in the selection of content strongly remind one of analogous discussions elsewhere.

Yet, the analogies of curriculum deliberation in East and West should not lead us to overlook the differences in historical context. In the United States “structuralism” began as a reaction against an educational philosophy that put the accent on the process of spontaneous, though guided, social adjustment and individual growth. Not “democracy in action”, it was now asserted, is the modus of education at school but “disciplined understanding”. The antithesis is of course questionable; it seems to have certain ideological overtones.

Indeed it is the ideological component of curriculum development at the level of “aims” to which some attention at least should now be given in our comparative analysis. (Note that “ideology” is here used not as disguising or rationalizing action and interest but as their philosophic and doctrinal expression.) Now, the question whether “didactic materialism”, i.e. an emphasis on the established system of “the disciplines”, may imply a certain adherence to an existing order of things, might perhaps be answered in the affirmative with regard to new programmes of study — New Maths, New Biology, etc. — worked out by O.E.C.D. to ease the situation on the scientific and technical manpower market. It is much more complex when referring to an advocate of the “discipline-centred” curriculum like Jerome S. Bruner (1966; Bruner has since modified his views). Still, the danger that personal and social needs and open possibilities of personal development — the necessity of “planning for new levels of aspiration”, as Harry S. Broudy says — might be cut short in his disciplined programme, has been realized. The even more fundamental issue of “compensatory education” with the idea of adjustment to “middle-class values” which is allegedly inherent in it, I cannot here discuss. Although, the dichotomy between behaviour-oriented and discipline-oriented curricula is not cogent, fear of a return to pre-Dewey “formalism” (I. Scheffler) has been expressed and curricular synthesizes like the “nuclear” plus the “cortical” curriculum (J. Schwab), the problem-centred and the discipline-centred approach (Alice Miel) have been recommended.

John Goodlad (1968), again, has a vision of the balanced “humanist” curriculum — hopefully built on more systematically ascertained aims. In fact, a neglect of the humanities is an evident danger inherent in recent schemes of curriculum development, East and West.

Otherwise the problem of curriculum and ideology looks, of course, quite different in most “socialist” countries. Let us consider curriculum theory in the G.D.R. The identification of aims, actually and prognostically ascertained, is quite consciously undertaken with an ideological intent. Indeed, the school is an ideological institution, its aims neither general and “abstract” nor crudely pragmatic but geared to the task of structuring a well integrated, consciously and actively socialist personality. The individual sciences are neither to be overstressed in their specificity nor facilely turned to political
A CONCEPTUAL STRUCTURE OF CURRICULUM DEVELOPMENT

propaganda, but indoctrination is considered a necessary side of education in school and society. And while prevailing American curriculum theory may be judged to curtail the process of justifying content owing to its concentration on discipline and material—in spite of a growing theoretical awareness of the need for a broader foundation of hypotheses on which curricular decisions are to be based, the Soviet Union or the G.D.R. seem to concentrate their search for didactic potentialities in the sphere of social philosophy—although recognizing the need for more elaborate didactic investigations. In England, Paul Hirst (1969) has pointed to the didactic relevance of the difference between education and indoctrination as alternate, mutually exclusive ways of personal interaction within the curriculum. In fact, since an education leading to responsible choice and to creative action is an overall aim presumably shared by all systems concerned, one must ask, whether free exchange, rational choice and positive tolerance ought not to be essential characteristics of content and instruction in any curriculum.

Evidently, there is an ideological aspect to the phase of selecting curriculum content, to which we have to turn now, as well as to the complex of aims. In England, the Schools Council has been charged with preventing, through its pragmatic principles of designing curricula, a reform of the existing vertical structures of “common” versus academic education and with systematic neglect of radical tendencies in English educational philosophy (John White, 1969). Similarly, concentration on a traditional “Canon” of cultural initiations had until recently kept curriculum theory in the Federal Republic within rather strict bounds of tradition. Lately, a certain upsurge of interest in curriculum revision is envisaging instruments for a larger measure of rationalization and for a transcendence of established aims and contents there.

Sweden is of special interest in this context. Curriculum research there, urged by an economic interest in the productive effect of the curriculum, partly by a need to complement the preceding structural reform of the educational system, has designed empirical instruments for objectively ascertaining required aims and contents for primary and secondary education. An interesting, carefully thought out system of surveys, tests and questionnaires was applied in order to juxtapose needs, analyses, educational aspirations and the outcomes of actual instruction. Was it because of the clear and avowed pragmatism of the instruments or was it owing to a positivist philosophy of political decisionism that one seems to have fallen back there on “structural teaching” on the preparation of instructional programmes and materials as a mode of curriculum work?

