation of emancipation processes. From here on, political struggle, the "choice of appropriate strategies" and the "resolution of tactical issues" become possible.

2. Emancipation

The concept of emancipation is used in different ways within the context of Critical Theory and the social sciences which it has influenced. An impor-

tant dimension of the concept's meaning can be perceived if one refers to the distinction made by Marx, in *On the Jewish Question* (1843), between "political" and "human" emancipation. The starting point for this distinction is as follows:

"It is by no means sufficient to examine the questions, who must emancipate? who must be emancipated? Criticism must examine a third question: *what type of emancipation* are we talking about? What are the conditions within the nature of the desired emancipation?" (Marx 1966, vol. 1: 34).

Marx thus points to two forms of emancipation to be achieved in different phases of human development. The bourgeois revolution only achieves "political" emancipation. Through political emancipation it succeeds in freeing the State from the tutelage of religion, and in the struggle against the bourgeois right to property. Regarding the relation between political emancipation and human emancipation, Marx specifies:

"*Political* emancipation from religion is not the fulfilled and contradiction-free emancipation from religion, because political emancipation is not the fulfilled, the contradiction-free form of *human* emancipation" (Marx 1966, vol. 1: 36 f.).

Marx explains that to achieve "human" emancipation on the basis of "political" emancipation it is necessary to begin by suppressing private property which is responsible for maintaining man's domination over man and thus contributes to his reification. But the suppression of private property only constitutes one of the conditions for human emancipation.

The goal of "political" and "human" emancipation is to finally make of man a human and universal being, defined as an individual as well as a social force, and in whom self-reflection would be linked to an interest in full capacity and emancipation. Such emancipation is not possible without the modification of social conditions, nor through this single modification alone. In addition to the transformation of dominance relations, it demands particular educational processes the effects of which are important. We must avoid simply replacing one structure of domination by another. Emancipation must be regarded as much as a process of liberation for people and social groups, as a phenomenon that concerns individuals and determines the factors defining human social nature and conscience. The concept of "human" emancipation thus requires that one take into account the subjective factor, that is to say, the given conditions in every individual's personality that can be useful or harmful to their emancipation. This aspect

of emancipatory movements, which is above all important in the field of education, must not lead to a gratuitous inflation of the concept of emancipation. What is needed is a more precise use of the concept of emancipation. Indeed, emancipation is only possible, as a concept and socio-historical phenomenon, if it describes the contradictions and content of emancipation, reflects the field of reference, demands a collective process (action) and concerns the social structure as a whole.

Between 1965 and 1975, the concept of emancipation became the central concept even in educational science where, for a number of authors, it actually replaced the concept of education itself. Mollenhauer's *Education and Emancipation*, the work of the "Commissions for the Reform of Educational Plans in Hesse", and Lempert's contribution *Research on Education and Emancipation* set the context for the concept's warm reception. By emancipation, Mollenhauer understands "the subject's liberation ... in relation to the conditions that limit his rationality and the action linked to it". For Lempert:

> "Emancipatory interest is man's interest in maintaining and furthering the fact of disposing of himself. Its goal is the suppression of irrational domination, and freedom from constraints of all sorts. Material violence is not the only constraining thing, there is also the straightjacket of prejudices and ideologies that can be at least reduced, if not completely suppressed, through the analysis of its genesis, criticism and self-reflection" (Lempert 1971: 318).

Mollenhauer and Lempert underline the subjective factor in the context of emancipation processes, and rely on the concept of emancipation made more precise by Habermas, who emphasises these aspects of the global process and makes of emancipation a central concept for education.

Just as in social science, emancipation tends to have a primarily negative meaning in educational science. The concept is used to identify situations in which there is oppression and violence. To the extent that emancipation strives to overcome a situation that is described as negative, it constitutes an aim of the hoped-for situation, that is to say, an engagement of the socially oppressed individuals and groups, and the engagement for the defence of their interests and in support of their liberation movements.

One finds in this definition of *emancipation* a great many points in which to anchor educational action. The latter must contribute to the human adventure, but is also tied to objective and subjective possibilities. The degree of emancipation that can be attained varies in the course of history from one society to another.

"It has remained inferior, in those situations where the occasions and potentials for action and the satisfaction of different groups are distinct one from another; that is why the improvement of the situation of disadvantaged, under-developed, or psychically handicapped groups in their socialization is one of the very first strategies of emancipation" (Lempert 1974: 14).

Emancipation can only be specified as an objective in the educational process in the historico-social context of the moment. Under the social conditions of advanced capitalism, the possibilities for emancipation are other than in developing countries where emancipation means first and foremost liberation from hunger and material needs. The possibilities for emancipation can only be defined in relation to existing emancipatory potentials in a given moment, which have not yet appeared in western industrial societies as far as "human" emancipation is concerned. For the socialization process is still linked, for many people, to a high degree of repression and a lack of possibilities for self-fulfilment.

In the course of the socializing process, the individual is influenced to such an extent in his capacities and needs by the effect of social roles (by means of a selective requirement) that some capacities (specific to the different social classes) can be developed whereas others must be forgone. The given possibilities and limits of a person's social development appear, therefore, under certain social conditions. Overly aggressive socialization processes, which prevent the articulation and satisfaction of a person's needs, often lead to pathological behaviour which prevents that person from attaining self-fulfilment.

Faced with the intensification of bureaucracy in modern societies, and with the control exerted by social life over instrumental action and the semblance of reality that is linked to it, it is necessary to break this structure in order to allow for "human" emancipation and the humanisation of social life. Qualification constraints are too great for the demands of the job market, and socialization processes are too one-dimensional. In addition, social imagination of a kind that would still allow for thoughts other than "normal" remains under-developed. However, if a consciousness of the problems were developed with regard to the contradictions immanent to society, and if thought were directed towards alternatives, the emancipatory processes could still succeed. It is only when humans manage, through such processes, to free themselves from isolation and consider themselves universal beings that they can nullify the effects of their reification. But reification also threatens when emancipation is defined as the goal of a dogmatic and hypostatic process, rather than a reflexive process.

3. Reification

One of the principal objectives of enlightenment and the emancipatory movement consists in defending humans against reification. At present, reification is the result of the production and exchange of goods. Its function is to uphold the social order of bourgeois society. The latter cannot be overestimated. Mollenhauer, in particular, studied closely the reification of communication processes in the field of education.

Lukàcs describes the relationship between the structure of goods and human communication. Reification acts on communication and educational processes, and thus on human consciousness. Its effect is to impoverish human relations on the basis of a reductive rationalisation of instrumental action. Reification limits man's capacity for self-definition, as well as his field of action and reflection. Granted, man's capacity to objectify himself is to a certain extent part of his human condition. But this particular type of objectification cannot be considered equivalent to the totality of human reification, which renders man, in his development, below his possibilities. In our society, human reification is furthermore intensified by controls within the bureaucratic administration; this results in the individual being included in the general, and the "concrete" being considered inferior to the "abstract". The threat on human life is accentuated by "positive" sciences and their orientation towards the acquisition of decisive knowledge. The resulting consequences invade social life and lead to an intensification of the violence contained in the structure of the social system. When criticism fails to avoid the hypostasis of these notions and concepts, the danger arises that it could be vanquished by overwhelmingly powerful reification tendencies. In individual education processes, it is possible to achieve the individual's reification through a certain kind of communication and interaction processes. Removing the reifying element in a communication process contributes to reducing everyone's reification. Efforts to reduce reification and reified communication refer back to each other; they can only be successful in a punctual and limited fashion, the power held by social mechanisms which work against reification being much too great. The fact of constantly struggling against it must be a part of an education indebted to enlightenment, emancipation and self-definition. Negation and refusal can only be the first phase of the protest against instrumentalisation and reification; to attain a humanisation of human life, one must go beyond them.

4. Criticism

Ever since Horkheimer's *Traditional and Critical Theory* (1970), the concept of criticism has become one of the central elements of thought for Critical Theory and the social sciences that are inspired by it. Up to this day, this concept has been used to mark a specific orientation that must be distinguished from the traditional use of science. A series of works has thus appeared in the field of educational science, which places the claims of criticism at the centre of their intentions. The question remains as to what such a concept as *criticism* signifies in the context of educational science. In order to answer this question, we must first analyse the concept of criticism within the Critical Theory of the Frankfurt School.

For Horkheimer, criticism has become the constitutive element of Critical Theory for the analysis of society:

"The dual character of any society in its present configuration evolves, in the subjects of critical behaviour, towards a conscious contradiction. As they recognize the contemporary economic form, and the global culture founded on it, as the product of human labour, as an organisation that was imposed on the humanity of that time, and that it was capable of, they identify themselves with this whole and define it as will and reason: it is their own world. At the same time, they realise that society must be compared to non-human natural processes, to pure mechanisms, because forms of culture are based on struggle and oppression, and are not the proof of a unitary will, conscious of itself, it is not their world, but the world of capital" (Horkheimer 1970: 28).

At the heart of social criticism, Horkheimer places the criticism of capital, which defines the structures of society in our historico-social situation, by moulding the economy's structure according to its interests. Criticism intervenes by contradicting the claim that this evolution is necessary. Due to the fact that criticism attacks society's dependence and therefore the dependence of science on the laws of capital valorisation, it challenges the validity claims of society and science. Through a critical reflection that reveals the laws of economic, scientific and educational movement – that is, of society in general – a new understanding of the individual and of the social whole should be attained, as described by Horkheimer:

"Critical thought and its theory clashes with both methods: it is neither concerned with the education of an isolated individual, nor with that of all individuals. It is more aware of the individual defined in terms of his emotional ties to other individuals and groups, in his preoccupations with a defined class, and finally in the interdependence thus transmitted between the social whole, nature and the subject" (Horkheimer 1970: 30 f.).

As criticism makes man aware of his dependence, it allows him to take hold of his relations with society, other humans and himself. This results for humans in a new comprehension of the self and the world.

Criticism, of which the significant element is social criticism, becomes a systematic criticism of knowledge and science, which is primarily opposed to positivism, but also to hermeneutics and the systems theory. Horkheimer defines the link between social and scientific criticism as follows:

"If the theoretical effort, which, in the interest of a reasonably organised future society, reveals today's society in a critical light and builds it on the basis of traditional theories elaborated by the different sciences, fails to succeed, then all hope of fundamentally improving human existence is lost" (Horkheimer 1970: 49).

Next to the reciprocal relationship between social criticism and criticism of science, another element of criticism appears here: the intention of improving the status quo of society and science in the light of "reasonable conditions". The criticism of Critical Theory must not be limited to demonstrating the insufficiency of conditions or contexts and to letting the "state" of criticism provide the method to articulate criticism; it must also strive to improve the conditions of social life that it criticizes. Thus it is important to move beyond the simple negation, and adopt a constructive method. It is a question of becoming practical in order to contribute to the improvement of social practice. In view of this knowledge, the "great refusal" (Marcuse) leads Critical Theory into a dead end.

"According to Critical Theory, there is but one truth. The positive predicates of reason's sincerity, of the effort for peace, freedom, and happiness, are not understood in the same manner in the other theories and practices" (Horkheimer 1970: 40).

Criticism is a central condition for emancipation. The critical analysis of existing social, scientific and educational structures leads to a distancing in relation to structures and therefore to a partial liberation from their constraints. If criticism turns towards the existing social structures, it is no longer merely social criticism. It must also be critical of deformed communication processes. As such, it must, for example, turn towards human self-reification in the processes of socialization and education, and try to demonstrate the backwardness of reality in relation to its inherent possibilities. In this role, the capacity for criticism is a primordial element of human existence. However, the radicality of criticism in relation to educational action's powerlessness in the face of historical microstructures that bear on

the lives of youths must not conceal the significance of educational action. For this would result in apathy and resignation, the incapacity to act, and despair – an abandonment of pedagogico-social practice. Such a development would lead to the primacy of practice being made obsolete in the face of the apparent impossibility of changing practice (something Critical Theory has always underlined vigorously) and to theory being considered superior to practice. Criticism would then no longer be able to fulfil its task of contributing to a process of social evolution influenced by an interest in reasonable conditions. To avoid this trap, criticism must not be an aim in itself. Criticism based on dialectics must avoid providing alternatives dogmatically. That is to say, it must remain reflexive.

If educational science wants to fulfil its mission towards every young person (Educandus), it must be defined as "critical-constructive theory" and withdraw from objectives that are thought outside of history or are non-didactical. Education must address every educated person in his/her personal social situation.

5. Society

By "society" we mean primarily the global context of action and social behaviour that is constituted through exchange and in the course of activities relating to the division of labour. To the extent that Critical Theory defines itself as the theory of society, its aims to analyse and explain the contemporary social system. A theory of society is critical insofar as it puts into perspective the possible development of society and its actual, real development. Critical Theory aims for a knowledge of the totality of society. Social development as a whole cannot be properly understood without reference to the concept of the division of labour. In the context of an increasing division of tasks and the improvement of productivity, the work force and the means of production, as well as their co-operation with the conditions of production, become increasingly significant for the development of society.

The significance of the conditions of production for the understanding of social structures and their possibilities of development was, once again, underlined in the context of critical social science. "Criticism" in social science was therefore understood – as Horkheimer writes – less as an "idealist criticism of pure reason, than as a dialectical criticism of political economy". Criticism reveals the existing tensions between contemporary social structures and the virtualities that they are incorporate. It allows one

to develop strategies to enable society to evolve towards "reasonable conditions" (*vernünftige Bedingungen*, Horkheimer).

Reichelt (1976:353) noted that Critical Theory remained very attached to a criticism of political economy (Marx) seen as a representation of the anatomy of bourgeois society. It never really tried to reformulate this theory in relation to new conditions, nor to attempt a very concrete examination of society in full mutation.

