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## Two Responses to Post-Industrial Problems Higher Educational Reform Trends in the German Federal Republic and the German Democratic Republic

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Two Responses to Post-Industrial  
Problems: Higher Educational Reform  
Trends in the German Federal Republic  
and the German Democratic Republic

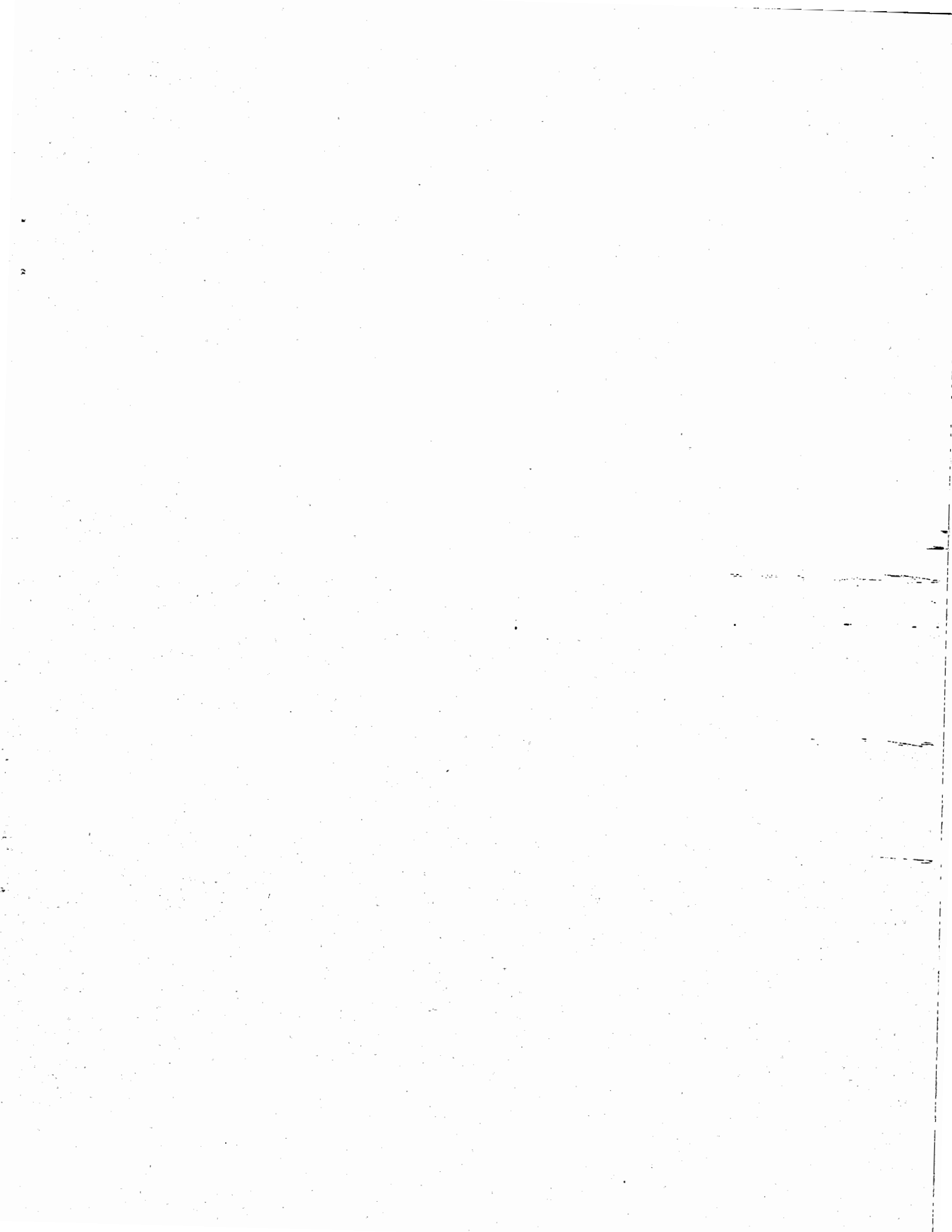
Joyce Marie Mushaben

TWO RESPONSES TO POST-INDUSTRIAL PROBLEMS :  
HIGHER EDUCATIONAL REFORM TRENDS IN  
THE GERMAN FEDERAL REPUBLIC AND THE  
GERMAN DEMOCRATIC REPUBLIC

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Alles Fragen, die uns deutlich machen, dass die katastrophale ökologische Krise von der Menschheit nur abgewendet werden kann, wenn sich in den vor uns liegenden Jahrzehnten grosse revolutionäre Veränderungen in der politischen und ökonomischen Struktur der menschlichen Gesellschaft vollziehen. Aber in welchem Teil unserer in Ost und West gespaltenen Welt werden sich die Kräfte entwickeln, die imstande sind, diese Umwälzung noch rechtzeitig in Gang zu setzen?

-- Robert Havemann

Morgen - Die Industriegesellschaft am Scheideweg

While students in Western industrial states manned the university barricades during the late 1960's demanding that the institutions of higher learning more actively involve themselves in the struggles for free speech, civil rights and national liberation abroad, authorities in the German Democratic Republic more or less quietly introduced a reform program at forty-four of their own academic institutions, designed to promote a new set of educational and political objectives. This academic "revolution from above" sought to realize those very goals scorned by protesters on Western campuses, namely the "healthy marriage" of university teaching and research functions to the long-term economic planning needs of the system as a whole, as well as the creation of the "perfect production-oriented university" subject to centralized ideological control. At the root of various structural and curricular reforms proposed by the Seventh Party Congress in 1967 rested the desire among SED leaders to fuse science with socialism, the outcome of which would be a new generation of highly qualified, class-conscious technicians capable of enthusiastic contributions to East German economic and industrial developments.

Party-sponsored reform measures, which were expected to achieve the desired outcomes by 1975, introduced significant changes in the areas of university governance, academic admissions and curricular planning throughout the higher

educational system. Not all of these reform measures were enthusiastically welcomed by every segment of the East German academic community. All were nevertheless obliged to comply with state directives, owing of course to the communist party's exclusive control over the educational system. Centralized control notwithstanding, GDR authorities faced a variety of implementational problems, some of which were so serious that by 1979 policymakers found it necessary to reassess the effectiveness of the institutional and pedagogical means chosen earlier to attain specific reform ends. They completed their task in time for the Fifth Higher Educational Conference held on September 4-5, 1980, as a prelude to the X. Party Congress.

The year 1975 marks the halfway point of a ten-year, rowdy reform process instigated in the Federal Republic about the same time that GDR officials set to work modifying their higher educational system. The initial reform goals posited by educational policymakers in the FRG were subjected to substantial revision, particularly after 1972-73. One result is that the most recent catalogue of West German reform objectives confirmed in a several federally mandated educational laws bears a number of striking parallels to the programmatic goals announced in East Germany over a decade ago. These goals include an "opening of the universities" to less privileged children of the working class, administrative streamlining based on the restructuring of universities along departmental lines, and innovation in academic programming resulting from the inclusion of delegates from the state, industry and labor in university decision-making bodies and in regional curricular reform commissions. Educational authorities in the Federal Republic are now equally intent on developing closer working ties between industry and academia, while both Germanies, for obvious reasons, are beginning to concentrate on educational contingency planning in hopes of offsetting problems caused by economic scarcity.

In light of critical ideological and systemic differences, the syncopated

timing of East and West German higher educational reforms seems rather ironic, on the one hand, and appears to be symptomatic of converging patterns of State-University relations in advanced industrial societies, on the other. Changes in the institutions of higher learning in both countries over the last ten years have, for the most part, been externally induced -- by the SED in the German Democratic Republic and by a combination of parliamentary and judicial forces in the Federal Republic. Changes in the structure and content of higher learning in both systems are a consequence of increasingly complex forms of interdependence among the economic, political and legal segments composing the educational task environment. The moving force behind many of these changes is, of course, the growing problem of finite fiscal resources and the state's need to allocate them more efficiently, if not more equitably, among competing sectors.

