II.

On the Unity of Science

in memoriam Helmut Schelsky

With the death of Prof. Dr. h.c. mult. Helmut Schelsky on February 24, 1984, the Center for Interdisciplinary Research (ZIF) of the University of Bielefeld has lost not only its first Director (1968—1971). Schelsky has conceived the idea of ZIF, and he played a major part in its realization. It is therefore generally acknowledged that he will go down in the annals of ZIF as its founding father.

He was born on October 14, 1912, in Charminitz (today known as Karl-Marx-Stadt) in Germany. From 1931, after the Abitur at the Realgymnasium in Dassau he read history, pedagogy, philosophy and sociology at the universities of Königsberg and Leipzig. Among his teachers were Hans Diersch, Hans Freyer, Arnold Gehlen and Theodor Litt. He passed the first public examination in pedagogy, qualifying as a teacher of secondary education, and with a thesis on ‘Die Theorie der Gemeinschaft nach Fichtes ‘Naturrecht’ von 1796’ he received his doctor’s degree in philosophy from the University of Leipzig. Subsequently he became a post-doctoral fellow at the philosophical seminar in Königsberg, ‘Thomas Hobbes: Eine politische Lehre’, reprinted in 1961, was the title of his habilitation thesis in 1939, at the Philosophy Faculty of the University of Königsberg where, in November that year, he was appointed lecturer in philosophy and sociology. On July 1, 1943, he was offered an associate professorship to teach sociology and political philosophy at the Faculty of Law and Political Science of the University of Strasbourg. He was unable to accept, though, since he had been called up for military service in the meantime. In the Second World War he served as an infantry soldier in Poland and Russia, was seriously wounded and saw the end of the war as a disposal staff officer in the besieged fortress of Königsberg.

He returned home disabled and from May 1945 to the fall of 1948 worked for the Red Cross. He founded and later directed the prisoners and missing persons service in the British-occupied zone and at the same time acted as general secretary of the German Red Cross section of this area.

Late in 1948 the newly founded ‘Akademie für Farnelwirtschaft’ in Hamburg (today the ‘Hochschule für Wirtschaft und Politik’) offered him, first on a deputy basis, a full professorship to teach sociology and philosophy. On July 1st, 1949, he also took over the directorship of the ‘Akademie’ for one year. He received calls to the University of Hamburg (1950) and Münster (1952). From 1960 to 1969 he was Scientific Director of the ‘Sozialforschungsstelle’ of the University of Münster at Dortmund.

The changes in Germany during those years which had a decisive influence on Schelsky’s academic career were analyzed by him in the light of scientific theory and educational policy. Additionally, from 1965 to 1970, he was engaged in the planning and conception of a new university in the eastern region of North Rhine Westphalia. This seemed to him a ‘practical test of various abstract analytical, literary and programmatic studies of a German university’, a chance to build a new university based on a theoretical concept — a project in whose realization he intended to be involved through the important functions in which he was serving, already charged with practical tasks: in his capacity as an official entrusted with the planning of a university in eastern North Rhine Westphalia and as a member of the founding committee, as chairman of the planning council of the Westphalian State Secretary of Cultural Affairs for the development of higher education in North Rhine Westphalia and as a Senator of the ‘Deutsche Forschungsgemeinschaft’. At the newly founded University of Bielefeld he became professor of the Faculty of Sociology on January 1st, 1970, and, in addition, he was elected the first director of the Center for Interdisciplinary Research which owed its foundation to him.

On October 23, 1973, at his own request, he returned to the University of Münster, taking his tenure with him, and there, at the Faculty of Law, taught sociology of law as well as legal and social philosophy until he became Emeritus Professor on March 31, 1976.

For many years Schelsky was a member of the ‘Rheinisches-Westfälische Akademie der Wissenschaften’, the ‘Fritz Thyssen-Stiftung’ and other academic institutions. In 1977 he received the ‘Konrad-Adenauer-Preis’ which is awarded for scientific achievements. He held honorary doctorates of the universities of Córdoba (Argentina), Parma and Recife (Brazil). In 1979 he was made an Honorary Professor of the University of Graz, and in the spring of 1983 an Honorary Senator of the University of Bielefeld.

