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A task force operating under The Education Commission of the States made five major proposals relating to vocational-technical education: (1) that a human resources council be developed with responsibility for long-range goals for a total community context of education, (2) that an occupational education commission provide leadership and stimulate development of vocational-technical programs to achieve these goals, (3) that a manpower coordinating committee effect maximum system-cost effectiveness of training programs in a coordinative rather than administrative role, (4) that a task force for occupational education and economic development help build up industrial output through new or expanded industries, and (5) that regional learning centers be established to provide leadership in the development of broad interdisciplinary curriculums. School drop-outs, potential drop-outs, and unemployed and underemployed adults were to be initial target population. Some major principles forwarded were: (1) Education should be given first priority in allocation of human and material resources, (2) Education should be extended outward from the school to the entire community, (3) Instruction should be individualized, and (4) More follow-up and feedback is necessary for maximum program effectiveness. (DM)

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OCCUPATIONAL  
EDUCATION:  
CHANGING CONTEXTS

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Report No. 1  
Education Commission of the States  
Denver, Colorado

*The Education Commission of the States is a non-profit organization formed by the Compact for Education in June 1966. Forty-one states and territories are now members of the Compact, of which the unique goal is to further a working relationship among state governors, legislators and educators for the improvement of education.*

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Report completed November, 1967

## contents

the task force .....	2
foreword .....	4
proposals in brief .....	5
human resources council .....	9
occupational education commission .....	13
manpower coordinating committee .....	23
task force for occupational education and economic development .....	29
regional learning centers .....	29
initial target population .....	30
variety of approaches .....	31

## **foreword**

As one of its first topics for investigation, the Education Commission of the States chose vocational-technical education. This report prepared by the Task Force listed on page 2 was first distributed in November 1967. Interest in the findings and alternatives suggested by the Task Force has been so great that the Commission has reprinted the complete report in November 1968.

# proposals in brief

## HUMAN RESOURCES COUNCIL

### *Membership*

Membership would consist of lay citizens and heads of those departments of state government considered appropriate. The chief state school officer might serve as executive secretary.

### *Responsibility*

The council's responsibility would be to develop long-range goals with a view toward adding the community context for education to the present "school" context and relating the two.

### *Principles*

**PRIORITY.** Education should be given first priority in the allocation of human and material resources.

**COMMUNITY INVOLVEMENT.** Education should be extended outward from the school to the entire community. Citizens can be involved as advisors on policy and programs, as tutors in and out of "school," as resource persons, and as students themselves.

**EXTENSION OF SCHOOL DAY AND SCHOOL YEAR.** Schools, as resource centers for learning for students of all ages, should operate from 8 a.m. to midnight every week of the year.

**FLEXIBLE TERMINATION, REENTRY, AND ADVANCEMENT.** The formal school-leaving age should be made flexible so that the individual as he reaches the maturity to go on to college or a job may do so with the assurance that pursuit of a liberal education can continue along with career development throughout life. Both dropouts and graduates whose skills become obsolete could be welcomed back into this kind of system to take up where they once left off, without fear of new failure.

**INDIVIDUALIZATION OF INSTRUCTION.** No limitations or inhibitions should be placed summarily on learning because of age, ability, or other factors—rather, learning experiences should be planned to meet the needs of the individual.

**FOLLOWUP AND FEEDBACK.** Effectiveness of educational programs should be continuously evaluated through a followup of all students for an indefinite period and securing feedback on how well the programs are serving their consumers. Such information can be used for program redevelopment and improvement as well as for continual escalation of individual skills.

The council would establish and coordinate the work of state-level commissions which would concentrate upon bringing contextual reform to education in each of the following areas: occupational, social, cultural, political and intellectual—beginning with occupational.

## OCCUPATIONAL EDUCATION COMMISSION

### *Membership*

Such a commission should have counterparts in Local Community Advisory Councils.<sup>1</sup>

The commission would be a top-level group, broadly representative, including members from labor and management in the private sector, as well as from public service. The state vocational education director may serve as executive secretary. The commission would have a full-time professional and clerical staff.

### *Responsibility*

The commission's responsibility would be to provide leadership and stimulate development of vocational-technical education programs designed to achieve the goals defined in cooperation with the Human Resources Council, with attention to such factors as:

existing vocational-technical programs in the state upon which improved programs can be built;

size and ecological characteristics of the communities in the state—metropolitan, urban-rural, and rural;

identification of individual dropouts and potential dropouts as well as unemployed and underemployed adults. With this group, specific training and job entry are of key importance. This should be the target population for initial efforts in contextual reform; then the identified "passive" youngsters, and ultimately all the youngsters and adults who can benefit.