As Burton R. Clark has pointed out,

modern national systems of education are among the most complex social enterprises ever evolved. Researchers need all the help they can get to penetrate that complexity and disentangle the strands of control. 1

Academic institutions, like other modern product and service organizations, face a growing variety of tasks, along with rising levels of "uncertainty" grounded in resource dependence. They are forced to develop ever more complex structures of authority, just as they must devise the organizational means for cultivating informational and resource exchanges with other elements of their task environment. One suspects that this is no less of an Herculean task within East bloc nations than it is in the West. Centralized control of the educational system in the German Democratic Republic means that the dominant party must provide all the resources, as well as a comprehensive, fundamental ideological justification for any significant structural or pedagogical reorientation it chooses to introduce. The SED leadership is further restrained by the recognition that it alone bears all responsibility for planning errors, economic failures and any other contingency likely to

affect the stability of the system as a whole. The highly decentralized system of educational decision-making and control characteristic of the Federal Republic well into the 1970's has allowed more opportunities for educational experimentation, at least on the surface; it requires little more than piecemeal justifications for individual reform measures. The inherent disadvantages are that policymakers are neither able to establish new economic priorities at will, nor are they well-equipped to deal with problems of coordination and compliance with national standards.

Little attention has been paid to "convergence theory" in recent years. This work is an attempt to discover new supports for and new evidence of converging patterns of higher educational management in Germany East and West. The paper begins with an effort to relate changes in the educational system to developments in the socioeconomic system as a whole. It then traces three stages of reform that appear to have occurred more or less simultaneously in the two Germanies, involving institutional expansion, the standardization of higher educational administration and the rationalization of academic programs. The concluding section seeks to compare and contrast the major problems besetting the higher educational systems in the two states, focusing in particular on the pressures generated by a changing international environment. The main thesis holds that reform parallels and converging patterns of higher educational development are the result of technological specialization, economic dependency and increasing bureaucratization, rather than the product of ineluctable ideological forces. Comparative work in this policy area has been limited to date. This author nevertheless asserts that the study of German university reform can lead to a significant understanding of other complex socio-economic relations encountered in an advanced industrial society -- as manifested on both sides of the Berlin Wall.



A. EDUCATION AS DEPENDENT AND INDEPENDENT VARIABLE.

The educational system in modern society functions both as a transmitter of established values and customs, and as a source of new values and behaviors, irrespective of a specific national setting. It is therefore natural that mounting tensions between the superstructure and the base, between socio-cultural phenomena and economic determinants, should manifest themselves here. Educational policymakers bear witness to growing interdependence among a wide variety of environmental components, an interdependency which tends to upset what was presumed to be an isomorphic relation between superstructure and base. Relations among elements of the educational task environment are rendered more complex, thanks to increasing specialization and differentiation among most societal institutions, on the one hand, and due to the problem of ever-scarcer resources, on the other.

Educational institutions not only transmit ideology; they also generate new ideological components of their own accord. In order to maintain a balance among groups within the system, individuals must be inculcated with a basic belief in the prevailing incentive structures; individuals must be able to anticipate and to accept the concrete rewards and sanctions that accompany certain modes of behavior and levels of performance. In an advanced industrial system, the school is expected to perform a three-fold function: it must ensure the reproduction of skills necessary for technological progress and capital accumulation; it must guarantee the reproduction of internalized submission to the established order; and, last but not least, the school must provide for the re-creation of the relations of production.<sup>2</sup>

The brooding giant of finite fiscal resources ushered in by the energy crisis of the 70's raises new questions about the State's ability to promote an equitable distribution of social goods and services (as well as rewards), and its "authoritative allocation" in turn depends upon already established

values. A classical Marxian analysis would have it that existing values are shared (and hoarded) among the societal elite. Traditionally, one could expect to find evidence of very strong philosophical and socio-economic bonds between state administrators and a nation's intelligentsia. Historically speaking, many institutions of higher learning were created for the purpose of ensuring the state a steady supply of capable administrative and technical experts. Today this objective still counts as one function of advanced education, albeit among many others, in systems ranging from the German Federal Republic to the People's Republic of China. Economic constraints, however, force leading officials to make ever more specific choices about those educational arenas worthy of ongoing investment. Policymakers and educators increasingly find themselves on opposite sides of the fence in a serious struggle over decision-making authority: the debate rages not only with respect to what is good education and what is not, but also in regard to the question who should determine what constitutes quality education and the ends it is to serve. The same question applies to quality research.

While the educational process must be managed in such a way as to reproduce the existing division of labor and a concomitant distribution of rewards, it must also demonstrate its ability to adapt and perform in accordance with changing socio-technological demands. In most industrial nations, the educational system finds itself in something of a double bind. Growing demands are placed upon schools and institutes to provide contingents of diversely skilled, technically qualified workers. Society boasts of ever higher levels of education, enhancing opportunities for the self-actualization for its citizenry. One can argue, however, that an undergraduate college degree is roughly equivalent in value to a secondary school diploma in the immediate postwar period; it represents a minimal certification for a variety of professions, rather than guaranteed entry into highly desirable occupations. Increasing

automation and specialization of the industrial workplace, ironically, subjects employees to ever more routinization and depersonalization; the resulting over-qualification or underemployment tends to breed discontent. Furthermore, rapid advances in technology mandate a flexibility of response to changing work environments which contradicts the fragmented, exclusive specialization afforded by professional training programs. Employers resort to hiring individuals who demonstrate "extra-functional qualifications," i.e. willingness to engage in teamwork, well-developed communication and public relations skills.<sup>3</sup> They rely, in fact, on those individualistic qualities which standardized education must consciously ignore in providing minimal levels of schooling for the masses.

Nor can modern societies afford to underplay the importance of technological innovation in the face of rising international competition. This poses yet another dilemma for those whose dominant concern lies with preserving the stability of the system. As Hartung and Nuthman have argued in this context, effective competition depends upon quality control and continuous innovation.<sup>4</sup> Innovation requires a capability on the part of individual workers to think critically and to question constantly their own productive roles. Innovation moreover depends on unimpeded experimentation and investments in basic research. But because the payoffs of basic research are often contingent upon long lead times or longer-range planning, industrial states, up against the brooding giant of finite resources, are likely to shift to an emphasis on applied research with short-term payoffs. Policymakers can be expected to direct academic or scientific institutes to focus on applied research, to the extent that it provides for more effective cost-benefit analysis and budgetary control.

The key to more rational management of limited fiscal resources and to more effective utilization of valuable human resources seems to lie in a nation's capacity for planning. That capacity, at least in part, is a function

of policymakers' ability to promote and absorb the products of high-caliber scientific research. Initially rejected by Western industrial states because of its totalitarian overtones and its demonstrated failures in the East, centralized planning began to attract the attention of economists with the introduction of the PPBS in the late 1960's. The revolution in computer technology which has rocked the Western world since then has not only provided policymakers with a set of frighteningly powerful tools for simulation and forecasting. It has also yanked scientific researchers out of their proverbial ivory towers and assigned to them critical new input roles in the policy process.

Advanced industrialism in the West finds its analogue in the "scientific-technical revolution"<sup>\*</sup> concept promulgated in the East. Both characterizations are grounded in the realization that :

- 1) the number of scientific discoveries is growing at an ever more accelerated pace;
- 2) the application of new scientific information and discoveries occurs at ever shorter intervals and permeates all social arenas, but especially the productive sector;
- 3) the sciences are increasingly differentiated, as highly specialized disciplines emerge which simultaneously influence one another and attach themselves to new subfields;
- 4) in addition to physical labor, it is now possible to delegate and transfer an expanding range of mental tasks to the "machines."

Consequently, scientific research has developed into a full fledged branch of production and has become a production resource in its own right.<sup>5</sup>

For a variety of reasons, planning efforts in the German Democratic Republic proved relatively successful in contrast to Soviet experiences, especially after a partial decentralization of the economy took place in 1963. The lesson was not completely lost on the Federal Republic, which historically

\* Wissenschaftlich- technische Revolution, abbreviated WTR.

speaking, was not as hostile to planning as were its other Western Allies. Brandt's efforts to house a central planning department in the Federal Chancellor's Office in 1969 collapsed by 1972, but not before the individual Ministries created their own planning units in defense of their bureaucratic turf.<sup>6</sup> The call for educational planning was a product of the times.