His scientific oeuvre which comprises over 400 titles reflects the breadth of his wide-ranging research activities and includes works which have aroused an enormous interest even beyond the German-speaking countries. Among his most important works are the following:

Early subjects were "Arbeitslosigkeit und Berufsschicksal der Jugend" (1959), "Wandlungen der deutschen Familie in der Gegenwart" (1953), "Arbeits- und Bildungspolitik im internationalen Vergleich" (1958), "Die Soziologie der Sexualität" (1963) — the latter a book which could be called a bestseller, and "Die soziale Struktur der Arbeitslosigkeit" (1957) — a stock-taking and evaluation of the situation of youth and family in the tension-field of society. Further, the sociological studies by Schelsky were the sociology of employment, business and industry, as, for example, in "Die Aufgaben der Berufssozologie und Arbeitswissenschaft" (1954), "Die sozialen Folgen der Automatisierung" (1957), "Der Mensch in der wissenschaftlichen Zivilisation" (1961) and "Die Zukunft des Menschen in der industriellen Arbeitswelt" (1952).

From an early period Schelsky was concerned with an analysis of the developments and social changes in the field of education. Some relevant titles are "Schule und Erziehung in der industriellen Gesellschaft", "Anpassung und Widerstand" (1959), "Einzelne einer neuen Universität" (in cooperation with Paul Mikes, 1961) as well as "Abschied von der Hochschulpolitik oder Die Universität im Fadenkreuz des Zerfalls" (1969).

In 1955, together with Arnold Gehlen, he published a handbook entitled "Soziologie". But he did not exempt this, his science, to which he ascribed a guardian function, from critical study; rather, for instance, in his early work on "Ortsbestimmung der deutschen Soziologie" (1959), and repeatedly in other works in which he also made the method of questioning itself transparent. Works such as "Ortsbestimmung" or "Soziologie — wie ich sie verstehe und verstehe ich" (in: Die Soziologen und das Recht, 1959) and "Flockblick eines Antisozialologen" (1981) illustrate that theory was not introduced as a method of questioning, but was held answerable to the challenges as they presented themselves.

Inevitably, critical analysis of important social problems such as education, the world of work, family and youth involved an examination and evaluation of the political background, subjecting it to "Lockman's Razor" as the following titles illustrate: "System..."
racterized university life at von Humboldt’s time and threatened the new concept of science which was just beginning to take shape inspired, as it was, by idealistic philosophy. On the one hand, toward the end of the 18th century, there still many scholars who were preoccupied with tradition and pursued their studies without concern to the needs and innovations of the time, and who adhered to medieval customs such as the principle of orthodoxy, i.e., only teaching the work of recognized authorities, and conducting purely dogmatically oriented controversy and merely formal disputes, all of which defied the spirit of Enlightenment. This type of academic community which dominated the university, causing it to become “rigidified like a guild”, was incapable of relating to reality. By contrast, the aspirations of enlightened pedagogies were for a knowledge of practical applicability, and it sought to impose upon the universities the roles of professional schools and specialized institutions for higher learning. Both views stood in the way of a “new” science inspired by idealistic and neo-humanist ideas. It is no coincidence that, at that time, an attempt was made to realize such plans outside the universities: “Learned Societies” and Academies were founded. Significantly, in the plans for the foundation of a university at Berlin the reference is to a “higher academic teaching institution” which reflects a critical distance to the late-Enlightenment concept of a utilitarian and pragmatic educational institution.

Reformers such as Fichte, Schleiermacher, Schelling and Wilhelm von Humboldt, in particular, sought to overcome the ossified forms of learning and teaching and rejected the idea of the “professorial scientist” (Botgelehrter). Education through science was their programmatic motto which referred to the education of the individual on a higher level: The development of man’s innate abilities, “to transform as much of the work, even the whole of mankind into one’s own person” (Humboldt). Through an “intellectual self-activation” of man and scientific reasoning it was hoped that an ethical, normative orientation of life or, as Schleiermacher put it, an “idealistic impregnation of the human character was attained.” “...a scientist should be the best, most moral person of his age”, for it was incumbent upon him, holding the position that he did, to exercise supreme control over the true progress of mankind in general and continuously nurture this progress” (Fichte).