Through its counterparts, the Local Community Advisory Councils on Vocational-Technical Education, the Commission would cooperate with local and intermediate school districts and lay citizens to:

survey human resources—state, institutional, group, and individual;

identify, establish, and staff "learning stations"—in order to induct youth and adults into programs including, but not limited to, "school";

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<sup>1</sup> Each state now has a Vocational Education Advisory Council established under Public Law 88-210. The Occupational Education Commission could be the same body, or a reconstituted body, and be asked to assume the responsibilities set forth in this section of the report.

develop exploratory and tryout experiences, extend the school day and year, provide for flexible termination and re-entry, identify and prepare lay instructors, and develop new curricula;  
provide, in cooperation with business, industry, and other agencies, for followup and placement of students.

## **MANPOWER COORDINATING COMMITTEE**

### *Membership*

The composition of the committee should provide for high-level representation of labor and management, and of the appropriate state agencies.

### *Responsibility*

The committee's responsibility would be to effect maximum system-cost effectiveness in the utilization of the various occupational and job training programs.

The committee's primary function should be coordinative rather than administrative, with the actual implementation of the education and training programs being the responsibility of the appropriate agency.

A state may elect to have this committee operate as a subcommittee of the Occupational Education Commission, or separately, with close working relationships with the commission.

## **TASK FORCE FOR OCCUPATIONAL EDUCATION AND ECONOMIC DEVELOPMENT**

### *Membership*

This task force would draw specialists from appropriate existing state agencies (including the department or division of economic development), labor, management, and the new groups proposed above.

### *Responsibility*

The responsibility of the task force would be to help build up the state's industrial output through new or expanded industries. This would be done by means of providing information to assist industries in considering the state as a site, providing a pool of trained workers, and/or making available undeveloped (or underdeveloped) workers who can be trained for jobs provided by new industries.

A state may want to consider this kind of special occupational education service if it seems likely that through its use the income of

the state could be substantially increased. The task force could operate as a subcommittee of the Occupational Education Commission, or separately.

## **REGIONAL LEARNING CENTERS**

These centers should be established in each state in intermediate education districts or county school offices or other regional educational organizations in the state.

### *Staffing*

The centers would be staffed with student-personnel specialists who would work with sociologists, psychologists, economists, and cultural and political leaders to synthesize educational planning for the region. The Local Community Advisory Councils described in the second proposal above would work closely with the centers.

### *Responsibility*

The responsibility of the centers would be to provide leadership in development of broad, interdisciplinary curricula that are responsive to the needs of society and the individual and geared to the resources of the region.

The results of this planning would be used by counselors in diagnosis and prognosis for individual learners, and by master teachers in planning complementary educational experiences in specific fields.

## human resources council

As proposed in this report, the responsibility for development of long-range goals with a view toward adding the community context for education to the present "school" context, and relating the two, rests with the Human Resources Council in each state. As there are unique needs, resources, and structures within each state, the goals the council determines will necessarily vary from one state to another. The following goals and procedures are suggested by the task force preparing this report, however, as being worthy of consideration by Human Resources Councils. The task force recommends that:

A. The state education establishment assume a leadership role in soliciting the cooperative efforts of higher education, local and intermediate education agencies, research and development centers, and regional laboratories to build upon successful innovative projects under way in school districts in each state throughout the United States over the past several years.

B. Education be extended outward from the school to the entire community, and upward from 12 years to a lifetime, supplementing educational programs with "learning stations" in the community in every area of human endeavor. Thus, education could be pursued in two contexts: learning through formal, planned instruction and reflective exploration in school; and exploration and some skill development through practical experience out of school. This will require departures from the Carnegie unit of credit and the traditional 12-year diploma program in order to establish flexible advancement procedures that will enable every person to move between "education" and "life," learning at his own rate.

C. The province of learning stations be active exploration of the world through practical experience and through meaningful job experiences in the processes of self-government, the fine arts, education, and recreational activities, as well as through job experiences in business and industry.

1. Learning stations need not be alike in purpose, source of support, or duration. We now have such stations for apprentices, in diversified occupation courses, in distributive education, and in other fields. This concept needs vast expansion and is a current goal of our federal government.

2. Learning stations could expand post-high school, continuing and adult education programs so that they reach into every corner of the state.

3. They could be operated whenever and wherever they are needed, from 8 o'clock in the morning until midnight, every day of the week, every week in the year.

4. Many could be staffed, equipped, evaluated, and modified by *those who establish them*. This means that "instructors" might often be volunteers and practitioners working with professional educators—architects, engineers, businessmen and -women, artists, musicians, sportsmen, mechanics, etc. It is still possible to utilize good minds in our general public for teaching. Teacher certification, as we now think of it, is not essential to *all* teaching and learning.

5. Many could be staffed by school aids, tutors, interns, or student teachers who are part of a teaching team under the direction of a master teacher.