Another school, the “Compass” project group at the University of Göteborg (Director: Urban S. Dahllof) remains closer to the issue of choosing curriculum content. Their investigations start from the realization that comparative research on the relative effectiveness of alternative instructional organization often fails to take into account variations of curricular content and structure. At the bottom of their research work, therefore, is the assumption that only
a model of the educational process including variations of both the instructional dimension and the quality and “level” of objectives to be attained can lead to rational decisions. To be sure, it is not, primarily, the justification of curriculum choice which is the guiding interest of research in this case, but certainly concern over the legitimacy of decisions on educational organization (e.g. differentiation, grouping, comprehensive organization, etc.) in relation to attainable curricular aims. It is not a map they seek to construct but at least a “compass”.

It is at this level of selecting curriculum elements, learning experiences intended to engender qualifications, that the “structure” concept has its legitimate place. This term is not unequivocal; it refers (1) to syntactical elements of disciplines (principles, methods, categories, generalizations) to be imparted, (2) to the “organizing ideas” in a rationally constructed curriculum, and (3) also to the acquisition of cognitive and other skills thus effected. The latter sense is of course at the bottom of the famous “theorem” of Jerome Bruner and his colleagues at the Harvard Center for Cognitive Studies which says that “any subject can be taught in some intellectually honest form to any child at any stage of development”, which is Comenius’ quest for “omnes omnia docendi artificium”.

The liberation from learning “readiness” ideas, inherent in the theorem leads to an intellectualized elementary education, an almost — but not quite — general trend in the countries reviewed. You will notice that there is a response to more than one of the motives I have listed in the beginning. In the G.D.R. one speaks of “intensification” of elementary education and devotes a good deal of psycho-didactic research to it. In the U.S.S.R., where the recent shortening of the cycle of schooling has led to the curtailment of elementary stage by one year (to three years), L. V. Zankov and his colleagues investigate methods of imparting those concepts and understandings, to the younger pupils in particular, that have an optimal educational impact. Similar experiments, though usually of a less comprehensive scope, can be discerned in most Western countries. To quote one example: to probe the disciplines for their educationally relevant categories, for their fundamental concepts and for the exemplary themes which could optimally serve as organizing principles toward the “functional aims” of instruction — has also been a major concern of “Didaktik” in the F.R.G. Alongside this trend one finds competing emphases on enquiries into the processes of instruction, the conditions of instructional interaction and the application of information theory to learning and teaching.

A theory of instruction and the optimisation of learning effects are of course two different aspects of the instruction sub-system within the curriculum. It is important, I think, to note this distinction. Thus, questions like that of common education versus differentiation, project methods versus disciplined instruction, and several others on which there is controversy (vide the Moscow meeting) are subject to consideration on such different planes as that of
general aims, that of the particular qualities aspired at, and on the plane of teaching efficacy.

This observation leads us to the question of the uses and misuses of the behavioural sciences in curriculum development. I had reason to mention the taxonomy of educational objectives as an important means of orienting instructional means towards definite educational ends. Its main use is of course in evaluation and its correcting-regulating function for the curriculum. We must recognize however that the vertical hierarchy of such classification and the horizontal distinctions — between, for instance, the cognitive and the affective “domains” of Bloom, Krathwohl and Masia’s work — are of a strictly analytic character.

Psychologists, and sociologists too, help curriculum development in various functions: at the level of aims, by introducing concepts and theorems of their disciplines into the curriculum and by supporting the analysis of live situations; at the level of qualifications, they must help with their operational definition as “terminal tasks” (Robert M. Gagné, 1967); with discovering optimal teaching and “learning strategies” and, eventually, with offering vital information on optimal curriculum organisation, for instance by checking and interpreting the findings of developmental psychology. Finally, however, in promoting an understanding of the curriculum as a system (as Frank Musgrove has suggested) and in helping to design methods of enquiry at the various levels we have distinguished, the behavioural scientist can probably give one of his most valuable services, thus defining his proper place in curriculum development.

3. STRATEGIES OF CURRICULUM DEVELOPMENT

While comparative work on curriculum theory is scarce, we have quite a few inter-cultural studies of the organisation and control of the curriculum and, of course, comparisons of school curricula at various levels. I shall therefore limit myself to some remarks on three questions of principle which are connected with our theoretical model. Obviously, consistent and effective planning largely depends on a coherent theoretical concept, and a construction of curricula which are an immediate outcome of “activist pressure”, as Goodlad says, will hardly qualify on this count.

My questions are: (1) Where is evidence collected, consensus established, consequences drawn? (2) Who are the participants in producing answers to the questions of aims, qualifications, qualifying curricula? (3) What is the teacher’s role in curriculum development?