For leaders who have not yet mastered the informational deficits and the contingency problems inherent to middle-range financing and Five Year Plans, the prospects for effective educational and research planning would appear to be quite bleak. The validity of socioeconomic projections, i.e. the need for "x" qualified graduates in "y" subfields, can only be tested once an entire generation has run the gamut of the educational system. Should those projections prove untenable, society bears the multiple costs of a "lost generation" until a successor group can be primed to enter the work force. The demographic imbalances afflicting both German states as a consequence of war losses and pre-Berlin Wall emigration patterns, coupled with their corresponding economic booms in the 1960's and their respective ideological orientations, are factors that sensitized SPD and SED leaders to the need for more sophisticated educational planning. Formal ideological differences notwithstanding, efforts to plan resulted in a recognized need for fundamental reforms in both systems. The political dynamics of reform, I argue, have resulted in circumstances that ultimately lead both Germanies to pursue similar educational trends; at the same time, both find it more difficult to exercise centralized control over the scientific-educational process.

#### B. THREE PHASES OF REFORM IN THE FEDERAL REPUBLIC.

Because of its status as an advanced industrial society, the German Federal Republic could be thought to share many of the goals of its Western neighbors. Yet in a comparison of educational reforms among European Community nations

within the last two decades, the FRG clearly lagged behind. In 1965, Torsten Husén maintained that the West German educational system served as "a present day European example of a failure to plan."<sup>7</sup>

The "educational catastrophe," first explored in depth by Georg Picht in 1964, was particularly visible at the tertiary level. Academic institutions continued to be dominated by the kinds of hierarchical structures and authoritarian teaching methods that had characterized German education prior to 1939. Reforms in the areas of curricula revision, teacher training programs, university governance and admissions policies were long overdue. Further, despite the post-war commitment to more democratic forms of socio-political organization, the number of students from working class families admitted to the universities remained at the level of five to ten percent -- even though enrollments had more than doubled by 1965.<sup>8</sup>

Picht demanded that education be made the nation's number one domestic priority for pedagogical as well as for social and economic reasons. First, he warned that an extreme shortage of teachers and classroom facilities was inevitable, in light of the additional two million children about to descend upon the country's elementary schools -- the first wave of the post-war Baby Boom; obviously the quality of education would be seriously impaired if existing personnel and classroom space were only to be maintained at existing levels. Secondly, Picht pointed to significant imbalances at the Länder level, owing to the decentralized administration of education; school children in provincial-agricultural regions in particular were not able to meet even the comparatively low-level national standards, and family transfers from state to state disadvantaged elementary-aged pupils more than their elders. Thirdly, Picht projected the end of the Wirtschaftswunder. In an age of technology and specialization, an educational system based on 19th century philosophical principles posed a threat to the economic health of society as a whole. Entrance

into the Common Market and increasing international competition required the "production" of ever greater numbers of skilled laborers, which would hike the price (and the value) of education at all levels. The primary financier in Germany had always been the State; but public investment in education had, in fact, decreased from 3.31 percent of the national budget in 1958 to 3.26 percent in 1960 and 2.9 percent in 1962.<sup>9</sup> Picht placed the blame on the form of cultural-educational administration: the Länder exercised complete control over legislation and administration, while planning and financing powers not specifically delegated in the Basic Law were coveted by authorities at the national level.

In 1965, sociologist Ralf Dahrendorf underscored Picht's analysis of impending doom. Then he introduced another critical variable which was to become the bane of university existence, viz. the notion that Bildung ist Bürgerrecht -- education, in the larger sense, is a civil right.<sup>10</sup> Dahrendorf emphasized that educational reform was not only crucial in regard to the nation's future economic and scientific needs, but also in light of changing social demands. Affluence, he argued, was only one dimension of freedom in a democratic society. Article 12/1 of the Grundgesetz (the "Basic Law" serving as the provisional constitution) guaranteed all citizens the right to choose freely their vocations, educational facilities and places of work, as did respective articles in the Länder statutes. The State had no alternative but to make Chancengleichheit -- equal opportunity -- the basis of subsequent educational reforms. In line with this argument, policymakers sought to extend university access opportunities to children from the lower socioeconomic strata by establishing "comprehensive schools" on an experimental basis and by undertaking a series of much-maligned curricular reforms at Senior Secondary levels (Oberstufen) at regular schools. Measures to overhaul the vocational education sector were introduced separately and soon fell by the wayside. The outcome of reform efforts in the first two

areas, combined with demographic developments, was to unleash a floodgate of potential post-secondary applicants.<sup>11</sup>

Under the circumstances, expansion of the tertiary sector was a logical first choice in the search for university reform alternatives, beginning in 1965. Recuperating from the radical reductions of 1933-1939, university enrollments returned to normal levels by 1952; stabilization was short-lived, however. Institutions of higher learning experienced a 76 percent increase between 1952 and 1960, and a further enrollment rise of 100 percent during the period 1960-1970. But the real "educational explosion" would occur between 1970 and 1975, when the number of students was to skyrocket an additional 180 percent.<sup>12</sup>

Phase I, 1965 to 1970, saw educational authorities adopt a variety of expansion strategies, beginning with the creation of eighteen new higher educational institutions. Officials further attacked the space problem by expanding the existing universities; by transforming specialized institutes into "regular" universities; by adding requirements and then accrediting technical schools with higher educational status; by shifting labs and institutes, as well as other support structures to permit better utilization of available spaces. The next step was to swell the rolls of the academic teaching staff, adding a new stratum of junior faculty (Mittelbau) in order to restore student-teacher ratios to the normal levels of the 1950's. In fact, the ranks expanded from 9,000 "assistants" in 1960, to 18,000 in 1965, to 28,000 by 1971.<sup>13</sup>

These expansion measures produced two unintended results: 1) the increased supply actually exacerbated the demand for university education in the midst of the Baby Boom; and 2) rapid institutional growth precipitated internal crises of coordination and authority. Federal expenditures to higher education had increased by 500 percent, while control over the allocation of those monies remained constitutionally vested in the Länder. In order for the Bund to succeed



in effectively distributing subsidies to the Länder and to ensure their use for expansion purposes, federal authorities held that it was necessary to simplify their dealings with the respective recipients. The mode of university administration differed significantly from state to state, and coordination depended upon voluntary compliance by the Länder.

Phase II, extending from 1968 to 1972 was characterized by a more active attempt on the part of state officials at both levels to direct pressing intra-organizational and interinstitutional reforms. Standardization was a strategy intended to aid the national executive in concentrating and managing its "new assistance relationships," while bringing a broad range of conflicting state educational priorities more clearly into line with each other and with national SPD reform orientations (especially after 1969). The Länder viewed standardization as an opportunity for dictating structural reforms, i.e. by replacing traditional "Faculties" with departments, and for streamlining university admissions and governance procedures by switching to a presidential-management system. Authorities moreover became conscious of the need to agree on more unified academic programs to facilitate student transfers across statelines to less crowded universities.<sup>14</sup>

Overcrowding in fact became the major problem by 1972, making it necessary for individual universities to impose numerical limitations on student admissions. Enrollment projections issued by the new Federal Education Ministry of 280,000 for 1978 and 560,000 for 1980 had been surpassed by 1960 registrations (290,000) and 1971 figures (587,400), respectively.<sup>15</sup> On October 20, 1972, the eleven Länder ministers institutionalized the Numerus clausus system by creating a Central Office for Student Admissions in Dortmund. The Numerus clausus principle applied especially to those seeking to enroll in architecture, biology, chemistry, dentistry, medicine, pharmacy, psychology and the veterinary sciences.

Using as a primary justification the economic pressures conjured up by the recession of 1971-72 and the inflationary effects of the 1973 energy crisis, the Federal Finance Ministry brought university expansion programs to a dramatic halt. Owing to fiscal constraints, educational authorities were forced to pursue a strategy of rationalization between 1972 and 1976. The objective of this particular reform exercise was to produce more graduates with higher qualifications in less time at lower cost to concerned German taxpayers. The Länder ministers of education took advantage of the brake on national expansion measures to extend their powers with respect to the regulation of examinations, and with that, to intensify their involvement in the curricular reform process. Steps to streamline curricula and the imposition of tougher exam requirements were intended to "depoliticize" the academic environment, as well as to discipline individual university activists.