6. They should make it possible for children as well as adults to explore the real world of business and industry, government and politics, cultural achievement, and social and recreational opportunities in our cities, rural areas, forests, and sea coasts.

7. They could be established, when necessary, by cooperative arrangements among several districts in an area, or between rural and city districts.

D. A much wider diversity of educational opportunities be provided for people in all communities, regardless of size, through bringing laymen from all walks of life into educational planning as well as the teaching and learning process.

Local Community Advisory Councils representing each of the broad fields—occupational, social, cultural, political, and intellectual—could be given the task of providing action—or task-oriented educational experiences in "learning stations" in the community or region.

The involvement of large segments of the community in "curriculum" planning and the establishment of learning stations in each of these areas hopefully would assure that the proper emphasis, support, and resources are devoted to providing a great diversity of educational opportunities in each.

E. As learning stations are established in the community, public schools be transformed into educational centers for the entire community, responsible for:

Intellectual growth through planned instruction to develop communication and mathematical skills, ability to learn and to think critically, and reflective exploration of social and ethical issues, with major emphasis on the learner and the learning process. The contribution which education could make to the development of intellect and creativity has received far less favor in the public eye than has the contribution which education makes to social mobility. There is now more awareness of need for the kind of education which "unsettles" a man's thinking and which has for its purpose intellectual development and the creation of informed and

discerning minds. These are not impractical goals in an age in which civilization may have become a "race between intelligence and annihilation."

Individualized educational planning for all members of the community aimed at the successful placement of each person in the next step of his life cycle.

The outward and upward extension of education should make it possible to find the "subject matter" of education among all the challenges that are the essence of everyday experience for every child and adult—building successful family relationships, keeping physically fit, managing personal finances, finding and holding increasingly challenging and rewarding employment, making friends and establishing a satisfactory intellectual and social life, and participating in the processes of democratic government and social progress. The sum of the ways in which each individual understands and copes with these problems will be the substance of any progress toward solution of national or worldwide ills.

Curriculum and learning experiences could be organized in terms of broad areas of human development in which every person is involved with varying degrees of emphasis throughout his lifetime—occupational, social, cultural, political, and intellectual.

The state department of education, in cooperation with other state agencies concerned with human resources, should begin to develop criteria for instructional programs based on goals that allow for individual differences.

Individualized instructional programs could become a reality with the existence of:

a wide diversity of educational opportunities in learning stations in the community and school and;

educational guidance and planning centers in each school to diagnose learning needs, prescribe learning experiences, and accept responsibility for placement of every person in the next step of his life cycle, whether that step is a job, career advancement, service in the armed forces, entrance into homemaking and parenthood, or enrollment for advanced educational opportunities.

F. Learning opportunities be expanded and diversified by making fuller use of community planning and resources. It will be wise to begin developing guidelines that define a new teaching hierarchy that clarifies the master teacher's role as that of diagnostician, learning counselor, and supervisor of lay instructors, tutors, aides, and para-professionals.

G. Because the kinds of innovations that are evolving will require some basic changes, not only in the hierarchy of teaching, but in the values, beliefs, and self-image of teachers, colleges and universities, the state department of education, and local education agencies should design pre-service and in-service programs which will offer teachers and aspiring teachers strong, continuous, "on-the-job" support as they make the necessary transitions. This implies the modification of present teacher education programs to place

universities in direct contact with on-going local school-community operations.

H. A task force consisting of state department of education, higher education, and local district representatives be established to design teacher education arrangements to:

1. Provide continuous in-service education that will guide and sustain teachers, counselors, administrators, aides, and community planners as they design and effect the necessary restructuring of school programs and organization.
2. Provide pre-service for identification of and education and supervision for future teachers, student teachers, and interns.
3. Provide career entry and career advancement opportunities for para-professionals.

# occupational educational commission

## IMMEDIATE AND URGENT NEEDS

The Occupational Education Commission, with its responsibility for providing leadership and stimulative development of vocational-technical education programs designed to achieve the long-range goals developed in cooperation with the Human Resources Council, will need to establish some short-term and intermediate goals. The material in this section and in the following section, entitled "Criteria for Assessing Current Practice" is provided for consideration by the Occupational Education Commission in each state. Urgent needs, as viewed by the task force that prepared this report, follow.

### *Occupational Education Programs Geared to an Automated Age*

The average youth entering the labor market today will probably shift occupations some five times during the years he will remain in work life. These job changes will demand changes in occupational competency, which comes through education and training. Youth needs the kind of education that will prepare him for an entry job. He needs education that will prepare him to anticipate change and to adapt to it.

Appropriate basic occupational education can provide opportunity to develop transferable knowledge and skills, and a problem-solving approach to the tasks he faces. The educational program will need to have great flexibility. It will need to provide experiences based upon experimentation and observation as well as on the abstractions and principles of traditional academic disciplines.