This could be achieved only in an atmosphere which was open and receptive toward the practical, if not pragmatic needs of bourgeois society. The idea of a life embracing both “social” solitude and (bourgeois and thus intellectual) freedom became a leitmotif for basic and repeated efforts of reform in those days and lived on for a long time afterwards.

Although the constant search for truth always involves a measure of solitude, at that time there was a great insistence on it. Fichte demanded, for instance, that the student should be completely isolated from the “objectionable element” of bourgeois life, from a “merging ... with the general masses of the bourgeoisie which was given to trading and self-indulgence”. The thought behind this was that from a direct translation of scientific knowledge into practice, an amalgamation might result of scientific interests with those of society
which would eventually prevent the "pure" quest for truth and cause the scholar to fall back into the "misery of bourgeois life". The principle of "freedom" underlying this social concept of a new university first and foremost meant the freedom of science, study and academic community. In this, the freedom of learning rather than teaching was of primary concern. There was the idea of a collegial life of professors and students engaged in "Socratic dialogue" in which everyone was equal: von Humboldt took the view that lectures and seminars were part of the resources at the disposal of the professors. This highlights the basic concept of the "Forschungsuniversität" whose task was to treat science itself as a partly unresolved problem; not the truth but research, i.e., the constant search for truth while constantly assimilating new knowledge - this, according to von Humboldt, was to be the essence of teaching. ("Unity of research and teaching")

This concept of the university, which had emerged during the historical period of German idealism and was to become a criterion of all subsequent reforms, and in which, as a humanistic ideal of education, the development of individual consciousness through knowledge gained purchase - this concept understood scientific thought as thinking in the spirit of the whole. The reference was to the idea of a meaningful order embracing all things spiritual, in the knowledge of which man should share. An absolute, "pure" knowledge should form the character, and true science in this sense knew no division into faculties. Every specialization involved the risk of scientific narrowness which one had just decided to fight. University vs. specialty was Wilhelm von Humboldt's motto who had already given the "Gymnasium" a new universal orientation.

In his "Vorlesungen über die Methode des wissenschaftlichen Studiums" (1802) Schelling advocated a "studium generale" which was to guide the student toward the unity of science: "in science ... a particular thing is of value only if it comprises the general and the absolute within it. But only ... too often it happens that for a particular concern the general concern for a universal education is neglected, and for the ambition of becoming an excellent lawyer or doctor, the far more exalted rank of a scholar, of a mind that has been ennobled by science is forgotten ... The specialized education in a single discipline should therefore be preceded by the knowledge of the organic unity of the sciences". Such knowledge was an indispensable prerequisite for man's self-knowledge according to German philosophical idealism. That "pure knowledge" should be acquired for its own sake was an essential ingredient in Schelling's concept of an ideal education - a principle already taught by Kant and Schiller. The only "science" that could be entrusted with this was philosophy, and the others were considered similarly capable only to the extent that such fundamental philosophical knowledge was intrainned in them. Philosophy was therefore assigned the task of achieving a synthesis of meaning which was vital to the educational development of the individual.

In spite of its rejection of direct usefulness the new educational ideal was not completely void of any relationship to practical life. It was conceived of as a preliminary stage, the acquired "pure" science should precede a pragmatically oriented vocational education. The student of theology, law or medicine was to become someone capable of independent productive thought, of acting according to moral principles and, thus educated, to acquire the specialized knowledge he needed. At this point the idea of the reformers and the interest of the state coincided: the education of citizens to become members of a reasonable society coincided with the qualifications of individuals who were educated both in terms of profession and character to become servants of the state.

This conception of a new university, the outcome of humanistic-idealistic thought, had its historic hour at the turn of the 19th century. It became the central idea in the intellectual life of Prussia and other German states, provoked by the French Revolution and the fear of Napoleon's predominance, but accomplished by forces from within.