By the end of the 1960's, finance had become the most critical aspect of university administration and, consequently, a major source of constitutional conflict between the Bund and the Länder. In 1969 the Länder were forced to accept a constitutional amendment (91b) that extended federal jurisdiction over the higher educational sector in exchange for one (91a) that promised significant federal assistance in the areas of agricultural, coastal and regional development.<sup>16</sup> Amendment 91b led to a number of parliamentary acts dealing with university construction and federal budgetary procedures, which in turn were to lay groundwork for a national Higher Education Act. Federal Educational Minister Leussink presented the first legislative draft to parliament in 1971; but by 1972, political winds had begun to shift. While the SPD consolidated its majority in the Bundestag following the 1972 national elections, state-level elections produced a CDU-dominated Bundesrat, that was ready, willing and able to exercise a suspensive veto against three subsequent drafts of the Framework Law. It goes without saying that the German university

was a house divided, owing to the disruptive effects of the anti-Vietnam protests and the student movement. Bund and Länder authorities carried their political differences and jurisdictional disputes into the halls of parliament and into the courts, each hoping to play the role of "the state to the rescue."

The Federal Framework Law for Higher Education finally adopted in 1976, and the spectrum of State Adaptation Laws promulgated in its wake, do not appear to offer a more long lasting resolution of tensions, nor a necessarily durable political consensus on role of higher education and the importance of university autonomy in the FRG. The new CDU-government in Berlin, for example, has already held numerous parliamentary hearings on a proposed overhaul of the SPD's not-yet-implemented 1979 Adaptation Law. Only a brief summary of what has been accomplished during 15 years of (what critics label) the "reform hectic" can be offered here.

In one respect, the reform has taken hold: the expansion programs begun in the late sixties have significantly broadened citizen access to higher education -- if you don't mind the wait, that is. Waiting periods of three to seven years continue to plague applicants looking for a place in the hardcore Numerus clausus disciplines. The number of students enrolled in the tertiary sector has risen impressively from some 384,400 in 1965 to 790,500 in 1974 and to more than 980,000 in 1978/79.<sup>17</sup> The percentage of a given cohort now attending academic institutions has also jumped from less than six percent in 1965 to roughly twenty percent by 1979.

Reformers have furthermore brought about a measure of standardization with regard to university administration and degree requirements; but the beauty of this important reform accomplishment appears to be only skin deep. Substantive as well as political differences persist from one state to another, especially in relation to the teacher training and recruitment practices which remain under the control of the Länder ministers. The HRG did what it was

supposed to do in a limited sense, viz. it provided state-level policymakers with a common legal framework. But a closer look at the eleven Adaptation Laws leads one to conclude that the Framework Law is about as effective in covering up the differences in Länder educational priorities as were the emperor's new clothes in protecting the sovereign from unfavorable environmental elements. The regulations have become more and more detailed with each legal turn; the distinctions between qualifications, extrafunctional and otherwise, are more and more acute. Some of the Länder allow for organs of student government; others, such as Bavaria, have outlawed them. Some states guarantee the legal maximum in assigning representational seats to non-professorial groups, others hold participation in decision-making bodies to minimal levels. Ultimately, the standardization of academic programs will depend upon cooperative efforts among the Länder and compromise agreements worked out by the regional curricular reform commissions, whose members have only begun to tackle the task at hand. As late as May, 1982, the state educational ministers had yet to sign accords guaranteeing mutual recognition of certain academic degrees.

Rationalization, that is, the attempt to ensure job-relevant training and a degree of professional flexibility, while simultaneously streamlining curriculum, accelerating the learning process and holding down costs, is an objective that can only be attained through the clever use of mirrors. Politicization of the university reform issue has led to greater external control over the content of higher learning, and assessments by outside agents are increasingly based on economic criteria. Rationalization measures may assist political authorities in dealing with the question of institutional efficiency; but moves in this direction ought not to be equated with educational effectiveness. Successful rationalization would signify that tangible benefits have accrued to individuals participating in the accelerated learning process as a direct consequence of legislative reform activity. Present academic unemployment

statistics in the Federal Republic belie the benefits of mass education for mass education's sake.<sup>18</sup> Rationalization, in many respects, has failed to service reform objectives. Against this background we now turn to examine the specific problems facing educational authorities in the German Democratic Republic, and to stack up their reform record against that of the FRG.

### C. PLANNED, PROGRAMMED REFORMS IN THE GERMAN DEMOCRATIC REPUBLIC

In contrast to the gradual centralization of educational authority witnessed in the western state, responsibility for academic decision-making has been concentrated in the hands of the Socialist Unity Party ever since the founding of the East German Republic. Whatever other charges one may wish to levy against the system, GDR officials cannot be accused of having insufficiently attended to matters educational. Indeed, educational issues have served as an integral focus for discussion at each of ten Party Congresses held between 1947 and 1981, enjoying particular prominence at the VI, VII, VIII and IX Congresses in 1963, 1968, 1971, and 1976, respectively. The SED has moreover convened five Higher Educational Conferences, the latest in September, 1980, devoted exclusively to problems facing post-secondary institutions.

Officially, the GDR prefers to evaluate ongoing reform measures in the context of historical-socialist stages of development. The first stage, extending from 1945 to 1949, constituted the "anti-fascist, Democratic School reform." The second wave, covering the years 1950 to 1962-63, called for the "construction of the Socialist School in the GDR." The third higher educational reform campaign from 1962-63 to 1970-71 concentrated on the "development of the Unified-socialist Educational System," based on the 1965 law bearing the same title.<sup>19</sup> In terms of authority relations and in reference to definitive principles, one is tempted to argue that the educational system as a whole has experienced more continuity than change, however. The SED has

maintained its power monopoly over the policy process, Marxism-Leninism continues to supply the fundamental value premises, while factual premises for decision-making are rooted in the needs of the economic production process, and the Soviet Union is still upheld as a model for socialist development.

Five principles underlie the system:

- 1) all civics training and formal instruction, as well as all the institutions and organs judged to have educational influence are to be used as instruments for a socialist "restructuring" of society;
- 2) all educational and instructional methods are grounded in the realization that Politics, Economics and Pedagogics are reciprocally related, and are to be treated as a unity;
- 3) technical training and political-ideological education, scientific- and party-related activity, school and daily life, as well as formal instruction and productive labor are also to be viewed as a unity, and connected with each other;
- 4) the attainment of the "all-sided developed personality" is the ultimate educational objective that encompasses an array of interwoven subgoals, especially the inculcation of socialist morality, fidelity to Marxism-Leninism, love of work, patriotism and internationalism;
- 5) the reach of Marxism-Leninism is all encompassing, manifesting theoretical, practical, cognitive, and emotional dimensions; its influence stretches from kindergarten to advanced education. Its aim is to apprise every single individual of the correctness and the invincibility of this ideology. 20

It is fitting that a regime which seeks its legitimation in the immutable forces of history would find cause to introduce extensive, fundamental educational reforms not in the warnings of individual critics, but rather in occurrences of world-historical consequence. Western analysts surmise that the events of 1956, in particular the denunciation of Stalin at the XX. Party Congress of the CPSU, and the abortive revolts in Poland and Hungary, precipitated a crisis of confidence between members of the national intelligentsia and the SED, felt most deeply at the university level. The implementation of comprehensive economic reforms within the framework of a relatively decentralized New Economic System in 1963 triggered an additional round of educational

readjustments to changing work force needs. The clash between intellectual and party forces in Czechoslovakia in 1968 is also likely to have figured in the restructuring of cadre training programs, as well as in the reinforcement of the formal Marxist-Leninist component in advanced study and degree programs. Reform measures in each case nonetheless steered segments of the educational system in different directions. While the official party reaction underlying the 1958 reforms revolved around a defense against "appearances of revisionism and dogmatism," reform efforts from 1963 to 1965 addressed problems of a curricular, technical and structural nature. Post-1968 reforms served to upgrade the status of academics relative to researchers at industrial-based R & D centers and sought a fusion of the "two souls in one breast" -- the red versus the expert -- by reemphasizing the formation of the "all-sided socialist personality."<sup>21</sup>

When the educational institutions reopened their doors in the autumn of 1945, East German authorities under the auspices of the Soviet Military Administration saw as their first task the need to purge the teaching staffs of all fascist and militaristic elements. But they also worked immediately to increase the educational opportunities available to children of worker and agricultural backgrounds, according to ideological dictates. The purge ostensibly completed by 1951, SED authorities created a State Secretariat for Higher and Technical Education in February of that year, later to be accorded ministerial status. Between 1951 and 1958, measures were aimed at streamlining courses of study, introducing uniform curricula, regulating qualifying exams and length of allowable academic study, with an emphasis on the "achievement principle." Correspondence courses (Fernstudium) were introduced at the higher levels, while attempts to emulate the Soviet polytechnical model were pursued at the lower levels.