Under the present conditions of social and scientific development, to what extent is the development of a systematic theory of society at all still possible? Adorno was well aware of this difficulty when he wrote:

"The irrationality of contemporary social structure prevents it from flourishing rationally in theory. The perspective of a passage from the direction of economic processes to the political power is certainly a consequence of the dynamic that is deductible from the systems, but it too leads to an objective irrationality. This, and not only because of the sterile dogmatism of its defenders, should help to explain why for a long time now no convincing theory of society has been put forward" (Adorno 1969: 17).

Despite this scepticism, Adorno maintains that contemporary society can only be properly defined when one recognizes that it is, for the most part, organised according to the laws of capital valorisation.

6. Communication – Discourse

Habermas' "theory of communicative action" is of central importance to educational science, as are his numerous works on the theory of language, communication and discourse. In his contribution to the theory of communicative competence, one of his aims is to reconstruct the system of rules whereby speakers with a communicative competence are able to build utterances out of sentences and at their will transform them into other utterances. These utterances are considered statements insofar as they constitute a "pragmatic discourse unit" that can be reduced to an elementary phrase taken as a linguistic unit in the absence of the communicative act.

In the course of his analysis, Habermas distinguishes two forms of communication in everyday language: the communicative act and discourse.

"Among the conventions that have the function of communicative action, we can recognize those that are communicative acts in that they are admitted into the context of ex-

tra-linguistic statements, whereas in discourses only thematic linguistic statements are allowed; the acts and expressions of the participants certainly accompany discourse, but they are not part of it" (Habermas 1971: 114 f.).

Furthermore, in the process of communicative action, validity is presupposed by the contexts of meaning, without being thematized. Communication occurs through the reciprocal recognition between the people communicating and acknowledgement of the validity of what is said. The contexts of meaning that apply to the language game of communication can be divided into four fields that Habermas defines as follows:

"A language game takes place normally when the utterances of the speaking and acting subjects can be understood in such a way that:

a) They can transmit and properly understand the pragmatic meaning of the interpersonal relationship (that can also be verbalised in the act of speech).
b) They can transmit and understand intentionally the meaning of the propositional content of their utterances.
c) They do not call into question the validity of the opinions they communicate.
d) They can accept the validity claim of the action norm that they wish to respect" (Habermas 1971: 116).

On the basis of these ideas, two counter-effective expectations can be exploited for each communicative action: we expect acting subjects to follow intentionally the norms they follow (expectation of intention); and we expect acting subjects to follow only those norms that seem justified to them (expectation of legitimacy).

In contrast to these elements of communicative action, validity claims are questioned within the discourse; one tries to justify the questioned validity claims of opinions and norms through *a virtualisation of action constraints* and the *foundation of validity claims*. The naive idealisation, made in the communicative action, of the communicative situation and the opposite party, is equally maintained as hypothesis in the discourse.

Building on the fact that comprehension is impossible without a distinction between true or false consensus, Habermas states and then attempts to justify the idea that "*in every discourse we are compelled to suppose an ideal linguistic situation*" (Habermas 1971: 122).

For Habermas, the ideal refers to a distinction between the true or false consensus of a linguistic situation where communication is not hampered either by external contingent effects, or by constraints emanating from the communication structure itself. The linguistic situation excludes the systematic deformation of communication. On the basis of a necessary distinction

between the true or false consensus, an attempt is made to designate the elements of a theory of truth consensus that takes on considerable importance in the context of the problematic issue of justification in the theory of sciences. One can therefore determine the truth of the theories only through consensus in the context of a discourse. In a discourse, and in the attempt to establish a consensus, the parties involved must be engaged actively.

To the extent that the ideal linguistic situation, which must be supposed or anticipated in every discourse, is characterised, amongst other things, by the equal "reciprocity" of attempts to order and to oppose, to allow and to resist, to make and break promises, to be accountable and to demand accounts, the possibility therefore being assured of entering at any moment into a discourse, "the counter-effective conditions of the ideal linguistic situation as condition of an ideal form of life" are revealed as "giving their value to the maxims, so that every time we begin a communication with the intention of holding a discourse, and we pursue it for just long enough, a consensus, that would be the true consensus in itself, should appear" (Habermas 1971: 138 f.). In this attempt to found a theory of language and a theory of communication in reference to a critical theory of society, by establishing close links between an ideal linguistic situation and an ideal kind of life, Habermas' efforts to develop a theory of communicative competence closely follow the aims of classical Critical Theory, which he further develops.

7. Theory/Practice

The relation between theory and practice is central to Critical Theory and critical social science. This is already apparent in Horkheimer's first publications, in which he shows that the critical stance must be directed towards social practice:

"The future of humanity depends on the existence of a critical stance that must naturally also contain certain elements from traditional theories and the outlived culture. When, in imaginary independence, science considers the practice it serves and to which it belongs as completely different to itself, and when it is content with the separation between thought and action, it has already abandoned humanity. The activity of thinking is strongly characterised by the self-determination of what it must achieve and the purpose it must serve, not only with regard to the small details, but in its totality. The quality of the activity of thinking therefore directs it towards historical change and to the production of a fair situation between people" (Horkheimer 1970: 56).

Critical thought, from the point of view of Critical Theory, must not be concerned exclusively with the production of knowledge. Theory must have an immediate interest in improving social situations. Indeed, it must reflect the *conditions of its own production and of its own use*. In this process, theory must question its own ideological background, its social function, and its possibilities to influence social practice. Insofar as Critical Theory understands that the strict division of work between theory and science on the one hand, and social practice on the other, is characteristic of a particular social situation (i.e., bourgeois society) and therefore changeable, the value of a theory cannot be determined in the context of research alone, independently of social practice. Moreover, it must be the duty of social practice to decide the value of theories, since it is in social practice that theories must demonstrate their validity.

Under the influence of World War II and the social developments of the post-war period, Critical Theory changed its assumption of the possibilities according to which theory can improve the social practice. Reichelt clearly identified this change of perspective:

> "The central ideas of Critical Theory were formulated at a time when the theory could be conceived as an element in the revolutionary process: considering the suffering of the proletariat, hope for a violent change within society was well justified. The increasing integration of the working class into bourgeois society resulted in a growing separation between practice and theoretical concerns, and the project of realising a 'total man' was forgotten. Ultimately, theory can be understood as the relic of true consciousness in a hermetic system withdrawn into itself" (Reichelt 1976: 357).

This change of attitude regarding the social function of theory implies an abandonment of the primacy of social practice over theory. This abandonment became necessary because one came to realize how practice had become totally determined by the way bourgeois society transformed everything into merchant value. In this given social context, there was no longer any possibility for an improvement of practice towards more "reasonable conditions of life". Thus, theory gained importance, for it acquired the mission of conceiving the principal virtualities for the future of social practice. The demands that theory addressed to practice sometimes contained elements that were dogmatic and a-historical. Some of these dogmatic and a-historical aspects can even be found in certain section of such works as Horkheimer's and Adorno's *Dialectics of Enlightenment*, in Adorno's *Negative Dialectics* or in Marcuse's *One-Dimensional Man*. There is, in these works, a certain dimension of resignation with regard to the evaluation of

possibilities of action open to the individual, which results in a weakening of the subjective factor; this in turn leads to apathy and a demobilising of the subject for action.

At first, it was hoped that theory's contribution would help one to escape alienation. We now see the risk that this objective back-fire: instead achieving the promised freedom, theory can turn into the opposite. Instead of accomplishing the rational, it produces fragmentation and the irrational. Instead of constituting an aide to practice, theory is reduced to a manipulative technique. Indeed, these developments seemed to do no more than elaborate and restructure the very social situation Critical Theory set out to criticize! Although it was possible to achieve resistance through thought, contemporary social conditions made it seem impossible to achieve a successful practice of human life.

Later on, Habermas thus began to treat the theory/practice relation in a new way. In his book *Theory and Practice*, he develops the idea of a society that would integrate the project of changing practice, and this idea distinguishes him from the other theorists who concentrated on the theoretical field alone. With reference to one of Horkheimer's previous books, he writes:

"By reflecting the conditions of its origin and anticipating its context of application, theory is understood as a necessary moment within the very social context of life that it analyses. It analyses its object as a context of predetermined forces from the perspective of its possible supersedence. Theory therefore involves a double relation between theory and practice: on the one hand, it examines the historical context of constitution of a social interest to which, through its activity of knowledge, the theory itself belongs; and on the other hand, theory must take into consideration the context of historical action that it influences by anticipating and orienting action" (Habermas 1972: 9 f.)

In this approach, Habermas tries to link practice to theory, which had been separated from practice in the work of the late Adorno. In more precise terms, what we have is the elaboration of three aspects of the relation between theory and practice:

1. the empirical aspect of the relation between science, politics and public opinion in the systems of advanced capitalism;
2. the epistemological aspect of the relation between knowledge and interest;
3. the methodological aspect of a theory of societies, ready to take on the role of social criticism.

Concerning the first aspect, Habermas presents the relation between theory and practice as an issue relating to the empirical dimension in the relation between science, politics and public opinion. Insofar as we are dealing with practical problems in a political context (the acceptance or refusal of norms), theory must concern itself with elucidating certain practical issues. This means that it must be directed towards a practice of communication. Interpretation of practical issues elaborated in the context of these theories cannot become immediately prescription for action. These interpretations can only shed light on the political if citizens are ready to welcome practical discourses into the institutional field. For, where this is not the case, a theory oriented towards practice must also analyse the institutional and social powers that limit communication.

Habermas first examines the conditions that limit the institutionalisation of practical discourses in *The Structural Transformation of the Public Sphere* (*Strukturwandel der Öffentlichkeit*). In this historical work, he sets out to show that the idea that one could develop the will-power in order to dissolve power was in fact institutionalised in the political system of the bourgeois society. In addition, he wanted to point out the incompatibility between the imperatives of the capitalist economic system and the desires and demands of a democratic process. Until then, this incompatibility had had a negative influence on practical discourses and the theoretical elucidation of practical problems. In the context in which he writes, two important tendencies had emerged: firstly, increased state intervention aimed at limiting the consequences of the social crisis; secondly, an increased interdependence between research, technique and state administration. State interventionism and planned scientific and technical progress can be used to regulate the imbalances and conflicts generated by the imperatives of the capitalist production process. As a result, there is a conflict between state administration and science's production potential. The conflict consists in the fact that, on the one hand, the priorities resulting from the economic imperatives do not result from the will for a political discourse, yet on the other hand, the occulting of certain practical issues in a depoliticised world must have serious consequences, for discussion of these practical issues provides the State with the legitimacy that it needs today more than ever in order to obtain and maintain the loyalty of the masses. Because of this, science and research on science serve an increasingly important function with regard to practical issues. Thus, a realised and well-founded criticism of science and the development of a praxeology take on increasing importance. A practical utilisation of knowledge, especially with the help of

praxeology, is accomplished through a transformation of practical strategies and through a communicative practice, and it is through this perspective that the exchange between theory and practice must be achieved.

Habermas also raises the issue of the link between theory and practice as an epistemological aspect of the relation between knowledge and interest. He simultaneously conceives the project of a theory of science that must systematise the context of the constitution and application of scientific theories. The starting point is the question of the system of basic concepts within which we build our first experiences before elaborating any science or any predetermination of the formation of scientific objects. Habermas draws a distinction between two basic systems with which experiences are built. Firstly, there is the whole realm of instrumental action in which we are confronted with things; then there are all the interactions in which one experiences the encounter with speaking and acting people. As we have already seen, the fields of empirical science and hermeneutic science rely on an effort to objectify the reality that we daily produce through the use of tools and through intersubjective understanding. According to their respective paradigms, basic theoretical concepts, the logical elaboration of theorems, the relation between theory and objects, as well as selected criteria of evolution differ between these two scientific traditions. Perhaps the most important among the effects of the differences between these scientific paradigms is the pragmatic function attributed to the produced knowledge. Whereas empirical knowledge strives to find causal explanations and well-defined prognostics, hermeneutics is concerned with intersubjective interpretation.

In both scientific approaches, certain interests are oriented towards a quasi-transcendental kind of knowledge, which is, as such, invariable. These interests are the result of imperatives deriving from forms of sociocultural life that are tied to work and language. Of these technical and practical interests, one can single out the preoccupation with social emancipation as a distinctive and constitutive dimension of Critical Theory. The emancipatory power of the subject's reflection, once he has discovered his origin as an individual, is the result of this preoccupation. The experience of reflection is articulated, at the level of content, by the concept of development, and methodically leads to a position in which the identity of reason and the will to be reasonable are the achievement. In self-reflection, pure knowledge and the subject's desire for autonomy interpenetrate each other. For the process of reflection is itself a movement of emancipation. In a sense therefore, the goal of critical science is to clarify science itself. This

involves highlighting its conditions of production and utilisation, with a view to attaining, through self-reflection, a knowledge of change oriented towards emancipation.

According to Habermas, such an orientation of science towards social practice is useful in order to avoid science being exploited by pressure groups.