Even so it was destined from the start to remain a norm and was only partially translated into practice. Its spiritual fathers, von Humboldt in particular, were aware of this. In spite of this forceful new beginning which saw the foundation of the University of Berlin (and later of Breslau and Bonn), reality lagged behind as the course of developments during the 19th and 20th centuries has shown. But it was not so much the state which failed in fulfilling its function, i.e., introducing educational reforms, as the changes taking place within the sciences affecting their relationship to society and practical orientations which influenced the universities and their tasks in terms of teaching, research and education. There were, it is true, efforts by the state to shape scientific knowledge for the purposes of professional training, or even arrogant attempts by the ministries concerned, deciding what the educational goals should be which inevitably meant a departure from von Humboldt's ideas. Other developments were more important, though: first, despite the new university's conception of itself, as outlined above, the education it provided had always included specialized courses (e.g., the professional training of priests, judges, doctors, civil servants, etc.). This aspect became increasingly important as, in the 19th and continuing into the 20th century, a growing number of vocations and professions were increasingly being shaped by scientific knowledge. Second, it was science itself which was becoming more and more specialized. Ultimately, however, it was the fundamental change in the understanding of what science should be, that led away from what von Humboldt had stood for: The rise of the modern natural sciences offered new and different conditions of research and knowledge. By their inductive method in making assumptions about the laws potentially inherent in the objects or inquiry they offered possible answers on a hypothetical basis: in contrast to traditional processes of knowledge results were now conditioned by the way in which questions were asked. The objects of inquiry could no longer reach us ("erkennen") as nature naturally in an open-ended process of questioning -- they were constructed according to logical rules and thus enabled access to their "being". This construction revealed the basic principle of science to be technique rather than reflection (Breßhau). Since science understood thus meant that man as a social and individual being was inevitably drawn into this process of scientific construction, he could no longer be the exponent of a scholarship in which scientific inquiry was bound up with a
moral reflection by the individual. The science based on measurement was reduced to the ethos of knowledge.

This marked the beginning of a process whose intellectual and moral challenges are continuing to confront us and remain a central educational issue. From it a tendency developed to link the idea of an academic education exclusively to the knowledge content of those disciplines which had not undergone the functionalization and technicalization of science to the same measure as the other disciplines: the so-called humanities. The separation into faculties, which resulted from idealistic thoughts, thus constituted, in the form of the humanities, a "residual half" of the philosophical faculty as the locus of knowledge and education as provided by the classic university. While the natural science and technology-based sciences have not yet developed a common educational ideal, the historicist and philological disciplines retain an exhortative function: to cherish the value of reflection, strive for a scientific synthesis and uphold the postulate of the unity of science.

The influence of technology on science and the growing importance of scientific knowledge for practical life and society have marked the course of events since von Humboldt, so that the "idea" of a university as proposed by him has been further reduced: to the freedom of teaching and corporate self-administration, and — the idea of an idealistic education — to the discipline of pedagogy as the educational science. The "operational" structure of the university conditioned by the new concept of research meant that a hierarchical cooperation of teachers and students took the place of Socratic dialogue — the academic community ceased to exist, scientific inquiry had taken the form of lectures.

This was the situation of West German universities as Helmut Schelsky had found it (and which, in summary form, was outlined above) after analyzing, on a sociological basis, the action structures and opportunities of the normative "idea" of a university, barely two decades after the political collapse in 1945. In 1963 he wrote: "I cannot see why the political basis of von Humboldt's idea of a university should be 'dead' today". Out of this conviction he elaborated reform plans which he and Paul Mikat have outlined in detail in a publication entitled "Grundzüge einer neuen Universität. Zur Planung einer Hochschulgründung in Ost-Westfalen" (1966).

Among the guidelines for a restructuring of scientific research Schelsky listed a due attention to the operational organization of such an institution, the combination of every university teacher's research activities and his/her official duties, as well as recognition of the fact that the foundation of efficient research was the individuality of the scientist and, in particular, the fact that interdisciplinary research had now become one of the essential elements of scientific progress and should be built into the institutional framework of the universities. This was meant as a counterweight to the dangers inherent in the high degree of differentiation and specialization within the disciplines, such as isolation one from the other, overemphasis of method while neglecting the subject matter, ignoring problems inter disciplines and continuing with outdated specializations. At the same time Schelsky made a distinction between his concept and the special institutions in which interdisciplinary research was to be conducted on a permanent basis; such an establishment would, in his view, neutralize the advantages of such type of research in the long run; what he had in mind were research programs and projects on a fixed-term basis. He made it quite clear that such a concept, rather than being a (novel) universal philosophical synthesis, was intended to be a cooperative project involving several disciplines engaged in asking and examining specific questions ("scientific unity of an empirical object"). The basis of such research activities were to be a reciprocal conceptual and methodological understanding of the disciplines concerned and the development of interdisciplinary theoretical conceptions. To Schelsky this kind of joint undertaking seemed a possibility of a "reintegration of the increasingly specialized sciences" because "this is the starting point both of further progress in the individual disciplines and interdisciplinary research" itself. Schelsky emphasized the significance of an interdisciplinary dialogue also for applied research: That specific questions broached by the latter would inevitably touch the borderland between the traditional disciplines, and the theoretical and methodological contributions such a dialogue would produce could help to bring about the necessary integration.