3.1 The Seat of Curriculum Development

The controversy in the U.S.A. over a “national curriculum” — similar discussions have taken place elsewhere — seems to have misleading accents. The matter proves to be more subtle. We want to determine the measure of consensus possible in a social system on aims and requirements for a
curriculum through an optimally articulated and objectified argumentation, a rational discourse. We want to bring to bear on the result the findings of scientific research on learning conditions and to realize the outcome in a planned curriculum. Can we do it otherwise than through public competence and are we able to gain a reasonable degree of co-operation? This is probably why on the national as well as on the international plane, demands are voiced for national centres of curriculum research and planning.

In the "socialist" countries, the position is clear in this respect. Education is a major concern of society, educational policy a responsibility of its political organs, supported by the relevant professional groups. Curriculum planning thus becomes a task for scientific councils, for the central pedagogical institutes or academies, for especially appointed central commissions, supported by scientists and members of the teaching profession. That such an organisation is liable to find itself under pressure for conformism with established policies or even with administrative decisions and be given to "voluntaristic" (the Russian equivalent to decisionist, I understand) decisions must be realized.

The situation is much more ambiguous in England. In an educational system, in the firmness of its national educational traditions — built on an ideology and a practice of autonomy — a central Schools Council can define its tasks, to begin with, only as help and advice to teachers, schools and local authorities, through information about social and economic trends, on needs and aspirations, on possible new courses and methods. It works through "horizontal" co-operation with voluntary public agencies of curriculum change (like the Nuffield foundation) and with research institutions, and "vertically", with regional or local professional bodies.

Behavioural, or any other, scientists, though strongly associated with the work, are certainly not taking over. "Conventional wisdom" has its established place in determining aims and measures; consensus is largely reached through discussion and based on reflected experience; a certain eclecticism of philosophies and methods makes it possible to utilize many different devices of reasoning, psychometric evaluation, instructional materials.

We shall mention the great advantages of the system. The handicaps cannot be overlooked either. That the dominance of a professional body — teachers have the majority at almost every organ of the Council — will make for a spirit of radical reform is most unlikely. A lack of central direction often impairs systematic work. The impact of scientific discovery can make itself felt only slowly: "well-tried" structures and practices will not easily give way. Thus, the absence of central curriculum authority may impede innovation mobility and rational reform.

A plurality of agents for curriculum planning marks the scene in the U.S. The funds, a great deal of which are of public or semi-public origin, go to the initiators-producers: to project groups at local or, usually, regional level, to institutions of higher learning and research, to professional societies and, of
course, to the Regional Laboratories like the Educational Development Center (formerly Educational Services Inc.) at Harvard. The quality of the product obviously depends on the quality of the design and on the competence of the authors; but diffusion evidently rests on a number of other factors — industry, research, sanctions (examinations), institutional links (school systems), public pressure, etc., as well. Thus, a situation may arise when a great deal of public commitment and of professional enthusiasm is invested in an effort which, in spite of built-in evaluation procedures in detail, may not yield fruits that are commensurable with the investment.

To effect an integration of public authority, communal initiative and professional competence has been recognized as a vital but extremely difficult task in the F.R.G., where curriculum decisions and curriculum discussions had previously been considered as distinct functions of the government and of public and professional influences respectively.

3.2. The Participants in Curriculum Development

Into the process of curriculum construction, as is demonstrated by our schema, must go expressions of value-systems, results of — prognostic — analyses of individual, social, vocational requirements and aspirations, evidence on the body of knowledge, dispositions and skills needed and on the conditions of their acquisition, practical experience of instruction and education. Can the qualifications of participants — and the degree of influence they should be awarded — be defined on the basis of these categories?

Take the example of those countries that have instituted central authorities. They have the opportunity — and they have made use of it to a degree — to recruit experts to the job from the subject fields as well as representatives from the social and pedagogical sciences and, in addition, educational practitioners for experienced advice. In the G.D.R. an impressive staff-planning is on record, allocating 60% of the time prior to enactment of a new curriculum to preparatory inquiries. Only further experience will show, in this case and also in that of the U.S.S.R. — remember the argument of "subjectivism" mentioned before! — whether this way of enlisting the participants in the process — individuals and their institutions, under an immediate assignment — is apt to yield optimal results.

The case of the U.S.A. may be considered as almost in direct contrast. Curriculum pressure groups define not only the main aim but also the method of construction, be the issue the recruitment of future scientists and technicians, be it compensatory education for the economically disadvantaged, or any other, and be the method one of synthetic course construction in writing sessions (with subsequent trial) or of laboratory experimentation. Motivation by a particular politico-educational aim certainly has its advantages — commitment and ingenuity of design — but does not responsible