In Habermas' third contribution to the theory/practice relation, the methodological aspects of a critical theory of society are examined. Reflecting on the context of its own production and use, Critical Theory results in a methodological perception of the theory/practice relation. This has the advantage of modifying the relationship between theory and practice itself. A theory of society that is organised in a practical perspective must take into account the fact that the subject who is searching for knowledge has a particular relationship with the world of objects. This world of objects is the result of the generative performances of subjects capable of speech and of action. At the same time, this world of objects itself exercises an objective power over its subjects (c. f. Bourdieu's concept of *habitus*). In order to properly consider this perspective and avoid an epistemological reduction of the other paradigms, Habermas develops four criteria by which a critical science can be distinguished from traditional science or philosophy. For example, regarding sociology, Habermas explains:

1. In contrast to the objectivism of strict behavioural science, critical sociology avoids reducing intentional action to behaviour.
2. In contrast to the idealism of humanist hermeneutics, critical sociology is wary of a causal reduction of the network of meanings objectified in societal systems to the contents of cultural tradition. On the basis of ideological criticism, critical sociology questions the consensus de facto established and analyses the implicit relations of power as they are expressed in the symbolic structures of language and action.
3. In contrast to the universalism of a comprehensive theory of systems, critical sociology is wary of reducing all social conflicts to unresolved problems within self-regulated systems.
4. In contrast to the dogmatic tradition of the philosophy of history, critical sociology is wary of the abuse of power exerted by philosophical concepts (Habermas 1972: 17 ff.).

On every level that distinguishes critical sociology from the other scientific approaches, a certain determination of the relation between science and the world of objects is implied, as well as a certain relation between theory and practice. These reflections are not only valid for sociology, but also for educational science, for critical educational science also strives to avoid re-

ducing the subject's intentional action to behaviour. It is equally wary of reducing to cultural traditions the meaning of situations that are manifest in the social and educational system. Rather, it analyses, in the logic of ideological criticism, the very foundations on which particular cultural traditions rest, as well as the power structures that they express through language and action. Thus, critical educational science is careful to detach itself from approaches that reduce all conflicts or social problems to the flow of self-regulated systems. Finally, it is wary of over-investing in philosophical concepts.

XII

Critical Theory of Education

In contrast to humanist pedagogics and empirical educational science, Critical Theory of education is wary of the flawed self-conception of these scientific theories. Indeed, they are incapable of critically analysing the social development of education. The starting point for this difference is a critical evaluation of the historico-social character of education. What this must establish is the interdependence between the educational system itself and the structure of society. At the same time, the process that brings these political and economic structures to bear on education must be examined. Another question that is raised here relates to the function of the educational system in society. A Critical Theory of education attempts to support teachers in their educational practice. It helps to shed light on the educational system's nebulous dependence on the whole of the social system. However, Critical Theory cannot overcome the dependence of the educational system on the social system. But by acting as a beacon of light it can perhaps reduce the social system's impact on the educational system.

Critical Theory of education strives to elucidate the social conditions of education. To do so, it must use ideological criticism. This term, ideological criticism, means a scientific disclosure of the social conditions of production and the revelation of erroneous rationalisations as well as the effects of those false interpretations, norms and theories, which are the result of a flawed understanding of the social situation and of the possibilities of intervention upon this situation. This mistaken point of view stems from the particular implications and specific interests of those formulating them. Ideological criticism must be able to differentiate between the false consciousness caused by particular social or economic conditions, and clear and critical scientifically well-founded consciousness. Only then can the difference between ideology and truth come to light.

The relation between truth and ideology is difficult to determine. Indeed, ideologies that often present themselves as justifications tied to particular interests can often contain parcels of truth that must be separated from their ideological dimension. Let us take an example. In certain contexts, the sentence "we are doing everything in our power to establish equal rights in the educational system" can be justified by an ideological system

as having the function of leading a population into believing that everything is being done to further its interests. In reality, those speaking in such terms may in fact be doing nothing at all, or very little to realize their discourse. The sole function of this kind of discourse is often merely to appease people and give them the feeling that all is being done to progress in the right direction. It is here that ideological criticism finds its reason of being, in bringing to light the appeasing function of this discourse and revealing its real objective, social peace. Despite its ideological character, a moment of truth can be uncovered in this discourse, insofar as equal rights appear as a priority in the educational system just as it is one of the principal concrete objectives of Critical Theory in education. This moment of truth must therefore clearly be distinguished from the ideological moment in the same discourse. In this example, ideology tends to have primacy over truth.

The criticism of ideology plays an important part in the Critical Theory of education. Klafki has revealed its main perspectives:

"a) The falseness of ideological consciousness (for example the idea that feudal society is a gift of God, or that the capitalist economic order is socially the fairest possible, or again that the majority of girls are, by nature, non political ...) is not based on individual mistakes but is created by particular social conditions.
b) Ideologies reinforce and legitimise the existing power structures.
c) They correspond to the particular interests of dominant social groups.
d) They can also be taken as true by those who are dominated and crushed by the dominant social structures; furthermore, ideologies are the expression of an alienated consciousness" (Klafki 1976: 50).

With these aspects in mind, a criticism of ideologies in educational science must attain several objectives:

"Objectives, theories, and establishments, plans of development, methods and media in the educational realm must all be analysed in order to discover the implicit social interests that weigh upon them. The analysis must bring to light the fact that certain groups conceal their own interests behind universal discourses and thus create false consciousness in the adult or youth populations. Regarding content, we must consider in particular the objectives and legitimation arguments of educational institutions and the media ... We do not know, for instance, whether institutions (and their employees) adhere to certain particular ideologies, for these establishments are separated from production processes and the other realms of social activity (political or cultural); the risk is that, on the level of their consciousness, they may remain withdrawn in relation to the developments of society. For example, even with the best of intentions, they may retain ideas or professional principles that have become largely outdated" (Klafki 1976: 54).

A critical theory of education must strive to reveal oppression, social injustices, excesses of power, reification or self-alienation. It must analyse their social and institutional origins and envisage the possibilities of intervention and change.

In addition to this criticism of perverse structures in the educational field, a critical theory of education must also be committed to construction. It is not enough to criticize ideology, in addition, perspectives for intervention must be found that can serve as reference points for ideological criticism and the elaboration of a theory of education. For, already the criticism of erroneous processes and insufficient concepts implies a founding that would work as a lever for the transformation of reality. In this dynamic, the concepts of Critical Theory, as presented previously, are used as a perspective for a critical theory of education. The most relevant concepts here are that of enlightenment, emancipation, liberation from reification and from the excess of power, social justice, peace, freedom, solidarity, self-determinism, etc. Critical Theory of education here goes beyond humanist pedagogics and empirical educational science because it can offer constructive objectives for education.

Elaborating this constructive dimension of a critical theory of education begins with the definition of the objectives derived from the central concepts of Critical Theory, and with the development of strategies appropriate to their achievement. The goal is not only criticism, but also improvement of the educational practice. As such, improvement of practice as an objective for critical and constructive theory of education has gained legitimacy. This has been achieved above all in the field of action-research in the educational sphere. Paths for a new educational practice can be found with action-research. Practitioners can thus be helped to improve their work. The central goal of action-research is not only an analysis pointing to the dependence of the practical field on macrosocial structures, but also the constructive improvement of the practices. To attain this objective, critical and constructive educational theory and the search for intervention tied to it are oriented towards the practitioners' level of action.

Critical Theory of education is not only important for its ideological criticism applied to the field of education, nor for the development of socially well-founded objectives or for the development of research on intervention in the field of education, but primarily because of the fact that Critical Theory of education can influence numerous educational fields and can introduce new orientations to the practitioners' work. These areas of educational science constitute, so to speak, the *material* that has been inter-

preted in a *new context*, and thereby changed. As a consequence, changes in the understanding educational science has of itself have been observed in all fields. And due to the fact that Critical Theory has also influenced other spheres of social science that had themselves influenced educational science, the influence of critical thought on educational science has been even greater. Thus we have reached a critical theory of socialization, of the organisation of institutions and the theory of roles and their reception by educational science. Through the close link between Critical Theory of education and other spheres of educational science, the theory of education has found concrete forms allowing it further developments.

In the following paragraph, we shall describe several attempts to develop a critical theory of education. Leaving aside the contributions made by socialist educational theorists during the Weimar Republic (whose importance for educational science was rediscovered in the 1970s), the different attempts made can be classified in three categories. First of all, we must look into the efforts of Mollenhauer (1966), Blankertz (1966), Lempert (1971) and Klafki (1971), who formulated the premises of a critical theory of education. Secondly, we will consider the works of Heydorn, Koneffke and Gamm. And thirdly, we shall examine the example of Mollenhauer, who provides in his *Theories of the Educational Process* the most detailed draft of a critical theory of education.

1. Attempts Towards a Critical Theory of Education

Mollenhauer and Blankertz tried to develop a critical theory of education opposed both to the traditional humanist theory and to the strictly empirical theory of education. A critical theory of education should have served as a reference point for hermeneutics and for the empirical approach to educational science. Blankertz defined the objectives of a critical theory as follows:

"If, despite its relation to a transcendental subject, education is a social phenomenon, then autonomy and emancipation must be the central objects of knowledge of a theory of education. Such a duty, based on the primacy of reason, identifies the subject's educational interest with his social function. We must strive to overcome the power of real society for the virtuality of a truly human life" (Blankertz 1966: 74).

Perceived in this way, a theory of education is always a critical theory used for individual self-achievement by improving the educational practice in

this direction. But this theory, precisely because it is a theory, can never quite achieve its aim. Despite the dialectical character of this theory, there is a qualitative difference between theory and practice. This difference also results in the existing tension between theory and practice, between virtuality and reality, which must be brought to light and accepted so as to allow for the improvement of concrete education in accordance with the objectives of the Critical Theory of education. To achieve such improvements of the educational practice, Critical Theory must become more concrete within the different fields of education.

According to Mollenhauer, an interest in emancipation, which must be the orientation of educational action, is at the centre of a critical educational science. To the extent that the Critical Theory of education heads towards this objective, it must use the procedures of ideological criticism to determine, in a concrete case, what the emancipatory interest of the educational intervention is, and what strategies are congruent to achieve it.

For Lempert also, interest in a knowledge allowing emancipation constitutes the backbone of educational science. It is only by leaning on a critical theory of education that educational science can answer the expectations of society today. Insofar as a critical theory of education presents emancipation as the aim of education, it helps each and everyone to be the master of his own destiny, it helps overcome irrational powers and contributes to freeing all sorts of energies. Overcoming material violence can be partially achieved in an educational action initiated by a critical theory of education. More realistic, however, is the criticism of prejudices and ideologies. In the course of these processes, a critical theory of education must try to integrate this knowledge successfully into the scope of people's understanding, that is to say, translate this knowledge into the everyday language of the people concerned. For it is only when this transmission occurs that enlightenment can succeed. In this case, we can witness an improvement of the educational practice. The result of this improvement is Critical Theory of education's criterion of success. Just as in Mollenhauer and Blankertz, there is a series of methodological problems due to the tension between the critical objective and its methodical achievement.

Klafki also tried to develop and found a critical and constructive theory of education. He too only partially overcame the difference between the Critical Theory of education and the methods so far elaborated to achieve this objective. According to Klafki, a critical theory of education cannot limit itself to propagating negativity, as does Critical Theory. Rather, by using hermeneutic and empirical procedures, it must strive to bring about

constructive change within educational practices. It must be understood as a theory of and for practice. In so doing, it should try to integrate the project of emancipation with a rationality that includes theory and praxis, so that the goal of emancipation does not fail to achieve what it promises.

2. Proposals for a Critical Theory of Education and Development

According to Heydorn, the Critical Theory of education and development is characterised by a radical resistance against the power structures that dominate people. Education and development aim to restore man to himself. This can only be achieved in the process of a long history full of contradictions. The dialectical relation between education and power, an unresolved contradiction, can only find its full accomplishment in the historical future. The goal of critical development must be to avoid power and help man find himself and thus progressively improve society. In Heydorn's words, "the future of the universal man is likewise the liberating act which overcomes domination. Universality is a conscious, vast self-creation of man" (Heydorn 1970: 152).

Critical Theory of education must resist any educational attempts that want to integrate the young generation into the institutional power system without offering help to find a critical perspective in relation to this power. Instead, a critical theory of education and development will take the direction of collective autonomy. Education and development thereby become a continuous initiation towards liberation. They are internal processes that accomplish an emancipatory movement and thus help man transgress the limits his destiny imposes. Development is the future of the present. It follows history whilst preparing the virtualities of man, but it is achieved in a way in which the future man is already present. The utopian dimension of education protects man's historicity and makes him visible and recognizable in his own historicity (Heydorn 1972: 148). Unfortunately, Heydorn was unable to resolve the issue of introducing, achieving and evaluating his conception of education in educational establishments or institutions.

Koneffke's and Gamm's attempts lead in the same direction. Koneffke accentuates the subversive possibilities of development thanks to which it can resist the integration attempts that power produces. Gamm develops his vision of a critical educational science along similar lines. In his *The Mediocrity of Pedagogics in Advanced Bourgeois Society*, he examines what

educational science is today, what it was and what it could become, seen from a different political angle depending on whether it chooses to affiliate itself to the rising generation or to the established one.

Beginning with a criticism of educational science's lack of political engagement, Gamm tries to understand the paralysis of bourgeois pedagogics by relying on a criticism of capitalism. In opposition to bourgeois pedagogics, he firmly demands that one take sides for the exploited classes: "taking sides as an educational principle". Only through such an orientation of educational science can the handicaps of certain social strata in the educational system be reduced.

3. Theories of the Educational Process

For Mollenhauer, Critical Theory of education is primarily a theory of communicative action on a symbolic level. According to him, the theory of education is grounded on an educational action that is put into practice "with intentions that are always adapted to the context". This theory can therefore only be thought of as a theory of communicative action in the educational field. Thus Mollenhauer divides his book *Theories on the Educational Process* into three chapters: 1. education as communicative action, 2. education as interaction, 3. education as reproduction.