Expansion of the tertiary system was a focal concern of policymakers

during the period 1951 to 1955 and again 1969 to 1974. In order to accommodate a rapid, dramatic expansion of the applicant pool, the SED sponsored a major construction program, increasing the number of post-secondary facilities from 6 universities in 1945-46, to 21 higher educational institutions in 1951. 1955 saw the addition of 7 technical universities, 7 teachers' colleges, 3 medical schools, 3 art academies, 2 agricultural colleges and 3 economic institutes to the system. As was the case in the FRG, however, stabilization was short-lived, as the number of enrolled students would rise from 28,500 in 1949 to 75,084 by 1955 and to a new high of 111,404 in 1961; this increased the number of students per 10,000 citizens from 15 to 65.2 in a 12 year period.<sup>22</sup> A second enrollment explosion would occur between 1966 and 1972, as Table I indicates.

TABLE I: STUDENTS ENROLLED AT HIGHER EDUCATIONAL INSTITUTIONS IN THE FRG AND GDR, 1951-1979

German Federal Republic				German Democratic Republic			
Year	Total	Female	New Admissions	Year	Total	Female	New Admissions
1960	291,000	69,700	79,400	1960	99,860	25,213	30,081
1965	384,400	96,000	85,700	1965	111,591	29,099	24,735
1966	406,700	96,500	102,600	1966	110,523	29,995	24,914
1967	418,400	107,300	96,800	1967	110,614	31,928	25,012
1968	443,600	110,200	114,600	1968	115,152	35,946	28,784
1969	473,100	116,500	118,800	1969	127,585	42,733	37,932
1970	510,500	130,500	125,700	1970	143,163	50,689	43,975
1971	597,300	154,200	143,500	1971	153,014	58,685	44,047
1972	661,500	200,000	155,500	1972	160,967	65,472	39,449
1973	729,000	231,600	164,700	1973	153,558	68,327	33,222
1974	790,500	263,100	168,300	1974	144,606	67,919	34,531
1975	840,800	283,200	166,600	1975	136,854	65,976	34,390
1976	877,300	294,200	168,100	1976	130,201	62,134	32,131
1977	913,300	314,200	165,500	1977	129,615	61,600	32,194
1978	945,900	334,100	172,500	1978	127,473	60,657	32,391
1979	983,600	354,100	177,700	1979	129,055		32,309

SOURCES: FRG, Grund- und Strukturdaten, 1980/81, Hrsg. Der Bundesminister für Bildung und Wissenschaft, Bonn, 1980, pp. 104-107.

GDR, Statistisches Jahrbuch der Deutschen Demokratischen Republik, Berlin, 1980, pp. 298-305.

These developments were accompanied by expansion of the staff as well, as comparatively illustrated in Table II.



TABLE II: GROWTH OF PERSONNEL AT HIGHER EDUCATIONAL INSTITUTIONS IN THE FRG AND GDR.

Federal Republic of Germany				German Democratic Republic			
Year	Total	Teaching Faculty	Scientific Assistants	Year	Total	Teaching Faculty	Scientific Assistants
1953		1,641	862	1951	3,274	1,395	1,879
1955				1955	7,743	2,535	5,208
1960	19,100	5,500	9,300	1960	11,564	4,152	7,412
1965	36,600	9,400	17,900	1965	not available		
1970	54,300	14,900	25,200	1970	21,219	4,621	16,598
1975	77,900	31,000	28,000	1975	26,112	5,284	20,828
1980	80,100	33,100	22,400	1980	29,100	6,100	23,000

Source: Grund- und Strukturdaten, *ibid.*, p. 149

Source: Hrsg. Hans-Jurgen Schulz, Das Hochschulwesen der DDR- Ein Überblick, Berlin: VEB Deutscher Verlag der Wissenschaften, 1980, p. 194.

On September 1, 1958, the 10-year polytechnical education model was adopted at all compulsory schools, to be followed in most cases by two years of vocational training. The 1959 "Law on the Socialist Development of the School System in the GDR" moreover provided for a 12-year general polytechnical school, which would qualify students for university admission after one year of work experience.<sup>23</sup>

The III. Higher Educational Conference of February/March 1958 assumed responsibility for operationalizing the "Program for the Socialist Restructuring of the Universities and Higher Educational Institutions [Hochschulen]" adopted at the V. Party Congress of 1958. One important feature was the introduction of "contract research," as a means of enhancing cooperation between academic institutions and the economic sectors in the "science boom" generated by the Sputnik launch of 1957.

The global economic summit meeting of 1962 led to a reappraisal of East German science policy, in conjunction with the restructuring of the economy in 1963. The SED proclaimed science (Wissenschaft) to be a direct "production force" and stressed the critical role of scientific research in class struggle and in confrontations between global systems.<sup>24</sup> The VI. Party Congress of 1963 laid the groundwork for an overhaul of virtually the entire educational system

in the direction of early specialization and professionalization, as formulated in the "Law for an Integrated Socialist Educational System" of February, 1965. The law directed comprehensive curricular reforms at all levels and anticipated a restructuring of the upper secondary level in 1966, which would contribute significantly to a second explosion in tertiary level enrollments. The SED codified its commitment to equal opportunity, adding to the 1965 Law a passage analogous to Art. 12/1 of the West German constitution, to the effect that "every citizen of the German Democratic Republic with the requisite secondary certification (Hochschulreife) has the right to apply for admission to studies at a university or advanced school."<sup>25</sup> But greater attention was focused on a serious shortfall of academically trained, technically skilled cadres at the upper and middle levels of the economy. Generalized, "uniform" college preparatory courses were instated for eleventh and twelfth graders at expanded upper schools (EOS) and for those with a specified number of years of working experience, to funnel more students into higher educational institutions and to allow greater flexibility in channeling applicants into diverse fields.<sup>26</sup> Pedagogical institutes were upgraded to Hochschule status, teacher training programs were substantially revised.

The Law's impact was mirrored in the 1966 "Principles on the Further Development of Teaching and Research at Higher Educational Institutions," issued by the IV. H. Ed. Conference, aimed at concentrating academic potential in the fields of mathematics, cybernetics, chemistry, physics, and operations research, inter alia.<sup>27</sup> 1967 marked something of an ideological watershed, when Ulbricht announced at the VII. Congress of the SED that the GDR had entered the phase of a Marxist-Leninist "Scientific-Technical Revolution," (WTR) a Leitmotif that has dominated all subsequent academic reform discussions.