He envisaged members of German and foreign universities forming research groups for about one year to study, in detail, interdisciplinary problems.

The kind of establishment he envisaged was a "Center for Advanced Study" of the type existing in the United States which he thought could be adopted fruitfully to the German academic system.

In particular Schelsky was thinking of the Collège de France, Nuffield College, Oxford, the Institute for Advanced Studies, Princeton, the Stanford Center for Advanced Study in the Behavioral Sciences, the Institut des Hautes Études Scientifiques, Bures-sur-Yvette, and the Institut für Höhere Studien und wissenschaftliche Forschung, Vienna.

Schelsky took the view that a new university endowed with a "Center for Interdisciplinary Research" would be able to serve a central task within the existing university system, which would be difficult to establish in the older universities, but could be expected to receive support from scholars of other universities. Since it is only this kind of scientific collaboration which can hope to realize what may today be possible in terms of a unity of science, we regard the inception and activity of this institute as the basic unit of the new university".

To Schelsky the necessity of an institutionalization of interdisciplinary research arose from the fact that specialized research institutions would be unable, in the long term, to assemble a team of excellent theoreticians. Inevitably, their intensive empirical research would become specialized again. There was no room for such research at existing universities because the organization of faculties was not suited for this task; and if, in certain instances, it was, it would be coincidental and piecemeal, and cooperation would take place only occa-
sionally in the event of joint colloquia. "Our present academic system does not at all or only in a dilettante manner approach the task of cooperation of the disciplines. In the long run this will seriously impede the progress of our scientific system."

The basic role ascribed to ZIF was to be documented by giving priority to its foundation: it was to start work immediately 'so that through this new kind of scientific collaboration, which was vital not only for the structure of the new university, experiences could be gathered which would have a decisive influence on the spirit and the internal structure of the institution'. (The actual sequence of the construction phases of the University of Bielefeld corresponded to these plans.)

Schelisky did more than just offer general ideas on a Center for Interdisciplinary Research. At the time (1964) he visualized 3 or 4 complexes of scientific problems which to him seemed capable of theoretical integration to be brought about by broadly-based questions. On a long-term basis they were to be complemented by the same number of institutes, "departments" or "faculties" of the type described, forming part of a system of institutes for Advanced Studies:

"a) a department of cultural and universal history to comprise all disciplines working with historical and linguistic methods;

b) a department of the social sciences in the broadest sense, including jurists, economists, social psychologists and educators;

c) a department of mathematics and natural sciences, based primarily on modern physical theories;

d) lastly, ... a department of biology and natural sciences ... which theoretically combines the life sciences."

He added that such a classification represented the main orientations of research, but did not mean "that only scholars from the disciplines mentioned should be permitted to join a particular department; philosophers should be present in all four departments as well as specialist mathematicians at least for a period of time; a temporary collaboration of linguists and specialists in computer hardware and software, for example, would also be fruitful."

In addition he worked out a surprisingly comprehensive plan for the working method and form of organization of such an institution. We cannot elaborate this point here, but would like to note, that with the exception of thematic classification, his ideas have been adopted in the ZIF Statutes.