This is how he underlines the three essential elements of his reflection, insisting on the interdependence that ties these three elements together:

A theory of education can only be conceived of as *theory of communicative action.* Its character is determined by the structure of the educational field in which the educational processes are taking place. There are a few elements which influence communicative action in the pedagogical field, most notably: the relationship between generations, spontaneity, reproductivity, social powers, traditions and the reproduction of inequality. Furthermore, communicative action is determined by educational norms that are the result of a historico-social process. Finally, the parts played by the different actors of the communication influence the educational action.

In reference to *symbolical interactionism*, it is the actors' role-playing and interacting in the communication, that makes the communicational dynamic possible. This dynamic is also symbolic. Its structure can be upset by numerous elements, such as one partner's domination of the communication. Educational communication must if possible be achieved so as to enable the success of the educational project.

An additional step towards understanding educational theory as a theory of symbolic and communicative action resides in the attempt to explain the structure of educational interaction with the help of symbolic interactionism. This suggests that mutual comprehension in the educational situation is exercised with the help of commonly accepted symbols that have the same significance for different individuals and that are capable of expressing universality in interpersonal relationships. Another objective is the explanation of the process of identity development in reference to the interactionist role-playing model. To address this, an analysis of the communicative situations in the field of education is necessary. This includes analysis of the dependence of institutional structures and the social powers implicit in institutions.

This theory of communicative and symbolical action becomes a critical theory of education that is based not only on the shapes and contents of pedagogical communication according to the rules of interaction, but also and most importantly, according to the material and social processes of reproduction that exist under the social conditions of a bourgeois society. Mollenhauer believes to have found, with the principle of the abstraction of the value of exchange, a criterion that on the one hand organises the structure of the interaction, and on the other hand can be referred to the historical structure of the society the material base of which is the means of production and exchange in bourgeois capitalist society. In this way, he can show how the educational relationship is tied to the material foundations of history and society. With the concept of abstraction of the value of exchange, Mollenhauer lays the principle of merchandise exchange as the principle determining all types of exchange in capitalism. Apart from the nature of work itself, the abstraction of the exchange relation is found in a particular social relationship that is characteristic to capitalist society. This characteristic of exchange, present in all exchange, transforms it into merchandise even within the field of educational science. As this conception combines educational reproduction with the economic production system, it can serve as a basic conception for a materialist educational science. For, with an idealised communicative community as background, forms of communication in the educational field that have been disturbed because of this character of exchange (the fact that everything can be bought or sold) can be decried and modified.

Mollenhauer attempts to link together the spheres of production and reproduction by introducing the concept of masked character (*Charaktermaske*) and applying it to the communicative practice in education. With

reference to Marx's idea according to which the masked characters of economic subjects are no more than incarnations of economic relations, Mollenhauer understands the conception of *masked character* as a result of the objective components of the role-playing games at work in the situations and institutions in which goods only appear as exchange value. Property owners then mutually define each other as buyers and sellers. Mollenhauer believes that this basic relation, characteristic of bourgeois society, also defines other human interactions such as those lived within the educational system. The concept of the masked character shows that much individual behaviour in interactions is not due solely to the individual dimension, but also to the social system. A consequence, for a critical theory of education, is that many communicative processes are disturbed and fail, not because of individual responsibility, but because of structural overdeterminations of the economic and social context. This objectification due to the masked character also applies to many human relationships.

No doubt none of the described attempts have achieved a sufficiently elaborated definition of a critical theory of education. Nevertheless, these efforts have brought to light important elements for a critical theory. Amongst these elements, the following must be underlined: a perception of education's socio-historical character; the necessity for an ideological analysis of educational phenomena; the development of educational objectives in the context of a critical theory of society; the development of the perspectives of a critical theory of education; the elaboration of strategies for the realisation of these objectives; and the new orientation of the principal fields of educational science with reference to the objectives of a critical theory of education.

Summary and Outlook

1. The starting point for critical educational science is a reference to Critical Theory and a scepticism with regard to humanist pedagogics and empirical educational science. In contrast to these two paradigms, critical educational science is closely tied to the norms of the Critical Theory of the Frankfurt School. On this basis it can lay down *norms and define their social value.*

2. Critical educational science begins with the *historico-social character of the educational practice and educational science.* It sees itself and its field of action as determined by socio-political and economic conditions in relation to which it must hold a critical stance. Insofar as it applies criticism in the shape of self-criticism, critical educational science must analyse the social conditions of production and application that dominate its field of intervention.

3. Like the Critical Theory of society, critical educational science must privilege practice over theory. But critical educational theory can no longer be based, as humanist pedagogics was, on an unquestioned evaluation of practice. Further, it must realise that given social conditions produce unsatisfactory educational situations. The purpose of theory is to bring these situations to light, and then help to change them with the ideas of critical thought.

4. Critical educational theory must also analyse educational practice in the light *of ideological criticism.* According to the implicit norms of this criticism, Critical Theory of education must help improve practice. This refers back to the constructive dimension of Critical Theory. On the whole, it must be understood that a theory of education can never indicate in advance what the practice will be, although at the same time, a practice claiming to be reasonable must be based on theory. This means that a critical theory of practice is needed as a constructive theory of practice.

5. In more precise terms, *ideological criticism* must elucidate to what extent the norms and objectives of education are tied to socially given economic and social conditions, how these norms and objectives are used to transmit a certain perception of reality, and how they hide and maintain the implicit structures of power. Insofar as ideological criticism protects educational science and education from being at the mercy of power's interests, it is an important part of critical educational science oriented towards the rational development of society.

6. Compared with the appropriation of ideological criticism in educational science, the *constructive dimension* of critical educational theory is more complex. In this field, critical educational theory was supposed to overcome the difficulties which Critical Theory had not been able to face. The problem was to find a better educational practice on the basis of the negation of reality's insufficiency and in reference to the virtuality of situations. At the same time, it was important to be careful not to weaken the transformative energy by too radical a criticism. We then need a theory of education, which includes criticism, without however remaining at this critical level. It is in the field of *action-research* that this constructive project of Critical Theory has made the greatest headway. And this all the more, since this movement has been able to integrate elements of the empirical and hermeneutic paradigms, despite not having achieved satisfactory convergence of these different paradigms.

7. Critical Theory of education *is not presented as a total and closed theory*. This position would contradict the thrust of critical thought, which is rather to be conceived as the act of reflection criticising itself. Furthermore, a total theory of education is no longer conceivable in the light of the diversity of current developments in the human and social sciences. The field of critical educational science is characterised by different positions, which, although they agree with regard to basic points, may still conflict with regard to the concept of criticism. There are, for instance, different ways of engaging in concrete change in the educational field. Because practice remains at the forefront, even though it needs the support of theory, a conception of Critical Theory is insufficient when it is reduced to a double negation or refusal. Seen as an objective reflection of material reality, theory is determined by practice, which constitutes an integral part of reality. On the other hand, theory also entails a conscious perception of the laws of reality that overdetermine human practice. For the theory that reflects practice, the latter becomes the test of its truth. Theory then becomes practice's management branch.

8. For critical educational science, a central starting point is the analysis of the social antagonisms within which the educational system operates. With the help of criticism, critical educational theory can shed light on the social structures that determine the educational field. Furthermore, elaborating a theory of education is necessary to help educational action find a way out of the contradictory situations it is confronted with, though this must be achieved without falling into the trap of devising educational "recipes". Educational action's critical orientation must protect itself from

simplifying reductions, but at the same time, educational action seen as communicative and symbolic action must not be completely identified with critical thought. The qualitative difference between Critical Theory and constructive action is not always rigorously followed in critical educational science. This has led to a devaluation of hermeneutic procedures and experimental research.

9. Critical educational science targets domination, oppression, reification and self-alienation, by relying on the powers of enlightenment (*Aufklärung*), emancipation and self-determination. As opposed to humanist pedagogics, education is no longer understood as a solely individual process, but also as a collective process which must contribute to the development of "reasonable" social situations for the greatest amount of people possible. To attain its objectives, education must help people to live out constructively the theory/practice relation.

10. Critical educational science requires a *critical interpretation of educational practice*. At the same time it accepts the necessity of experimental research on educational practice. Many of today's unresolved methodological problems have been born of this effort. Furthermore, critical educational science demands that decisions relating to practice and their normative foundations in the practitioners' discourse be justified. Educational science cannot be reduced to a methodology; it must also confront the issues of truth and the right knowledge, their foundations, and the resulting consequences for educational practice.

11. Due to the complexity of the problems to be treated, critical educational science shares with Critical Theory *a difficulty in precisely stating its concepts*. Even if we do not accept the strength of critical rationalism's demand for the precision of concepts, it must be admitted that Critical Theory and, in its trail, some of the authors of critical educational science, have not laid enough importance on the precision and clarity of their concepts. This is one of the reasons for which this current has encountered difficulties in being understood by practitioners.

12. The development of critical educational science has not been exclusively influenced by the Critical Theory of society. Actually, the influence of neighbouring social sciences has been quite substantial, especially in certain fields of educational science. Social science has been influenced by Critical Theory; Critical Theory has had a renewed influence on educational science through this mediation. In this process, certain categories of historical materialism have been imported and have led to a radicalisation of thought in the educational field.

13. There has been much critical talk of the political deficit of Critical Theory. On this issue, and with regard to certain other controversies (such as the arguments around positivism, hermeneutics and systems theory), a number of important dimensions have been pointed out that have furthered the development of Critical Theory and critical educational science.

14. We have tried to explain that educational science cannot get around positioning itself in relation to the ideas of Critical Theory. This is true even if we must recognize that certain issues remain unresolved. Action-research is perhaps the means to overcome them.

Conclusion: Educational Knowledge and Historical Anthropology

Our presentation of the development of educational science has shown the complexity and heterogeneity of the currents which constitute it. Each of the paradigms is exclusively legitimate in its own field. It cannot therefore be replaced by another paradigm in its own legitimate field. This idea is now widespread, and there is no more discussion on this particular point. The relative validity of every current's legitimacy has, today, led to a kind of radical pluralism in the field of human sciences. This epistemological pluralism has found its adequate expression in the concept of *pedagogical knowledge*, which incorporates very diverse forms of knowledge. This concept of pedagogical knowledge has been made possible as a result of a sort of reflexive balance-sheet, which once again has drawn attention to the importance of different paradigms for the development of educational science (Hoffmann 1991; Hannsmann/Marotzki 1988; Marotzki/Sünker 1992).

We have re-examined the positions developed during the 1970s and 1980s, and have attempted to understand the different currents through an analysis of their contributions to the development of educational science. Our aim has been to establish what each current brought to light and how these different contributions have been used to redefine a project for the educational science of the future.

At the same time, the discussion over paradigms stimulated several important parallel discussions. Amongst them, the provocations brought about by systems theory (Luhmann/Schorr 1990) has played an essential part. Moreover, the debate over postmodernism has also had a considerable influence on educational science (Jung et al. 1986; Lenzen 1987; Wulf 1997; 2001).

As we have seen, these scientific development tendencies increased the discussion's diversity and led to the emergence of the concept of "pedagogical knowledge" in the early 1990s (Oelkers/Tenorth 1991). Through this reference to pedagogical knowledge, the diversity of forms of knowledge has become a standard programme. Science and scientific knowledge are now only to be conceived from a plural perspective. Emphasis has become placed on different forms of knowledge.

In addition to the disciplines that traditionally address education (psychology, sociology ...), a place is given to novel and different approaches (literature, practitioners' discourses, etc.). This development has created new, synthesised forms of pedagogical knowledge. These forms constitute an expression of the fact that the normative institutionalisation of science has been mixed together with the diversity of administrative discourses, social references and experiences of reality, all of them dimensions that science had previously tried to maintain at a distance. There is no longer a unique way that embraces all fields, wielding all knowledge to use pedagogical knowledge.

The concept of "pedagogical knowledge" includes such different forms of knowledge as politics, education as formation, ethics, technical knowledge, pragmatics or emancipatory action. This notion refers to the origins of the knowledge of power practices and of levels of discourse. It allows for differentiation in terms of the locations of practice, the use made of practices in social reality, and the actual structure of the knowledge and its content. In the concept of "pedagogical knowledge", practical knowledge can be distinguished from reflexive knowledge, from know-how, from diagnostical knowledge, orientational knowledge and knowledge of action. Within these various ways of knowing, one can isolate utopian knowledge, critical knowledge, and action-related knowledge. One can also operate a distinction according to contexts. Culture and background influence knowledge. Indeed, "pedagogical knowledge" contains symbolic, codified, significant dimensions that bear on educational relationships and produce a temporal, material and social base for pedagogical practice. Pedagogical knowledge contributes to the understanding and analysis of the significance of this pedagogical practice. The product of this understanding and analysis can be put into a textual form, codified, broadcast and discussed. Pedagogical knowledge is not structured in a simple manner and therefore requires a multi-referential approach.

Ever since Feyerabend's idea that "everything is possible" in the field of scientific knowledge (which implies the end of any absolute value in the field of scientific paradigms), ever since the end of the "grand narratives" (Lyotard) in which individual and social development is pre-thought, ever since the acceptance of a radical pluralism, the epistemological situation of educational science has changed. This change is manifest in the concept of "pedagogical knowledge", and especially in its principle of equivalence between different forms of knowledge, origin and register, as is constantly underlined by the current of ethnography.

The *rediscovery of the anthropological stance*, on the basis of this intensive discussion over the establishment of a concept of pedagogical knowledge, has emerged in an epistemological and social context that is different to that of the 1960s. This anthropological posture has also gained ground in other human sciences. The reasons for this are linked to a crisis in the assured references of these disciplines. Their hope is to find a new impetus within this change of perspective that has turned them towards anthropology.