The implementation of policies derived from the WTR concept between 1968 and 1973 roughly corresponds to the standardization phase of the West German

reform process. One does witness a greater overlap between standardization and rationalization measures in the GDR, however, with respect to university teaching. Reform objectives were two-fold: 1) to restructure academic institutions to facilitate the introduction of new curricula and methodologies that would convey theoretical knowledge as well as practical skills; and 2) to tie academic teaching and research activities into the centralized planning process by increasing institutional "contacts" with the outside.<sup>28</sup>

Beginning in 1969, the state introduced significant structural modifications at seven universities, thirty-four colleges and institutes, and three medical academies in three areas. The traditional Faculties of philosophy, law, education, medicine, agriculture, math and sciences, economics, theology and veterinary medicine, were replaced by smaller, specialized sections, (comparable to US academic departments), which were to guarantee a closer linkage between science (Wissenschaft) and economic-technical concerns. The traditional Academic Senate was abolished in favor of "scientific" and "social councils," which placed along side professor and student delegates a number of representatives of the state, industrial enterprises, trade unions and mass organizations. Further, academic programs were revised to provide four-year courses of study, combining basic declared-major and advanced instruction with research activity; only a select group would later be admitted to an additional, three-year "research-studies" program. Active involvement in curricular planning on the part of industrial and economic actors was to become the rule, rather than the exception (contrast East and West university structures, Diagrams A,B).

Ten engineering colleges were added to the system, while Fernstudium and evening college capacities grew so quickly that by 1973 the number of correspondence students matched the full-time regular students at 40% each, with 20% in the evening division.<sup>29</sup> The organic link between academic research, economic development and the attainment of ideological objectives was

Diagram A: Central Decision-making structures at the University of Rostock (GDR) and the Free University of Berlin (FRG)

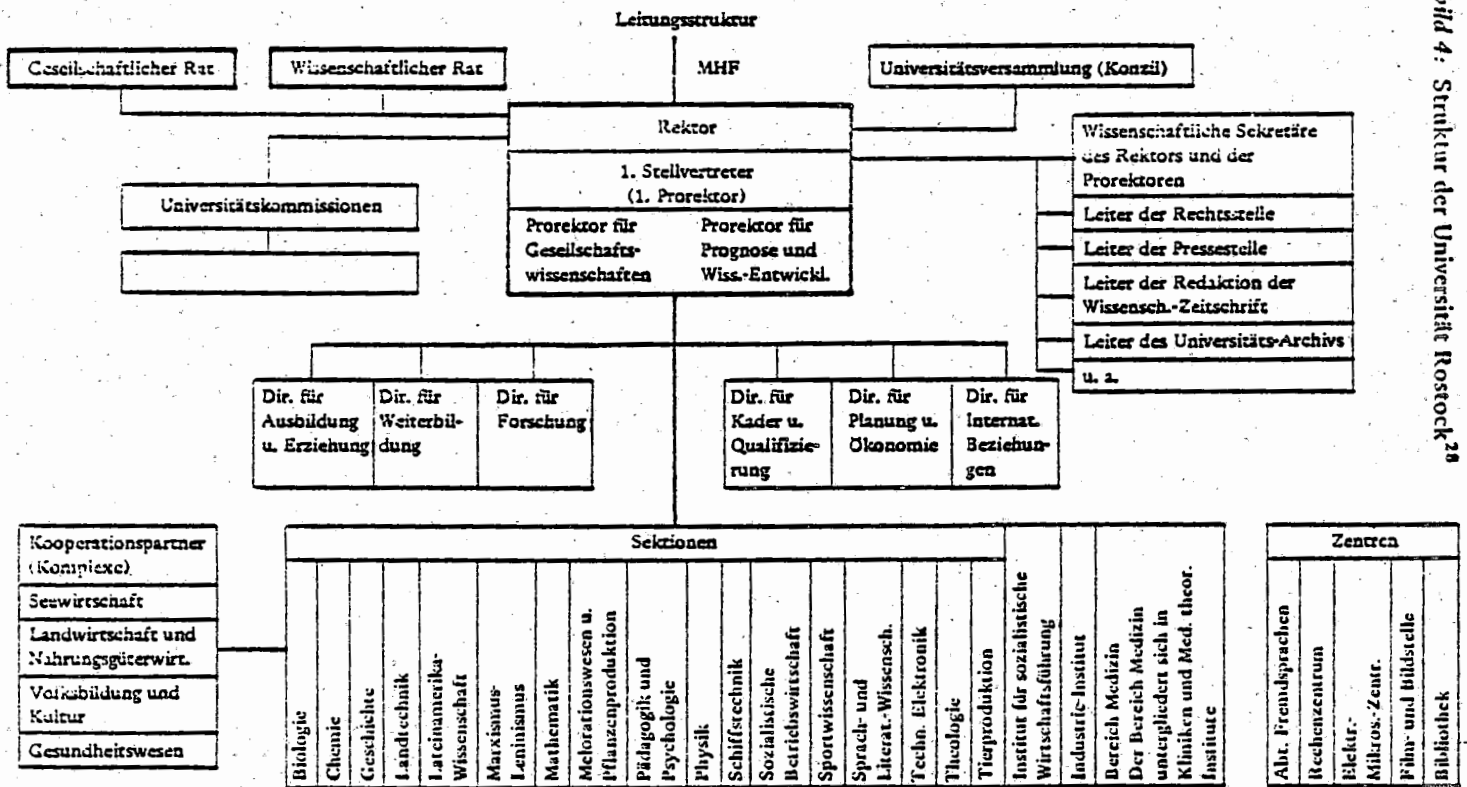
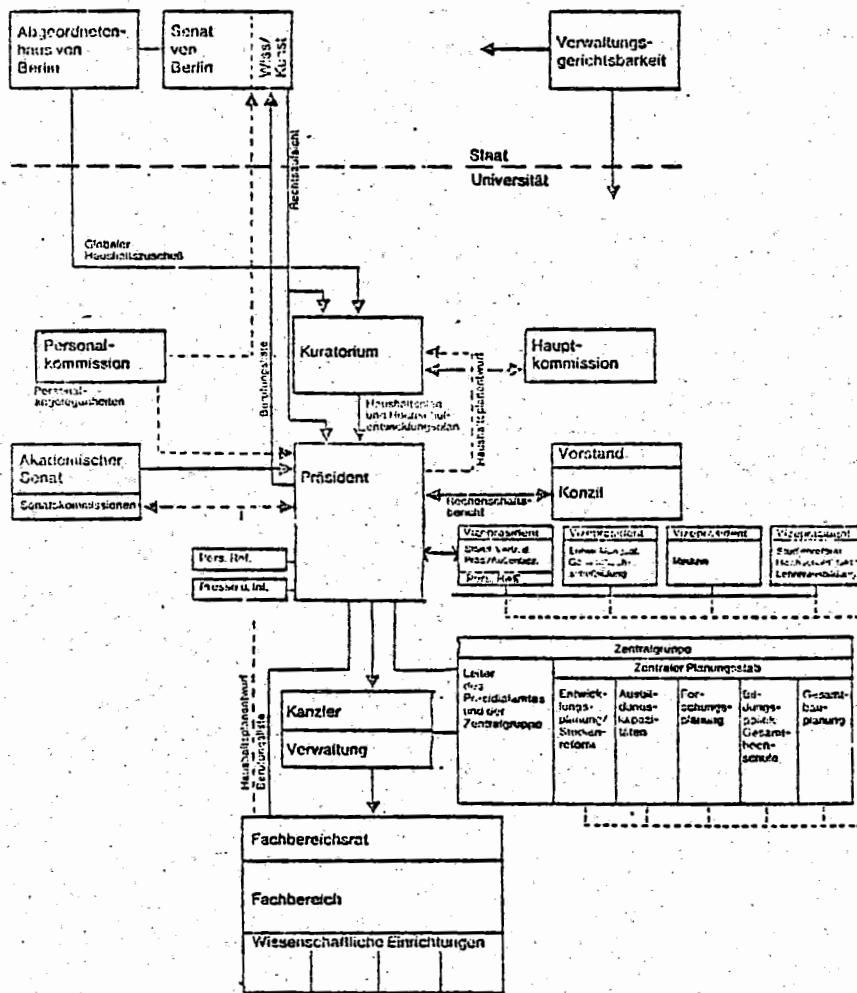


Schaubild 4: Struktur der Universität Rostock 28

Entscheidungsstruktur nach dem Universitätsgesetz Freie Universität Berlin



Rostock source:  
Glaessner and Rudolph, *MACHT DURCH WISSEN*, op. cit., p. 122

Free University source:  
*BERLINER HOCHSCHULEN IN DER REFORM*, Hrsg. Der Senator für Wissenschaft und Kunst, Berlin, p. 10, p. 37