One aspect should be mentioned here, though, which Schelisky held to be a vital prerequisite for ZIF's method of working and which, at the same time, distinguishes ZIF's work from other "Centers for Advanced Studies". While the latter's primary role was to enable scholars to pursue their own research projects over a longer period of time in an undisturbed and concentrated way, ZIF was to combine "salutary" research with group work. This was based on the condition "that systematic and regular discussion, colloquia, critique and agreement taking place in a group of scientists interested in the same field, although perhaps in different aspects, are of the greatest benefit for a scholar and his work". This was the beginning of the Research Group, a form of project work now practised at ZIF. A broadly-based theme which all Group Members study from the angle of their disciplines, but which serves as the common denominator when, in searching for a solution, they invariably come up against the boundaries which separate the individual disciplines — this theme constitutes the basis, stimulus and challenge of interdisciplinary dialogue.

If this dialogue in which interdisciplinary theoretical questions are discussed and researched is fruitful, the desired, new theoretical approaches to basic research may ensue, signifying progress born out of interdisciplinarity. "We consider this institution" (viz. ZIF), Schelisky concluded, "the only promising attempt to revive the idea of the 'unity of science' which, at today's universities, exists in name only; it is the 'concept of an academy' which befits our time."

What about the realization of this idea? For one thing, we note that Helmut Schelisky did not abandon any part of this basic concept, even later when he looked back critically at his reformatory efforts. The fact that the theoretical, idealistic and practical pluralism of science was "an indivisible characteristic of modern scientific systems and their universities", necessarily implied "complex and extensive work in terms of interdisciplinary basic research or interdisciplinary research projects". It was possible that this might not lead to the desired "integrity" of science, but to an exchange of thoughts instead: "... I concluded that von Humboldt's idea of a general education could no longer be realized, but a process of arguing, talking and thinking jointly on the part of the various disciplines whose specialization can never be reversed". A new beginning of intellectual collaboration at this level was the sole possibility of giving back to the university, fragmented into disciplines as it was, the consciousness of its intellectual unity.

Has this spiritual collaboration come about during the 15 years since the foundation of the Center?

Due to the construction period of the University of Bielefeld which imposed some spatial restrictions on ZIF's work, ZIF has been fully active only since ten years ago. Is it at all possible, considering the shortness of time and the novelty of the institution, to give a meaningful answer, especially in view of the inevitable learning experience at the beginning?

Information on all interdisciplinary events that have taken place at ZIF is given in the Annual Reports; the scientific results are there for discussion.
III.
Organe des ZIF im Berichtsjahr

1. Das Wissenschaftliche Direktorium

Aus dem Wissenschaftlichen Direktorium, dem im Berichtsjahr die Herren

Prof. Dr. Jürgen Kocka (Bielefeld)
Prof. Dr. Lorenz Krüger (Berlin)
Prof. Dr. Wolfgang Prinz (Bielefeld)
Prof. Dr. Ludwig Streit (Bielefeld)


Das neue Direktorium setzt sich demnach wie folgt zusammen:

Prof. Dr. Thomas Dorfmüller (Bielefeld)
Prof. Dr. Jürgen Kocka (Bielefeld)
Prof. Dr. Wolfgang Prinz (Bielefeld)
Prof. Dr. Ludwig Streit (Bielefeld)

2. Der geschäftsführende Direktor


3. Der Wissenschaftliche Beirat

Mit Ablauf des 31. August 1984 schieden turnusgemäß Dr. Hans-Günter Reif, Prof. Dr. Heimat Salz und Prof. Dr. Erhard Schellke aus dem Wissenschaftlichen Beirat aus. Neu in den Beirat gewählt wurden Prof. Dr. Klaus Dörner, Gutersloh, Dr. Frits Frings, Braunschweig und Prof. Dr. Reinhart Wirtz, Berlin.

Der Wissenschaftliche Beirat setzt sich zur Zeit wie folgt zusammen:

Prof. Dr. Sergio Alberverio, Bochum (Mathematik)
Akad. Oberrat: Dr. Rudolf Böttner, Bielefeld (Physik)
Prof. Dr. Eppert Brieskorn, Bonn (Mathematik)
Prof. Dr. Dr. Klaus Dörner, Gutersloh (Medizin)
Dipl.-Soz. Jürgen Grumbach, Bielefeld (Soziologie)
Prof. Dr. Heinrich Hackhausen, Bochum (Psychologie)
Prof. Dr. Wolfgang Heinz, Konstanz (Rechtswissenschaft)