Anthropology no longer exists as a system consisting of normative knowledge. The same is true of educational anthropology. In an analogy to pedagogical knowledge, we could speak of an *anthropological knowledge of pedagogics*. Anthropological knowledge has played an important part in the knowledge of educational science, as well as in that of practical pedagogics, ever since its origins. Like every researcher, every educator, every teacher has a certain anthropological knowledge, without which he could not do his work. In these different cases, the anthropological knowledge is implicit. Like all implicit knowledge, this anthropological knowledge can hardly be reflected. It cannot be altered without difficulties. Because of this, it is necessary for those working in educational science, as well as for educational practitioners, to become consciously aware of the anthropological postulates that are at the base of their work. This is why we need to build an anthropological posture in pedagogics or in education (Wulf 1997; 2001).

In today's social science, it is no longer possible to speak of "man" in a general and universal sense (Wulf/Kamper 2002), as it was in the tradition of philosophical anthropology (Scheler 1928; Plessner 1980; Gehlen 1986) or in the pedagogical anthropology that was influenced by it in the 1960s (Bollnow 1983; Loch 1963; Roth 1966; 1971). Indeed, it would seem foolhardy to speak of "man" today. The universalistic implications of such a discourse on man could hardly survive the recent contributions of history, ethnology and constructivism. Criticism of anthropology has shown that anthropology can nowadays only be conceived as historical anthropology (*Historische Anthropologie*, 1989; Wulf 1997). Consequentially, pedagogical anthropology can only be conceived as a continuation of the historical perspective that we may call "*the historical anthropology of education*" (Wulf 2002).

Knowledge of the historical anthropology of education operates in a double historical context: on the one hand in the context of those who produce or reveal an area of knowledge; on the other hand, in the context of

those who in the process of research, make use of that area knowledge, produced in another context. This double historicity determines the content of anthropological knowledge. Likewise, however, this relationship to time creates a new perspective, which takes into account that there is no truth as such in itself, but that all knowledge must be considered in its relation to a context.

Anthropological knowledge is relative. There is no longer a guaranteed reference system. As a result, normative anthropologies are no longer possible. This is why anthropological knowledge can no longer claim a different recognition than other forms of knowledge in educational science. This levelling of positions is all the more justified since the interconnections between the anthropological knowledge of education and other disciplines within social science are hazy and uncertain. Anthropological knowledge is not tied to a fixed subject and can no longer be determined in absolute terms.

Furthermore, anthropological knowledge raises new issues, perspectives and themes for educational science. The end of the era in which self-enclosed anthropological systems dominated, has created new opportunities to produce new objects. The following theses present some of the new perspectives that arise out of this situation, in which the paths cross between anthropology and other disciplines that focus on education.

1. Pedagogical anthropology becomes *historical anthropology of education* that takes into account the historicity of the researcher and his object. Historical anthropology of education also seeks to relate its perspectives and methods to those of its object. Its objective is no longer the search for "Man" or "Child" as universal beings, but as concrete men, women and children in historically and socially determined contexts. The idea of a concept that totalises humankind is diluted in such a perspective. Historical anthropology of education does not limit itself to certain cultures or times. In principal, it should be able to overcome the Eurocentrism of social science and a purely historicist interest in history through a reflection of its own historicity, and then engage with the unsolved problems of the present and the future.

2. The tasks of pedagogical anthropology are the following: to criticize the fantasies of omnipotence or helplessness of pedagogics; and to thematize the tension between *the possibility of perfecting humans*, the opposite hypothesis of *the impossibility of changing humans*, and the possibilities and limits of education and development. All these goals lead to an overemphasis on human perfectibility, and an examination and increasing

awareness of the biological, social and cultural limits to the developmental process for man that education is. In recent years, the limits of human perfectibility have been gradually perceived. In popular language these are, for instance, the "limits of expansion", "genetic technology", "risk society". The world's humanisation seems to increase simultaneously the danger of its destruction.

3. Educational anthropology must incorporate anthropological criticism in its self-conception that thematizes its field of competence as well as its limits. Criticism of anthropology, for instance, must work on the simplifications that result from the human vs. animal comparisons of traditional anthropology. It must also take into account mistakes in the popular distinction between nature and culture. It must, further, avoid man's objectivist reductions. Anthropological criticism examines central concepts, models, and procedures of educational anthropology, and reflects on the conditions of legitimacy of the knowledge of educational anthropology.

4. The purpose of educational anthropology is to analyse, organise the knowledge produced by human science, as well as *deconstruct* educational concepts from an anthropological perspective. This could be, for instance, a deconstruction of Rousseau's negative education or of Pestalozzi's elementary education or Humboldt's concept of universal education. Through such procedures, one can see for example how, thanks to the new anthropological stance, new dimensions can be found to old problems. Thus, historical contexts can be examined from a different angle: new reference points for educational thought and action can then be drawn from this deconstruction movement.

5. Educational anthropology involves a reflection on the competence and limits of its own knowledge. It analyses the difficulties that stem from the collapse of universal references for man's self-definition and education. Educational anthropology brings to light the dependence of their results on the conditions of their production. It is, therefore, *reflexive*.

6. The anthropological knowledge of education is constituted within different and sometimes contradictory *discourses*. "Discourse" is here taken to mean consistent forms of thought and language that emphasise particular educational contexts. Discourses contribute to the construction of perception, and to the structures and concepts of education. These discourses express the practice of power in society, the practice of power in the scientific world, as well as that within educational institutions. In the context of educational knowledge, anthropological discourses express questions, perspectives and important knowledge for thought and educational action.

7. Educational anthropology is plural. This is why it is distrustful of hasty consolidations of its knowledge and is open to receiving what is "different". Thanks to this pluralism (which diverges from an attitude that levels everything), an "out of principle" opening onto inter-disciplinary work allows it to be interested in a complexification rather than a reduction of anthropological knowledge. Historical educational knowledge is constituted on specific conditions that are dictated by culture and language, especially in a conjuncture where the international and the intercultural take on increasing importance.

8. Nowadays, a great deal of the knowledge transmitted by the educational system raises the issue of the appropriateness of educational knowledge in relation to social, institutional and educational reality. Insofar as educational knowledge contributes to the production and development of the following generation, it implies human self-understanding, which is itself called into question by the issue of human perfectibility or imperfectibility. In the context of educational knowledge, this issue is at the centre of anthropological research.

9. In the field of the historical anthropology of education, the borders between the different forms of knowledge have dissolved and new forms of knowledge and formation have been invented. Amongst them, aesthetical education and intercultural education are particularly important. The first relates to the emergence of new media and the resulting social consequences; the second refers to the new economic and demographic contexts that characterise Europe today, and to the consequences that result from this new context for education and formation, apprenticeship and the confrontation with practical experience.

10. Educational anthropology is to a great extent a constructivist anthropology. This means that in its research and its reflection, it does not believe itself capable of understanding the being of man. However, it knows its conception of humanity depends on particular conditions. Its conception of man depends on historical data and can only be understood as a construction. Insofar as deductive and normative systems of anthropological knowledge in the realm of education are outdated, there is a clear need for the historical anthropology of education to be developed in a constructivist and reflexive movement (Wulf 2002).

Presentation of Principle Authors[3]

Adorno, Theodor W., 1903-1969. Philosopher, sociologist and music theorist. Emigrated from Germany in 1934 and taught in Oxford, New York and Berkeley. Adorno returned to Germany in 1949, where he was professor for philosophy and sociology in Frankfurt and, with Horkheimer, director of the Frankfurt New School for Social Research. Works translated into English include: *Aesthetic Theory,* trans. Hullot-Kentor, Minneapolis: University of Minnesota Press, 1997; *Composing for the Films*, New York: Oxford University Press, 1947; *Critical Models: Interventions and Catchwords*, trans. Pickford, New York: Columbia University Press, 1998; *The Dialectics of Enlightenment*, trans. Cumming, New York: Herder and Herder, 1972; *Hegel: Three Studies*, trans. Nicholson, Cambridge, Mass.: MIT Press, 1993; *The Jargon of Authenticity*, trans. Tarnowski/Will, Evanston: Northwestern University Press, 1973; *Mahler: A Musical Physiognomy*, trans. Jephcott, Chicago: University of Chicago Press, 1992; *Philosophy of Modern Music*, trans. Mitchell/Blomster, New York: Seabury Press, 1973; *Prisms. Cultural Criticism and Society*, trans. Weber/Weber, Cambridge, Mass.: MIT Press, 1981.

Albert, Hans, born 1921. Social scientist. Appointed professor at the University of Mannheim in 1963. Writer of *Aufklärung und Steuerung* (Enlightenment and Direction), 1976.

Apel, Karl Otto, born 1922. Philosopher. Professor at the University of Kiel (1962), followed by Saarbrücken (1969) and Frankfurt (1972). Most significant works: *Die Idee der Sprache in der Tradition des Humanismus von Dante bis Vico* (The Idea of Language in the Humanist Tradition from Dante to Vico), 1963; *Die Erklären-Verstehen-Kontroverse in transzendental-pragmatischer Sicht*, 1979 (Engl. by Georgia Warnke, *Understanding and Explanation. A Transcendental Pragmatic Perspective*, Cambridge, Mass./London: MIT Press, 1984).

Benner, Dietrich, born 1941. Professor at the Humboldt University in Berlin. Author of: *Theorie und Praxis. Systemtheoretische Betrachtungen zu Hegel und Marx* (Theory and Practice. Systems-theoretical Observations on Hegel and Marx), 1966; *Studien zur Theorie der Erziehungswissenschaften* (Studies on the Theory of Educational Science), 1994; *Studien zur*

3 Texts cited in the bibliography are not systematically mentioned.

Theorie der Erziehung und Bildung (Studies on the Theory of Education and Formation), 1995; *Studien zur Theorie der Didaktik und Schultheorie* (Studies on the Theory of Didactics and School Theory), 1995.

Blankertz, Herwig, 1927-1983, professor for educational science. Taught at the Free University of Berlin until 1968, and in Munster from 1969. Author of *Berufsbildung und Utilitarismus* (Professional Training and Utilitarianism), 1963; *Bildung im Zeitalter der großen Industrie* (Education in the Age of Big Industries), 1969; *Die Geschichte der Pädagogik von der Aufklärung bis zur Gegenwart* (The History of Pedagogics from the Enlightenment to the Present), 1982.

von Bollnow, Otto Friedrich, 1903-1991, philosopher and pedagogue. Professor at the University of Giessen from 1939, Mayence from 1946, and Tübingen (1953-1970). Author of *Existenzphilosophie und Pädagogik. Versuch über unstetige Formen der Erziehung* (Existence Philosophy and Education. Notes on Unsettled Forms of Education), 1959; *Philosophie der Erkenntnis* (The Philosophy of Knowledge), 2 vols. 1970-1975.

Brezinka, Wolfgang, born 1928. Professor of educational science at the University of Konstanz from 1967. Author of *Erziehung als Lebenshilfe* (Education as Life Help), 1957; *Erziehung und Kulturrevolution: Die Pädagogik der Neuen Linken* (Education and Cultural Revolution: Pedagogics of the New Left), 1974.

Dilthey, Wilhelm, 1933-1911, philosopher, psychologist and epistemologist. Taught in Basel (1867-1868), Kiel (1868-1871) and Breslau (1871-1882). From 1882 appointed professor for philosophy and pedagogics at Berlin University. Among his most significant works: *Über die Möglichkeit einer allgemeingültigen pädagogischen Wissenschaft* (On the Possibility of a Universal Educational Science), 1888; *Erfahrungswissenschaft der geistigen Erscheinungen* (The Experience Science of Mental Apparitions), 1910; *Geisteswissenschaften*, 1910 (trans. Makreel/Rodi: *Introduction to the Human Sciences*, Princeton, N. J./Oxford: Princeton University Press, 1991.) Other texts available in English include: *Selected Writings*, trans./ ed.: Rickman, Cambridge: Cambridge University Press, 1976; *Hermeneutics and the Study of History*, trans. Makreel/Rodi, Princeton, N. J./ Chichester: Princeton University Press, 1996.

Fischer, Aloys, 1880-1937. Pedagogue, appointed professor at the University of Munich in 1914. Works: *Über Beruf, Berufswahl und Berufsberatung als Erziehungsfragen* (On Careers, Career Choices and Careers Advice as Educational Questions), 1918; *Die Entwicklung des Berufsschulgedankens in soziologischer und geistesgeschichtlicher Beleuchtung* (On

the Development of the Idea of Vocational Schools from the Perspective of Sociology and the Humanities), 1924-1925.

Flitner, Andreas, born 1922. Appointed professor of pedagogics in Erlangen in 1956, and in Tübingen in 1958. Author of *Brennpunke Gegenwärtiger Pädagogik* (Focal Points of Contemporary Education), 1972; *Konrad, Sprach die Mama ... Über die Erziehung und Nicht Erziehung* (Konrad, said Mummy ... On Education and Non-Education), 9th ed. 1998; *Reform der Erziehung. Impulse des 20. Jahrhunderts* (Educational Reform. Impulses of the Twentieth Century), 1999.

Gadamer, Hans-Georg, born 1900. Philosopher, professor at Marburg (1937), Leipzig (1939), Frankfurt (1947), and Heidelberg (1949). Author of e. g. *Vernunft im Zeitalter der Wissenschaft* (1976); (ed./trans. Frederick G. Lawrence: *Reason in the Age of Science*, Cambridge, Mass.: MIT Press, 1981). Other works available in English include: *Truth and Method*, trans. Weinsheimer/Marshall, New York: Crossroad Publishing, 1989; *Hermeneutics, Religion and Ethics*, trans. Weinsheimer, New Haven/London: Yale University Press, 1998.