DIAGRAM B  
 Composition of Major Collective Decision-Making  
 Organs at the Free University of Berlin (West)  
 and the Humboldt University of Berlin (East) 1971-1979

Free University		Humboldt University	
Organ: Kuratorium		Organ: Gesellschaftlicher Rat	
1971	Mayor of Berlin (Ex officio) Finance Senator Higher Educational Senator 3 additional Senators 3 parliamentary delegates  { 2 professors (1 each from Konzil, 2 assistants 1 from Acad. Sen. for all 4 groups)  2 students 2 non-academic employees	1971	2 delegates SED 5 representatives of state organizations 8 representatives of organizations and enterprises with "cooperative relations" 3 delegates from elementary and secondary schools 1 FDJ delegate (communist youth 0  2 Prorectors 3 Directors of official groups (SED, FDJ, University union) 4 academics (Professors) 3 students 3 non-academic university employees
Total: 17		Total: 39	
1979:	Mayor (Ex officio) Higher Educational Senator Finance Senator Senator for Public Health 2 additional Senators 4 parliamentary delegates (at least one from each party ( <u>Fraktion</u> )) 5 Konzil members (at least 1 Prof., 1 assis., 1 student, 1 nonacademic) 4 Academic Senate members (one from each group)  2 delegates from Berlin Employer Associations 2 delegates from the labor unions.	1979	Essentially unchanged
Total: 23			

underlined by a subtle change in the GDR constitution of 1949: Art. 3/1, maintaining that "scholarship and teaching are free," was dropped in the revised constitution of 1968.<sup>30</sup>

At the VIII. Party Congress of 1971, the new Chairperson Erich Honecker announced that the "conceptual work" for curricular and structural reform had been completed. The SED nonetheless continued to call for a "higher theoretical niveau," implying the need for a more conscientious study of Marxism-Leninism by all academics. Emphasis was placed on the unity of scholarly research and productive practice, on the need for a synthesis of basic and applied research, the necessity of more effective "research planning," and the desirability of intensified cooperation with Soviet scientists. Institutional innovations notwithstanding, a 1973 assessment disclosed operational problems, which led to a renewed interest in the "personality development" of youth in particular. There followed a series of empirical investigations on the living standards and extracurricular activities of students, especially the 70 percent in state-owned dormitories.<sup>31</sup> Between the VIII. and IX. Party Congresses, the SED undertook pains to improve cafeteria food, increase daycare facilities for student-mothers, extend library hours, and to increase monthly stipendiums (received by 90 percent of the regular full-timers), adding monetary premiums for above-average achievers.<sup>32</sup>

I digress briefly, to explore the characteristics of the "all-sided developed socialist personality." The catalogue of virtues ascribed to the new socialist wo/man seems at times to derive sooner from the works of Jane Austen and the Victorian School than from those of Karl Marx. Youth is to manifest discipline, solidarity, responsibility, duty-consciousness, a sense of community, social activism, creativity, enthusiasm for scholarship, integrity, honesty towards the collective and conscientiousness. S/he is to display loyalty to the GDR, an "obsessive desire" to solve complicated socialist-economic

problems, love for work, organizational competence, a willingness to labor collectively, friendship towards the Soviet Union, commitment to the historical mission of the working class, belief in Marxist-Leninist leadership, and an "extreme hatred for the enemies of the people."<sup>33</sup> This presents no small challenge to East German educators, and requires that much attention be paid to didactics as well as to educational content. In 1976, the formula was slightly modified - the ideal is now the cultivation of the all-sided communist personality, one infused with larger doses of all the above traits.<sup>34</sup>

The period 1973 to 1976 ushered in the phase of "socialist rationalization." Contrary to Western expectations perhaps, the Warsaw Pact nations were not immune to the negative effects of the 1973 OPEC embargo. Fraternal relations did not inhibit the Soviet Union from raising the prices of its oil exports to near market levels, at a time when the WTR required the GDR to increase its energy consumption. Rationalization socialist-style called for further automatization of material production, a more scientific organization of the industrial processes, on-site maintenance activity and consideration of environmental protection needs. In terms of the educational system, this would mean expanding opportunities for retraining or continuing education and facilitating the transition between school and workplace. Authorities also aimed to avoid a duplication of research efforts by allocating projects to particular branches of the scientific establishment.

Rationalization efforts shifted attention to the need for system-wide research planning. By 1974, the leadership reversed a number of Ulbricht's earlier directives, which had led to the virtual abandonment of basic research activity in the industrial sector.<sup>35</sup> Approximately 70 percent of the scientific-technical research potential had been concentrated in industry, 10 percent in the Academy of Sciences.<sup>36</sup> 1969 marked the end of comprehensive

general state funding, as industrial research facilities were required to self-finance out of their sales returns. This practice was partially reversed in 1973 to prevent academic researchers from becoming merely technical consultants. In fact, the problems of operationalizing research findings were discovered to rest not so much with the universities, as with the industrial branches themselves. The latter proved extremely reluctant to adopt new methods and products, insofar as innovations involved high costs not incorporated into the pricing system. This would place the individual firm at a fiscal disadvantage and, in light of recurrent supply shortages, prevent it from fulfilling regular production quotas imposed by annual breakdowns of the FYP.<sup>37</sup>

Consequently, reforms undertaken after 1972 involved a "spatial" as well as a substantive-thematic (Schwerpunktbildung) deconcentration. Universities had their status upgraded as research institutions, and the role of the Academy of Sciences (AdW) was particularly enhanced; the amount of "contract research" for the AdW fell from 45 percent in 1972 to 31 percent in 1974, with an increase in basic research.<sup>38</sup> The IX. Party Congress in 1976 provided for improvements in the material and infrastructural conditions necessary for more effective university research and emphasized the need for ties between social and natural science research efforts. Special programs and schools were created for gifted children, and new 3-year research degrees were introduced to outfit a successor generation of "cadres" with the ideological and technical skills necessary for exercising leadership roles in the Party and the economy.<sup>39</sup> A final boost to academics came in the form of a salary improvements program for higher educational faculty and assistants (about 200 East German marks monthly).<sup>40</sup>

The V. Higher Educational Conference of 1980 underlined the system's obligation to advance new disciplines and to produce flexible, adaptable generalist graduates (cadres), as well as highly trained scientific specialists. It further promised intensified efforts to promote international scientific cooper-



ation, calling for graduate competency in at least two foreign languages. A final, radical change won the approval of many young academics - job openings are for the first time being publically advertised and recruitment conducted on a competitive basis.<sup>41</sup>

What has been accomplished over two decades of educational planning and programmed reform in the German Democratic Republic? The statistics are impressive, but the reader is forewarned that it is difficult at times to distinguish between the Ist and Soll conditions presented in the GDR literature. Political authorities have had no trouble standardizing either the academic administrative structures, curricular offerings or didactic methods at all levels of the educational system. The successfulness of standardization efforts owes directly to the SED's ability to command the entire policy process; indeed an overemphasis on standardization has stymied innovation and experimentation, the long term consequences of which cannot be explored here.