Gamm, Hans-Jochen, born 1925. Professor of educational science in Oldenburg (1961) and Darmstadt (1967). Author of *Judentumskunde* (Judaism Studies), 1959; *Führung und Verführung. Pädagogik des Nationalsozialismus* (Leadership and Temptation. Education under National Socialism), 1964. *Aggression und Friedensfähigkeit in Deutschland* (Aggression and Capacity for Freedom in Germany), 1968.

Habermas, Jürgen, born 1929. Philosopher and sociologist. Professor at Heidelberg (1961), and Frankfurt (1964). Director of the Max Planck Institute (1971). Several of his most important works have been translated into English. Among them: *Legitimation Crisis*, trans. McCarthy, Boston: Beacon Press, 1975; *Communication and the Evolution of Society*, trans. McCarthy, Boston: Beacon Press, 1979; *Philosophical-Political Profiles*, trans. Lawrence, London: Heinemann, 1983; *The Theory of Communicative Action*, 2 vols., trans. McCarthy, Boston: Beacon Press, 1984/1987; *The Philosophical Discourse of Modernity*, trans. Lawrence, Cambridge: MIT Press, 1987; *On the Logic of the Social Sciences*, trans. Nicholsen/Stark, Cambridge: MIT Press, 1989; *Moral Consciousness and Communicative Action*, trans. Lenhardt/Nicholsen, Cambridge: MIT Press, 1990; *Postmetaphysical Thinking*, trans. Hohengarten, Cambridge: MIT Press, 1992; *Justification and Application: Remarks on Discourse Ethics*, trans. Cronin, Cambridge: MIT Press, 1993.

Herbart, Johann Friedrich, 1776-1841. Philosopher and pedagogue. Appointed professor of philosophy at the University of Göttingen in 1805, and at Königsberg in 1809. Returned to Göttingen in 1833. Amongst his works: *Pestalozzis Idee eines ABC der Anschauung* (Pestalozzi's Idea of an ABC of Contemplation), 1802; *Allgemeine Pädagogik aus dem Zwecke der Erziehung abgeleitet* (General Pedagogics Conceived From the Aims of Education) in: *Pädagogische Grundschriften* (Basic Texts in Pedagogics), vol. 2, 1982, pp. 9-155; *Psychologie als Wissenschaft* (Psychology as Science), 2 vols., 1824-1825.

Heydorn, Heinz-Joachim, 1916-1974. After working in Kiel (1950), appointed professor of educational science in Frankfurt in 1961. Author of *Zu einer Neufassung des Bildungsbegriffs* (Towards a New Conception of Education), 1972.

Horkheimer, Max, 1885-1973. Philosopher and sociologist. Professor of social philosophy, and founder and director (1930-1933) of the Frankfurt New School for Social Research. Emigrated from Germany in 1933. Worked in New York until 1949 after which he returned to his position in Frankfurt. From 1954-1959, guest professor in Chicago. Works in English: *Eclipse of Reason*, New York: Oxford University Press, 1947; *The Dialectics of Enlightenment* (with Adorno) trans. Cumming, New York: Herder and Herder, 1972; *Between Philosophy and Social Science*; trans. Hunter/ Kramer/Torpey, Cambridge, Mass: MIT Press, 1993.

Klafki, Wolfgang, born 1927. Appointed professor for education at the University of Marburg in 1963. Author of *Das pädagogische Problem des Elementaren und die Theorie der kategorialen Bildung* (The Pedagogical Problem of the Elementary and the Theory of Categorial Education), 1959; *Soziologie* (Sociology), 1958; *Kritik der historisch-existentialistischen Soziologie* (Critique of historical-existential Sociology), 1975.

Lay, Wilhelm August, 1862-1926. Pedagogue. Originally a primary school teacher, he then became pedagogical advisor for continued education at the University of Freiburg, before returning to primary school teaching. Trainer of teachers in Karlsruhe. Author of *Experimentelle Didaktik* (Experimental Didactics, 1903); *Experimentelle Pädagogik, mit besonderer Rücksicht auf die Erziehung durch die Tat* (Experimental Education with Particular Focus on Education through Action), 1908; *Die Tatschule* (The School of Action), 1911.

Lempert, Wolfgang, born 1930. Educational scientist. Taught at the Free University of Berlin from 1972 whilst in charge of research on education at the Max Planck Institute. Author of *Leistungsprinzip und Emanzipation.*

Studie zur Realität, Reform und Erforschung des beruflichen Bildungswesens (The Principle of Achievement and Emancipation. Studies on Reality, Reform and Research on Vocational Education), 1971; *Berufliche Bildung als Beitrag zur gesellschaftlichen Demokratisierung* (Vocational Education as a Contribution to Social Democratisation), 1974; *Die Berufserziehung* (Vocational Education), 1976.

Litt, Theodor, 1889-1962. Philosopher and pedagogue. Appointed professor at the University of Bonn, followed by Leipzig (1920-1937). Returned to Bonn in 1947. Author of *Individuum und Gemeinschaft* (The Individual and Community), 1919; *Mensch und Welt* (Man and World), 1948.

Lochner, Rudolf, 1895-1978. Researcher in educational science. Professor at Hirschberg in 1934, Celle in 1946, and Lüneburg in 1951. Author of *Deskriptive Pädagogik* (Descriptive Pedagogics), 1927 and *Phänomene der Erziehung* (The Phenomena of Education), 1975.

Luhmann, Niklas, born 1927. Researcher in law and social science. Professor for sociology at the University of Bielefeld from 1968. Works include: *Rechtssoziologie*, 2 vols., 1972 (trans. King/Albrow, *A Social Theory of Law*, London: Routledge and Kegan Paul, 1985); *Trust and Power*, trans. Davis/Raffan/Rooney Chichester: Wiley, 1979; *Gesellschaftsstruktur und Semantik* (Semantics and the Structure of Society), 3 vols., 1980-1989; *Die Wissenschaft der Gesellschaft* (The Science of Society), 1990; *Die Realität der Massenmedien*, 1996 (*The Reality of the Mass Media*, trans., Kathleen Cross, Cambridge: Polity Press, 2000); *Die Gesellschaft der Gesellschaft* (The Society of Society) 1997.

Marcuse, Herbert, 1898-1979. Philosopher. Researcher at Harvard from 1951. Appointed professor of political science at Bredeis-on-Elbe in 1954. In San Diego (California) between 1965 and 1969. Works include: *Eros and Civilization: A Philosophical Inquiry Into Freud*, London: Routledge, 1991; *One Dimensional Man: Studies in the Ideology of Advanced Industrial Society*, London: Routledge, 1991.

Meumann, Ernst, 1862-1915. Psychologist and educationalist. From 1894, professor of philosophy and pedagogics. Taught at the universities of Zurich, Königsberg, Münster, and Halle. From 1911, settled in Hamburg. Author of: *Vorlesungen zur Einführung in die experimentelle Pädagogik* (Introductory Lectures in Experimental Pedagogics) 2 vols., 1907; *Abriss der experimentellen Pädagogik* (An Outline of experimental Pedagogics) 1914.

Mollenhauer, Klaus, born 1928. Researcher in educational science. From 1965 to 1966, professor in Berlin. Appointed to Frankfurt in 1969,

and to Göttingen in 1972. Author of: *Die Ursprünge der Sozialpädagogik in der industriellen Gesellschaft* (The Origins of Social Pedagogics in Industrial Society) 1959; *Theorien zum Erziehungsprozess* (Theories on the Process of Education) 1972.

Nohl, Herman, 1879-1960. Researcher in educational science, philosopher. Professor in Iéna in 1919, and Göttingen in 1920. Author of *Pädagogische und politische Aufsätze* (Pedagogical and Political Essays) 1919 and *Die Pädagogische Aufgabe der Gegenwart* (The Educational Task of the Present) 1949.

Peter Petersen, 1884-1952. Researcher in educational science, school reformer. Professor at Iéna from 1923 to 1950. Author of *Allgemeine Erziehungswissenschaft* (General Educational Science) 3 vols., from 1924 to 1954; *Die pädagogische Tatsachenforschung* (Research in Pedagogical Facts), in collaboration with Else Petersen, 1965.

Roth, Heinrich, 1906-1983. Researcher in educational science, psychologist. Professor at the University of Frankfurt in 1956, and Göttingen from 1961. Author of: *Pädagogische Psychologie des Lehrens und Lernens* (Pedagogical Psychology of Teaching and Learning) 1957; *Pädagogische Anthropologie* (Educational Anthropology) 2 vols., 1966-1971.

Schleiermacher, Friedrich-Ernst David, 1768-1834. From 1807 colleague of Humboldt and director of a scientific mission. In 1810, appointed professor and dean of the theology faculty at the opening of the University of Berlin. Author of *Monologe* (Monologues) 1800, and *Grundlinien einer Kritik der bisherigen Sittenlehre* (Foundations of a Critique of Customary Ethics) 1803; *Pädagogische Grundschriften* (Basic Pedagogical Texts) vols. 1-2, 1966.

Bibliography

Adorno, Th. W. (ed.): *Spätkapitalismus oder Industriegesellschaft?* (Late Capitalism or Industrial Society?) Stuttgart, 1969.

Adorno, Th. W.: *Erziehung zur Mündigkeit* (Education Towards Autonomy) Frankfurt/M., 1970.

Adorno, Th. W.: *Negative Dialectics*, trans. E. B. Ashton, London: Routledge, 1990.

Adorno, Th. W. et al.: *Der Positivismusstreit in der Deutschen Soziologie* (The Controversy on Positivism in German Sociology) Neuwied/Berlin, 1972.

Albert, H.: Positivismus – Kritischer Rationalismus (Positivism – Critical Rationalism) in: Wulf, Ch. (ed.): *Wörterbuch der Erziehung* (Dictionary of Education) Munich, 1974.

Albert, H.: *Plädoyer für kritischen Rationalismus* (An Appeal for Critical Rationalism) Munich, 1971.

Albert, H.: Probleme der Wissenschaftslehre in der Sozialforschung (Scientific Problems in Social Research) in: König, R. (ed.): *Handbuch der Erziehung* (Handbook of Education) Munich, 1976.

Albert, H.: *Konstruktion und Kritik. Aufsätze zur Philosophie des kritischen Rationalismus* (Construction and Criticism. Essays on the Philosophy of Critical Rationalism) Hamburg, 1972.

Albert, H.: Wertfreiheit als methodisches Prinzip. Zur Frage der Notwendigkeit einer normativen Sozialwissenschaft. (Freedom from Values as a Methodological Principle. On the Issue of the Necessity of normative Social Science) in: Topitsch, E. (ed.): *Logik der Sozialwissenschaften* (The Logic of Social Science) Cologne/Berlin, 1965, pp. 879-908.

Apel, K.-O. et al.: *Hermeneutik und Ideologiekritik* (Hermeneutics and Ideology Criticism) Frankfurt/M., 1971.

Benner, D.: *Hauptströmungen der Erziehungswissenschaft. Eine Systematik traditioneller und moderner Theorien* (Mainstreams of Educational Science. A System of Traditional and Modern Theories) Munich, 1973.

Benner, D.: *Allgemeine Pädagogik* (General Pedagogics) Munich/Weinheim, 1987.

Blankertz, H.: Pädagogische Theorie und empirische Forschung (Pedagogical Theory and Empirical Research) in: *Zur Bedeutung der Empirie für die Pädagogik als Wissenschaft*, in *Vierteljahresschrift für wissenschaftliche Pädagogik* (On the Significance of Empiricism for Education as a Science, in Quarterly for Scientific Pedagogics) 5, Bochum, 1966.

Blankertz, H.: Wissenschaftstheorie (Philosophy of Science) in: Wulf, Ch. (ed.): *Wörterbuch der Erziehung* (Dictionary of Education) Munich, 1974.

Blass, J. L.: *Modelle pädagogischer Theoriebildung* (Models of Pedagogical Theory Development) 2 vols., Stuttgart, 1978.

Bollnow, O. F.: Empirische Wissenschaft und hermeneutische Pädagogik. Bemerkungen zu Wolfgang Brezinka, „Von der Pädagogik zur Erziehungswissenschaft" (Empirical Science and Hermeneutic Education. Comments on Brezinka's "From Pedagogics to Educational Science") in: *Zeitschrift für Pädagogik* (Journal of Pedagogics) 17, 1971.

Bollnow, O. F.: *Anthropologische Pädagogik* (Anthropological Education) Bern/Stuttgart, 3rd ed., 1983.

Braun, W.: *Pädagogik, eine Wissenschaft?* (Is Pedagogics a Science?) Weinheim, 1992.

Brezinka, W.: Über den Wissenschaftsbegriff der Erziehungswissenschaft und die Einwände der weltanschaulichen Pädagogik (On the Concept of Science in Educational Science and the Objections of Ideological Pedagogics) in: *Zeitschrift für Pädagogik* (Journal of Pedagogics) 13, 1967.

Brezinka, W.: Von der Pädagogik zur Erziehungswissenschaft (From Pedagogics to Educational Science) in: *Zeitschrift für Pädagogik* (Journal of Pedagogics) 14, 1968.

Brezinka, W.: Philosophie der Erziehung (Philosophy of Education) in: *Zeitschrift für Pädagogik* (Journal of Pedagogics) 15, 1969.

Brezinka, W.: Über Erziehungsbegriffe. Eine kritische Analyse und ein Explikationsvorschlag (On Educational Concepts. A Critical Analysis and an Explanation Proposal) in: *Zeitschrift für Pädagogik* (Journal of Pedagogics) 17, 1971, pp. 567-615.