Expansion measures have also proved extremely effective, according to official figures. The contraction in the number of students admitted to higher educational institutions after 1972 indicates that some retrenchment has occurred. An estimated 65 percent of the expanded upper school and 25 percent of the Abitur-classes in vocational schools were qualified for post-secondary admission between 1976-1980. There are reportedly 1.4 applicants for each opening in the higher educational system.<sup>42</sup> By 1977, Educational Minister Böhme announced that 23.1 percent of a given cohort received a post-secondary education. Officially, 85 to 90 percent of the applicants begin studies in their chosen fields.<sup>43</sup> The number of students pursuing correspondence and evening degrees has been drastically reduced, in recognition of the fact that these avenues perpetuated disadvantages to working class children who constituted the bulk of the enrollments; regular admissions have been increased. Between 85-90 percent of the full-time students and 75 percent of those in

Fernstudium actually complete the program -- a serious problem in the FRG.<sup>44</sup> Women now account for roughly one half of all admissions, in stark contrast to one third in West Germany. Expanded educational facilities pose a very different problem in the GDR with respect to the "capacities" issue - too many of the places are not occupied, especially in the technical and engineering disciplines. Students are being rushed through programs in order to overcome what is still judged to be a serious shortage of skilled labor.<sup>45</sup>

Rationalization measures have met with no more or no less success than have efforts to plan the economy and direct the development of a socialist society as a whole. Without the benefits of massive financial injections, i.e. through the Marshall Fund, the GDR has made impressive economic and technological progress. More graduates with higher qualifications are being produced in less time, although not necessarily at lower cost to the East German state. The accelerated educational process, however, is also at odds with the leadership's desire to cultivate the all-sided communist personality; rigorous academic requirements leave little time for creativity and collective social action. On the other hand, in 1981 only 12 percent of the academic cadres and 22 percent of the technical graduates were allegedly placed in jobs ill-suited to their qualifications, in contrast to double digit unemployment rates among West German academics.<sup>46</sup>

#### D. CONVERGENCE AND CHANGE IN THE TWO GERMANIES

In all three respects, the German Democratic Republic appears to have outscored the Federal Republic in attaining educational reform objectives as defined by the respective policymakers. This is not to overlook the other significant costs that are imposed on the citizens in an authoritarian system such as the GDR. The differences in the degree of personal, political liberty, the critical role of academic freedom in advancing the cause of Wissenschaft,

the need for a sense of social responsibility in allocating scarce resources to research: these are tradeoffs and comparisons that cannot be undertaken lightly.

It is highly unlikely that officials in the Federal Republic will jump at the chance to engage in a process of "rolling reforms." Few West German politicians would be willing to reopen this legislative Pandora's box on a regularized basis. My suspicion is that the academic institutions themselves would wind up worse for the wear and tear, as each successive package of regulations is more bureaucratically and legally binding than the one that went before. The Five-Year-Plan mentality that prevails in the GDR, on the other hand, guarantees that performance among the institutions of higher learning will be subject to periodic review. Policymakers have demonstrated a capacity for undertaking major revisions, even when measures have come at the expense of ideological purity (i.e. special schools for the "gifted").

Reform efforts in both systems have expanded the pool of potential challengers to the political authority of the state. Technical experts are less likely to defer to strictly ideological claims to legitimacy. One fifth of a given cohort will find itself competing for jobs comprising the top 5 percent of the elite, where traditionally university graduates were guaranteed these positions -- a problem of too many chiefs and not enough Indians in the technical and productive sectors.

An impending crisis of legitimacy will pose more serious problems for the SED than for the West German leadership. It is clear that

the boundaries of what can be scientifically articulated in the GDR today are no longer only determined by what is politically or research-politically acceptable. This is an indicator that the relative self-containedness (Eigenständigkeit) of science makes it possible to develop approaches to problems that point to its own critical and not exclusively politically-affirmative and economically-productive potential, even if they are not to be operationalized. 47

The relationship between economic growth and ecological conservation, between

an easing of international tensions and an increase in domestic human rights violations, between the conflicting roles of scientific personnel as trouble-shooters and as potential trouble-makers: these are problems that cannot be solved simply by harking back to the principles of classical Marxism-Leninism. The Party has created a new problem for itself, namely,

how to produce more education for society (and with that additional social expectations), without placing its exclusive claim to power into question, a claim which can only be legitimized on the basis of the allegedly scientifically-superior insights of its cadres into the universal laws of societal development. 48

The survival of the two German states depends essentially on the health of their respective export economies, but the pressures of international competition are more acute in the case of the GDR. Technologically it is not yet in a position to challenge the FRG on the world market; yet international trade would provide the foreign currency necessary for high technology purchases that would increase the quantity and improve the quality of its exports. Ostpolitik created more of a golden economic opportunity for the GDR than for the FRG (whose prices were likely to limit its sales to Warsaw Pact nations). Less than two years later, Middle East developments precipitated a price explosion in raw materials and energy supplies of grave concern to both. However, global inflation has resulted in serious one-sided debt-repayment problems (\$11 billion owed to the West) which has led the GDR to intensify its search for new ways of rationalizing production.

The social ramifications of Ostpolitik also appear to have been greater for the GDR than for the FRG. The normalization of relations between the two Germanies had an immediate impact on the domestic expenditure patterns in the East; citizens benefited from an ambitious housing construction program and increased production of durable consumer goods, as SED officials tried to head off the potentially destabilizing effects of a flood of Western visitors after 1971.<sup>49</sup> The leadership moreover sought to ensure the loyalty of intellectuals

by granting travel privileges, permitting attendance at international conferences. Obviously, this type of liberalization has served a dual purpose. The need to increase international scientific cooperation is featured in a separate chapter or a concluding section in virtually every East German text at this author's disposal.

In summary, world-political developments during the last decade have tended to confirm a 100+ year old thesis concerning the relation of the superstructure to the base. Academic reforms in the two German Republics have come in response to and have induced further changes in the expanded educational task environment. Parallels in the reform course pursued by each are reflective of the fact that advanced industrial states such as Germany East and West have evolved into very complex, interdependent societies whose problems require collective solutions. Under conditions of socioeconomic "complexity," convergence develops a momentum of its own.

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34. Baske, ibid., p. 41.
35. Achim Beyer, et al, Das Wissenschaftssystem in der DDR, Hrsg. vom Institut für Gesellschaft und Wissenschaft, Erlangen. Frankfurt a.M.: Campus, 1977, p. 139.
36. Scherzinger, op. cit., p. 163.
37. Ibid., p. 166.
38. Ibid., p. 164.
39. Anneliese Bräuer und Horst Conrad, Der Parteiarbeiter -- Kaderpolitik der SED - fester Bestandteil der Leitungstätigkeit. Berlin: Dietz Verlag, 1981. It is reported that 63 percent of the members and candidate members of the SED's Central Committee are themselves "workers," 81 percent come from "working class backgrounds," p. 16. This does not preclude the fact that the definition of a worker has been significantly expanded to include individuals in the service sector, Cf. Gunter Erbe, Arbeiterklasse und Intelligenz in der DDR. Opladen: Westdeutscher Verlag, 1982.
40. Official interview with two members of the Institut für Hochschulforschung at the Humboldt University in Berlin, July 29, 1981.
41. Interview, July 29, 1981. See also back issues of Das Hochschulwesen for the advertisements themselves, beginning in 1978. For a comprehensive (albeit soporific) report, consult the Ministerrat der Deutschen Demokratischen Republik, Ministerium für Hoch- und Fachschulwesen, Hrsg., V. Hochschulkonferenz der Deutschen Demokratischen Republik, Protokoll, 4. und 5. September 1980. Zwickau: MHF, 1980. For more "popularized" treatments on the importance of the Scientific-technical Revolution, see Peter Karsch und Harry Milke, Wissenschaft und Technik zum Wohle des Volkes, and Gerda Opitz, Bildung für das Ganze Volk, both in the series Vorzüge des Sozialismus, Berlin: Dietz Verlag, 1979.
42. Schulz, op. cit., p. 78.
43. Ibid., p. 83.
44. Ibid., p. 123.
45. Beyer, et al, loc. cit., p. 115. See also, Hrsg. Autorenkollektiv des Instituts für Fachschulwesen der DDR, Die Fachschulbildung in der Deutschen Demokratischen Republik. Leipzig: VEB Fachbuchverlag, 1980, p. 285 and passim. And, Erbe, loc.cit.
46. Michael Mara, "Komplizierte Rationalisierungsfolgen in der DDR," Der Tagesspiegel (Berlin), 10. Juli 1982.



47. Beyer, et al, op. cit., pp. 109-110.
48. Glaessner and Rudolph, op. cit., p. 19. See further, Thomas A. Baylis, The Technica Intelligentsia and the East German Elite - Legitimacy and Social Change in Mature Communism. Berkeley: University of California Press, 1974.
49. A. James McAdams, "Weighing Détente's Future: The Case of the GDR," paper presented at the 1982 Annual Meeting of the American Political Science Association, Denver, Colorado, September 2-5, 1982.