Brezinka, W.: *Von der Pädagogik zur Erziehungswissenschaft* (From Pedagogics to Educational Science) Weinheim/Berlin/Basle, 1972.

Bubner, R.: Transzendentale Hermeneutik? (Transcendental Hermeneutics?) in: Simon-Schaefer, R./Zimmerli, W. (eds.), *Wissenschaftstheorie der Geisteswissenschaften* (Philosophy of Science in the Humanities) Hamburg, 1975.

Dahmer/Klafki (eds.): *Geisteswissenschaftliche Pädagogik am Ausgang ihrer Epoche* (Humanist Pedagogics at the Twilight of its Age) Weinheim/Berlin, 1968.

Dilthey, W.: *Gesammelte Schriften* (Complete Works) Stuttgart/Göttingen, 1958.

Feyerabend, P: Reply to Criticism. Comments on Smart, Sellars and Putnam, in: Cohen/Wartofsky (eds.): *Boston Studies in the Philosophy of Science*, vol. 2, 1965.

Feyerabend, P.: *Against Method*, London, 1972.

Fischer, A.: Deskriptive Pädagogik (Descriptive Pedagogics) (1914) reed. in: Oppolzer, S. (ed.), *Denkformen und Forschungsmethoden der Erziehungswissenschaft* (Forms of Thinking and Methods of Research in Educational Science) Munich, 1966.

Flitner, W.: *Das Selbstverständnis der Erziehungswissenschaft in der Gegenwart* (The Self-Conception of Educational Science in the Present) Heidelberg, 1963.

Gadamer, H.-G.: *Wahrheit und Methode*, Tübingen, 1972; trans. Weinsheimer/Marshall: *Truth and Method*, New York: Crossroad Publishing, 1989.

Gehlen, A.: *Der Mensch*, 13th ed., Wiesbaden, 1986; trans. McMillan/Pillener: *Man. His Nature and Place in the World*, New York: Columbia University Press, 1988.

Habermas, J.: Knowledge and Interest, in: *Inquiry* 9, 285-300; trans. Flöistad, 1966.

Habermas, J.: *Technik und Wissenschaft als Ideologie*, Frankfurt/M., 1969; trans. Shapiro: Technology and Science as "Ideology" in: *Toward a Rational Society*, Boston: Beacon Press, 1970, pp. 81-122.

Habermas, J.: *Theory und Praxis. Sozialphilosophie Studien*, Frankfurt/M., 1972; trans. Viertel: *Theory and Practice*, Boston: Beacon Press, 1973.

Habermas, J.: *Strukturwandel der Öffentlichkeit*, Neuwied/Berlin, 1974; trans. Burger/ Lawrence, *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*, Cambridge, Mass.: MIT Press, 1989.

Habermas, J./Luhmann, N.: *Theorie der Gesellschaft oder Sozialtechnologie* (Theory of Society or Social Technology) Frankfurt/M., 1971.

Hannsmann, O./Marotzki, W. (eds.) *Diskurs Bildungstheorie 1: Systematische Markierungen* (Discourse in Educational Theory I: Systematic Outlines) Weinheim, 1988.

Herbart, J.-F.: *Pädagogische Schriften* (Pedagogical Works) Düsseldorf, 1964.

Herbart, J.-F.: *Allgemeine Pädagogik* (General Pedagogics) Bochum, 1968.

Hermann, U.: *Die Pädagogik Wilhelm Diltheys* (Pedagogics According to Wilhelm Dilthey) Göttingen, 1971.

Heydorn, H.-J.: *Über den Widerspruch von Bildung und Herrschaft* (On the Contradiction between Education and Ruling Power) Frankfurt/M., 1970.

Heydorn, H.-J.: *Zu einer Neufassung des Berufsbegriffs* (Towards a New Concept of Profession) Frankfurt/M., 1972.

Hoffmann, D. (ed.): *Bilanz der Paradigmadiskussion in der Erziehungswissenschaft* (Conclusions on the Paradigm Discussion in Educational Science) Weinheim, 1991.

Horkheimer, M.: *Traditionelle und kritische Theorie* (Traditional and Critical Theory) Frankfurt/M., 1970.

Horkheimer, M./Adorno, Th. W.: *Dialektik der Aufklärung. Philosophische Fragmente* Frankfurt/M., 1971; trans. Cumming: *The Dialectics of Enlightenment*, New York: Herder and Herder, 1972.

Horkheimer, M.: *Sozialphilosophische Studien. Aufsätze, Reden, und Vorträge (1930-1972)* Frankfurt/M. 1972; trans. Hunter/Kramer/Torpey: *Between Philosophy and Social Science*, Cambridge, Mass.: MIT Press, 1993.

Jung, D./Scheer, K. D./Schreiber, U. (eds.): *Vom Weiterlesen der Moderne* (On the Continued Reading of Modernity) Bielefeld, 1986.

Kamper, D.: *Geschichte und menschliche Natur* (History and Human Nature) Munich, 1973.

Kamper, D.: Hermeneutik, Theorie einer Praxis? in: *Zeitschrift für allgemeine Wissenschaftstheorie* (Journal of General Philosophy of Science) 5, 1974.

Kamper, D.: Kritische Theorie der Gesellschaft in: Rombach, H, (ed.), *Wissenschaftstheorie* (Philosophy of Science) vol. 1, Freiburg/Basle/Vienna, 1974a.

Kamper, D./Wulf, Ch. (eds.): *Anthropologie nach dem Tode des Menschen* (Anthropology after the Death of Man) Frankfurt/M., 1994.

Kant, I.: *Critique of Pure Reason*, trans. Miekeljohn, New York: The Colonial Press, 1900.

Klafki, W.: *Aspekte kritisch-konstruktiver Erziehungswissenschaft* (Aspects of Critical-Constructive Educational Science) Weinheim/Berlin/Basle, 1976.

Klafki, W.: Erziehungswissenschaft als kritisch-konstruktive Theorie: Hermeneutik, Empirie, Ideologiekritik (Educational Science as Critical-Constructive Theory: Her-

meneutics, Empiricism, Ideology Criticism) in: *Zeitschrift für Pädagogik* (Journal of Pedagogics) 1971, pp. 351-385.

Kuhn, Th. S.: *Die Struktur wissenschaftlicher Revolutionen* (The Structure of Scientific Revolutions) Frankfurt/M., 1973.

Lakatos, I.: *The Problems of Inductive Logic* (The Problems of Inductive Logic) Amsterdam: North-Holland Publ. Co., 1968.

Lay, W. A.: *Experimentelle Pädagogik mit besonderer Rücksicht auf die Erziehung durch die Tat* (Experimental Pedagogics with Particular Focus on Education Through Action) Leipzig, 1912.

Lempert, W.: *Leistungsprinzip und Emanzipation. Studien zur Realität, Reform und Erforschung des Beruflichen Bildungswesens* (The Principle of Achievement and Emancipation. Studies on Reality, Reform and Research in Vocational Education) Frankfurt/M., 1971.

Lempert, W.: *Berufliche Bildung als Beitrag zur gesellschaftlichen Demokratisierung* (Vocational Education as a Contribution towards social Democratisation) Frankfurt/M., 1974.

Lempert, W.: Aufgaben der Berufsbildungsforschung (The Tasks of Research in Vocational Education) in: *Zeitschrift für die Pädagogik* (Journal of Pedagogics) 22, 1976, pp. 57-76.

Lenzen, D.: Mythos, Metapher und Simulation. Zu den Aussichten systematischer Pädagogik in der Postmoderne (Myth, Metaphor and Simulation. On the Perspectives for Systematic Pedagogics in Post-Modernity) in: *Zeitschrift für Pädagogik* (Journal of Pedagogics) 1987.

Litt, Th.: *Denken und Sein* (Thinking and Being) Stuttgart, 1948.

Loch, W.: *Die anthropologische Dimension in der Pädagogik* (The Anthropological Dimension of Education) Essen, 1963.

Lochner, R. D.: *Deskriptive Pädagogik* (Descriptive Pedagogics) Reichenberg, 1927.

Lochner, R. D.: *Deutsche Erziehungswissenschaft* (German Educational Science) Meisenheim, 1963.

Luhmann, N.: *Zweckbegriff und Systemrationalität. Über die Funktion von Zwecken in sozialen Systemen* (The Concept of Target and System Rationality. On the Function of Targets in Social Systems) Tübingen, 1968.

Luhmann, N./Schorr, K. E. (eds.): *Zwischen Anfang und Ende. Fragen an die Pädagogik* (Between Beginning and End: Questions for Pedagogics) Frankfurt/M., 1990.

Marcuse, H.: *Counterrevolution and Revolt*, London: Allen Lane, 1972.

Marcuse, H.: *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society*, London: Routledge, 1991.

Morotzki, W./Sünker, H. (eds.): *Kritische Erziehungswissenschaft – Moderne – Postmoderne* (Critical Educational Science – Modernity – Postmodernity) vol. 1, Weinheim, 1992.

Marx, K.: *Zur Judenfrage* (On the Jewish Question) in: Marx, K./Engels, F.: *Studienausgabe in 4 Bänden* (Works in Four Volumes) Frankfurt/M. 1966, pp. 31-60.

März, F.: *Problemgeschichte der Pädagogik, Pädagogische Anthropologie* (History of Pedagogical Problems, Pedagogical Anthropology) 2 vols., Bad Heilbrunn, 1978, 1980.

Mayntz, R./Holm, K./Hübner, P.: *Einführung in die Methoden der empirischen Soziologie* (Introduction to the Methods of Empirical Sociology) Opladen, 1972.

Meumann, E.: *Abriss der experimentellen Pädagogik* (Outline of Experimental Pedagogics) Leipzig, 1920.

Meyer-Drawe, K./Peukert, H./Ruhloff, J. (eds.): *Pädagogik und Ethik* (Pedagogics and Ethics) Weinheim, 1992.

Mollenhauer, K.: Das Problem einer empirisch-positivistischen Pädagogik (The Problem of Empirical-Positivist Pedagogics) in: *Zur Bedeutung der Empirie für die Pädagogik als Wissenschaft*, in: *Vierteljahresschrift für wissenschaftliche Pädagogik* (On the Significance of Empiricism for Pedagogics as Science, in: Quarterly of Scientific Pedagogics) 5. Bochum, 1966.

Mollenhauer, K.: *Theorien zum Erziehungsprozess* (Theories on the Educational Process) Munich, 1972.

Nohl, H.: *Pädagogik aus dreißig Jahren* (Thirty Years of Pedagogics) Frankfurt/M., 1949.

Nohl, H.: *Die pädagogische Bewegung in Deutschland und ihre Theorie* (The Pedagogical Movement in Germany and its Theory) Frankfurt/M., 1949a.

Oelkers, J./Tenorth, H.-E.: Pädagogisches Wissen als Orientierung und als Problem (Pedagogical Knowledge as an Orientation and a Problem) in: *Zeitschrift für Pädagogik* (Journal of Pedagogics) 27, 1991.

Petersen, P./Petersen, E.: *Die pädagogische Tatsachenforschung* (Educational Research into Facts) Paderborn, 1965.

Plessner, H.: *Gesammelte Schriften* (Complete Works) 10 vols., Frankfurt/M., 1980.

Popper, K.: *The Open Society and its Enemies*, London: Routledge, 1966.

Popper, K.: *The Logic of Scientific Discovery*, London: Routledge, 1992.

Prange, K.: *Pädagogische Erfahrung* (Educational Experience) Weinheim, 1989.

Reichelt, H.: Kritische Theorie (Critical Theory) in: Wulf, Ch. (ed.): *Wörterbuch der Erziehung* (Dictionary of Education) Munich, 1974, 7th edition, 1989, 120.

Roth, H.: Empirische Pädagogische Anthropologie. Konzeption und Schwierigkeiten (Empirical Pedagogical Anthropology. Conception and Difficulties) in: *Zeitschrift für Pädagogik* (Journal of Pedagogics) 13, 1965, pp. 207-221.

Roth, H.: *Pädagogische Anthropologie* (Pedagogical Anthropology) 2 vols., Hannover, 1966, 1971.

Rousseau, J.-J.: *Émile ou de l'éducation*, Paris: Garnier, 1876; trans. Foxley: *Emile*, London: Everyman, 1993.

Scheler, M.: *Die Stellung des Menschen im Kosmos* (The Position of Man in Cosmos) Bonn: Bouvier, 1928.

Schleiermacher, F. D. E.: *Gedanken zu einer Theorie der Erziehung. Aus der Pädagogik-Vorlesung von 1826* (Thoughts on a Theory of Education. From the Reading of Pedagogics of 1826) Heidelberg, 1965.

Schmied-Kowarzik, W.: *Dialektische Pädagogik* (Dialectic Pedagogics) Munich, 1974.

Thiersch, H.: Hermeneutik und Erfahrungswissenschaft. Zum Methodenstreit in der Pädagogik (Hermeneutics and Empirical Science. On the Quarrel over Methods in Pedagogics) in: *Die Deutsche Schule*, 58, 1966, pp. 3-21.

Topitsch, E. (ed.): *Logik der Sozialwissenschaften* (The Logic of Social Science) Cologne/Berlin, 1965.

Uhle, R.: *Geisteswissenschaftliche Pädagogik und kritische Erziehungswissenschaft* (Humanist Pedagogics and Critical Educational Science) Munich, 1976.

Weniger, E.: *Die Grundlagen des Geschichtsunterrichts. Untersuchungen zur geisteswissenschaftlichen Didaktik* (The Foundations of History Teaching. Studies on Humanist Didactics) Leipzig/Berlin, 1926.

Weniger, E.: *Die Eigenständigkeit der Erziehung in Theorie und Praxis* (The Autonomy of Education in Theory and Practice) Weinheim, 1953.

Wulf, Ch. (ed.): *Wörterbuch der Erziehung* (Dictionary of Education) Munich, 1974, 7th edition, 1989.

Wulf, Ch. (ed.): *Vom Menschen. Handbuch Historische Anthropologie* (On Man. Handbook of Historical Anthropology) Weinheim/Basel, 1997 (French and Italian edition 2002).

Wulf, Ch.: *Anthropology of Education*, Münster: Lit 2002 (New Brunswick/USA and London/U.K.: Transaction Publisher).

Wulf, Ch./Kamper, D. (eds.): *Logik und Leidenschaft. Erträge Historischer Anthropologie* (Logic and Passion. Findings of Historical Anthropology), Berlin 2002.

Wulf, Ch./Zirfas, J. (eds.): *Theorien und Konzepte Pädagogischer Anthropologie* (Theories and Concepts of Pedagogical Anthropology) Donauwörth, 1994.

Wünsche, K.: Die Bemühungen um einen anthropomorphen Menschen (Attempts towards an Anthropomorphic Human) in: *Historische Anthropologie* (Historical Anthropology), Reinbek, 1989.

European Studies in Education

edited by Christoph Wulf

The political, economic, and social developments in the European Union pose new challenges to education in Europe, where each country has its own system. Under these circumstances, the relation between national, regional, and local traditions on the one hand and supraregional, transnational aspirations on the other must be conceived. The field of education is seeing the rise of new issues, responsibilities, and research requiring scholars from different European cultures to work together.

European Studies in Education constitutes an international forum for the publication of educational research in English, German and French. The multilingual nature of this series mirrors that of Europe and makes it possible to portray and express cultural diversity.

Christoph Wulf (ed.): Education in Europe. An Intercultural Task

1995. 554 S. DM 48,- (Euro 24,54). ISBN 3-89325-258-4.

Dieser Band enthält die Materialien des Budapester Kongresses des Network Educational Science Amsterdam vom Herbst 1993. Das Netzwerk umfasst mehr als 30 erziehungswissenschaftliche Fakultäten aus allen Teilen Europas und aus einigen außereuropäischen Ländern. Die Materialien enthalten kurze Positionspapiere und Diskussionsbeiträge zur Theorie und Geschichte der Erziehung, Medien, Lehrerbildung, Sonderpädagogik, Transitionsprobleme in Mittel-Ost-Europa, Interkulturelle Bildung, Frauenstudien, Europäische Perspektiven.

Sjoerd Karsten, Dominique Majoor (eds.): Education in East Central Europe. Educational Changes after the Fall of Communism

1995. 180 S. DM 29,80 (Euro 15,24). ISBN 3-89325-259-2.

Dieser Band umfasst drei Fallstudien über die gegenwärtige Situation des Bildungswesens in Ungarn, der Tschechischen Republik und Polen sowie eine Vergleichende Analyse. Die einzelnen Studien sind äußerst material- und informationsreich und erarbeiten Perspektiven für zukünftige Entwicklungen.

Stephan Sting, Christoph Wulf (eds.): Education in a Period of Social Upheaval. Educational Theories and Concepts in Central East Europe

1995. 174 S. DM 29,80 (Euro 15,24). ISBN 3-89325-260-6.

Hier wird ein Überblick über die aktuelle Problemlage der Erziehungswissenschaft in Ostmitteleuropa gegeben. In einer Situation des gesellschaftlichen Umbruchs werden aus der Sicht der betroffenen Gemeinsamkeiten sowie historische und kulturelle Differenzen in der pädagogischen Tradition aufgespürt, die neue Perspektiven für pädagogische Theorien und Konzepte bieten. Die Beiträge beschäftigen sich mit den Entwicklungen in Bulgarien, Deutschland, Estland, Litauen, Polen, Rumänien, Russland, Tschechien und Ungarn.

Bernhard Dieckmann, Christoph Wulf, Michael Wimmer (eds.): Violence. Nationalism, Racism, Xenophobia

1997. 332 S. DM 38,- (Euro 19,43). ISBN 3-89325-487-0.

The escalation in violence over the last few years expressed in xenophobia, racism and nationalism in several European countries is analized in the contributions of the book. Representatives of disciplines of the various social sciences dedicated to understanding violence attempt to determine possible causes and motives for this increase. The European aspect, with its particular economic and sociopolitical problems, is examined using case study results from several countries. In addition, an analysis is presented that investigates the question wheather violence is a problem specific to youth and therefore an issue to be addressed by educationalists. The book seeks to contribute to research in the fields of nationalism and racism by dealing predominantly with anthropologial considerations. But it also wishes to address the questions of the manifestation, causes and motives of youth violence being discussed in educational science.

Stephen Lawton, Rodney Reed, Fons van Wieringen (eds.): Restructuring Public Schooling: Europe, Canada, America

1997. 206 S. DM 38,- (Euro19,43). ISBN 3-89325-518-4.

This volume offers an overview of educational restructuring, its aims and possibilities in the European and North American context. A conceptual analsysis of educational policy systems and development in both continnents is provided and empirical cases are presented within this framework. Overviews are given of the national stage in Canada. Problems with the public debt are driving change in Canada, but the issue of developing an internationally competitive work force is the main objective. A synthesis of continental

European development is provided in which the distinctly different perspectives in northern and southern Europe are compored. Assessments of reformas in the United States are presented. Some reforms are driven by a vision of decentralization and democratic localism, and others by pragmatism and a desire to do the least harm to the classroom as cutbacks are made. Analysis of the impact of school-site management complement these system-wide analyses.

Christoph Wulf (eds.): Education for the 21st Century. Commonalities and Diversities

1998. 700 S. DM 48,- (Euro 24,54). ISBN 3-89325-619-9.

The expansion of the European Union in the 21st century will bring with it new tasks in education. Among the predominant ones are issues related to commonalities and diversities found within each nation's own education system. Until now the European states have focused on diversities found within their own national educatioanl systems. The ongoining integration process in Europe will mean transnational perspectives need more attention. Processes of globalisation, economic integration, social mobility, migration and political integration will persist into the next century and produce new forms of commonalities, inside and outside nation states. The relationsship of these processes of commonalities and diversities is a major problem and challenge for all education systems not only within Europe, but in the whole world. This volume deals with issues related to this development in seven fields: History and Theory of Education, Ethnicity, Teacher Education, Youth Care aand Special Educational Needs, Media Based Education, Woman and Gender Studies, Higher Education. The 43 articels are written by more than 50 authors from 15 European countries.

Georgios Tzartzas: Schule im gesellschaftlichen Umbruch. Die Entwicklung des modernen griechischen Bildungswesens (1833-1862)

1998. 491 S. DM 48,- (Euro 24,54). ISBN 3-89325-654-7.

Bei der Konstituierung des modernen griechischen Erziehungs- und Bildungswesens wurden zahlreiche Gedanken der Aufklärung und des Neuhumanismus wirksam. Es verbanden sich Vorstellungen von der Notwenigkeit der Vervollkommnung und Versittlichung der Menschen durch die Macht der Erziehung. Vorstellungen vom Wert griechisch antiker Traditionen und von der Schaffung einer neuen Identität. Die Schule entwickelte sich zu einer Institution nicht nur des Lernens, sondern auch der Überwachung und Hierarchisierung, mit deren Hilfe die Domestizierung des Körpers bzw. Disziplinierung des Schülers bezweckt wurde, um seine Brauchbarkeit und Effizienz zu erhöhen. Die Orientierung an den Bildungssystemen westeuropäischer Staaten erfolgte nicht wegen deren Effizienz, sondern

aufgrund eines ausgebliebenen Selbstverständnisses der, Pädagogik innerhalb des neugriechischen Staatswesens.

Mbukeni Herbert Mnguni: Education as a Social Institution and Ideological Process. From Négritude Education in Senegal to Bantu Education in South Africa

1999. 188 S. DM 38,- (Euro 19,43). ISBN 3-89325-696-2.

The author has attempted to raise some problematic issues and concerns around formal education in Africa and particulary South Africa, which is in stage of creating an inclusive education system. The author argues that a necessary starting point is to first recognize the voices of those who are excluded and marginalized, and then to develop strategies which will ensure their inclusion. Understanding what indigenous people think about education and the knowledge transmitted to their children will ensure their full participation in decision-making.

Beatriz Vélez: Géographie de la chair maternelle. Corps, culture et société en Colombie

1999. 176 S. DM 29,80 (Euro 15,24). ISBN 3-89325-722-5.

Les différences anatomique entre hommes et femmes ont été à la base des systèmes d'échange symbolique dans toutes les sociétés. L'auteur essaie de survoler la constellation de cette problématique dans les cas de la Colombie où l'ordre des rapports entre hommes et femmes a été fortement déterminé par l'image judéo-chrétienne de la Vierge Marie. Même si, au XXième siècle, la sécularisation de la société colombienne a provoqué des changements dans le système sexe et genre, la plupart des femmes engagées dans la politique, l'éducation supérieure et les sports, demeurent piégées dans la "double détermination" de mères et de travailleuses.

Silvia Hedenigg: Kindheitsbegriffe japanischer Strafkonzeptionen. Zur Rezeption westlicher Modelle der Reformerziehung in der Meiji-Zeit

1999. 170 S. DM 29,80 (Euro 15,24). ISBN 3-89325-724-1.

An der Schnittstelle von Erziehungswissenschaft und Japanologie behandelt die Studie die historisch-anthropologische Fragestellung von Kindheits- und Erziehungsbegriffen in japanischen Strafkonzeptionen. Geleitet von mentalitätsgeschichtlichen Überlegungen sind es Strafhandlungen und deren zugrundeliegende Strafkonzeptionen, die im Hinblick auf Wahrnehmungs- und Verständnisformen von Kindheit als Untersuchungsgegenstand herangezogen

werde. Den leitenden Referenzbezug bildet dabei Foucaults Analysemodell der "Macht zum Leben".

Doug Bougthon, Rachel Mason (eds.): Beyond Multicultural Art Education. International Perspectives

1999. 360 S. DM 38,- DM (Euro 19,43). ISBN 3-89325-783-7

Multiculturalism is a term that has been much used in educational texts in recent years. Its usage is frequently taken for granted in the rhetoric of curriculum literature. However, it has recently become clear that there are significant variations of interpretations of multiculturalism in different world regions. This book takes a new and deeper look at the notion of multiculturalism through the lens of art education. In educational terms art is a unique tool for the investigation of cultural values because it transcends the barrier of language and provides visceral and tacit insights into cultural change.

In order to address the educational interpretations and methods of implementing multiculturalism in different regios of the world, this book contains discussion and analysis of perspectives on art education theory and practice from thirteen countries. The authors of each chapter are respected multicultural experts in their geographic locations who are well equipped to provide unique insights into the particular issues of multiculturalism viewed from the perspective of art in educational contexts.

The book as a whole provides tools for the conceptual analysis of contemporary notions linked with multiculturalism, such as interculturalism, internationalism and globalisation. It also provides strategies for art teaching in relation to these ideas. This book presents conceptual frameworks that should assist educators to examine their own teaching on issues of equity and diversity that are central to the multicultural education debate.

Niklas Luhmann, Karl-Eberhard Schorr: Problems of Reflection in the System of Education, *translated by Rebecca A. Neuwirth*

2000, European Studies in Education, 412 Seiten, br., 48,00 DM (24,54 Euro), ISBN 3-89325-890-6

From the perspective of system theory this text traces the way in which the system of education reflects its own unity and its own position in modern society. Concerning the problems of reflection (autonomy of the system of education, instruction technology and the contradiction between education and selection) sociological analysis and the availability of analytical instruments for system reflection may make a contribution to increase the reflection level of communication in the system of education.

Jan Karel Koppen, Ingrid Lunt, Christoph Wulf (eds.): Education in Europe. Cultures, Values, Institutions in Transition

2002, European Studies in Education, 320 pages, br., EUR 19,50, ISBN 3-8309-1110-6

This book deals with three major fields of contemporary education in Europe: *intercultural education*, *values in education* and *educational institutions*. In each of these central areas education is currently confronted with rapid changes, related to the process of European unification and globalization, which is considerably altering the frame of reference for nation-based cultures and educational systems. The enlargement of Europe in the years to come constitutes one of the most challenging developments in the European Union. This development will make the commonalities and differences between European nation states, cultures and religions play an important role. How to handle these will be among the central tasks of the future. In the European Union, education is destined to become an increasingly intercultural task.

Christoph Wulf, Christine Merkel (Hg.): Globalisierung als Herausforderung der Erziehung. 2002.

Christoph Wulf, Brigitte Qvarsell (eds.): Culture and Education. 2003.

Michael Gutmann: Die dialogische Pädagogik des Sokrates. Ein Weg zu Wissen, Weisheit und Selbsterkenntnis. 2003.

In Europe during the 1970s and 1980s educational science became one of the most developed disciplines in the humanities and social sciences. In Germany this development involved moving beyond the humanist tradition (which had dominated until this period) by drawing on the empirical tradition as well as on the Critical Theory of the Frankfurt School. These new developments were to bring educational science new and more complex dimensions, which were further amplified as a result of developments in the educational system and also thanks to institutional recognition of the discipline of educational science itself.

There is no doubt that it is in Germany that educational science developed as a scientific discipline in its own right when humanist pedagogics, empirical educational science and the Critical Theory of the Frankfurt School merged. Indeed, these three different paradigms have played such an important part in shaping educational science that it is essential that their convergence be reconstructed and critically reflected. Such is the purpose of this present book.

Münster/New York
München/Berlin

ISSN 0946-6797
ISBN 3-8309-1259-5