The traditional division of education into separate disciplines will have to be replaced by new content (including the "learning process" as content) that combines essential elements, and requires group teaching effort. The well balanced occupational education of tomorrow will thus provide preemployment education for youth which includes preparation leading to trained versatility, but will also provide continuing education for updating, upgrading, and retraining after they have entered the labor force.

### *Opportunity for Every Person to Obtain Occupational Education Appropriate to His Needs*

Each person is an individual, like some individuals in many respects but differing in others. The occupational needs of persons are as varied as the many facets of work life. All of them need basic educational skills, understanding of the workings of our society, and the like, but their occupational education is a very personal thing, each one differing from others in ambitions, attitudes, and abilities. The task of meeting these varied needs is thus a difficult one; it belongs to many other agencies in addition to the public schools.

### *Programs Geared to Needs of Labor Market*

Effective occupational training of preemployment type results in a satisfactory job secured by the individual on completion of his school

program. If this is to happen, the school program must be geared to employer needs. It must offer training for occupational fields in which jobs are available. It must provide the kind of worker that the employer will hire. It must regulate the numbers trained to the needs of the labor market. "We have begun to see the need for a planned relationship between manpower needs and educational programs."<sup>1</sup> The rapid changes taking place in modern work life demand similar rapid changes in educational programs.

#### *Effective Occupational Guidance for All Students*

Perhaps the greatest shortcoming of the present overall program of occupational education is the lack of adequate occupational guidance for both youth and adults. Each student in full-time school needs to have available the type of realistic guidance service that can be of help to him in the development of a career plan needed by every student who either drops out of high school or graduates and goes on to further study or to a job. This should include strengthened and expanded placement service of a quality that merits support by all employers. Improved guidance service is especially needed by persons in minority groups. Such guidance service will require drastic upgrading for many present guidance workers who know relatively little about the requirements of modern industry.

Vocational orientation programs for counselors is a beginning. The counseling function should be expanded to include assistance from representatives of business, industry, and the academic disciplines. A formal means for this is described in the fifth proposal of this report for regional learning centers (p. 29).

#### *High School Balance Between Occupational and Academic Education*

Some 80 per cent of ninth-grade high school students never receive a baccalaureate degree, yet the largest amount of attention with respect to curriculum, enrollments, and facilities in many schools is given over to the needs of the 20 per cent who do finish college. This imbalance needs correction. Those who do not finish college are "turned out of an educational system oriented toward someone else's college degree rather than their own work needs. The biggest task facing the American high school today is to make its curriculum meaningful to students. This meaning must be found in curriculums related to the world of work." (Venn)

#### *Decreasing the Numbers of High School Dropouts*

"The toughest immediate problem in occupational education is the high school dropout. Something positive must be done about high school dropouts."<sup>2</sup> There is little use in trying to keep youth in school when curriculums do not meet their needs. The high school program as a whole needs a type of revamping that will introduce curriculum and practices related to the world of work which will attract students who are now potential dropouts, and will provide them with education really suited to their needs.

<sup>1</sup> Grant Venn, Associate Commissioner of Education, U.S. Office of Education, Washington, D. C.

<sup>2</sup> "Final Report of the Summer Study on Occupational, Vocational and Technical Education," July 6-August 13, 1965, Massachusetts Institute of Technology.

### *Occupational Education's Role in Decreasing Unemployment and Under-employment*

Something is wrong in a situation where thousands of jobs go unfilled and thousands of workers cannot secure jobs. Many of the unemployed could secure jobs if they undertook appropriate training. Many who are on payrolls but underemployed could better their situations by upgrading themselves to better jobs, and thus releasing for others of lesser skill the jobs they now hold. Occupational education of types that will alleviate these conditions need to be expanded and adequately implemented.

### *Development of an Understanding and Appreciation of the Broader Aspects of Work Life by All Students—Academic as Well as Vocational*

Some of the new vocational education should be a part of the educational experience of all students and conversely, some of the classical disciplinary type of education should be a part of this experience. Current vocational education should be expanded and generalized so that working with materials, with systems and with processes provides a base for intellectual growth along both traditional academic and vocational paths. (MIT)

### *Placement of Occupational Education in the Mainstream of Education*

Man's work life is the most important aspect of his life. Occupational education is a life-long process. It begins in childhood with early impressions of work life. It continues in full-time school with basic information about occupational life, with exploratory experiences, with basic technological understanding and basic skills, and ends with specific preemployment education for entrance into work life. After entering employment the worker continues to need education for updating and upgrading, and for preparing himself for an entirely new job. This life-long education calls for a wide range of program patterns, in different educational settings and on varied educational levels.

As an integral part of the common core of all education the only logical place for occupational education in the educational establishment is in the mainstream. Here it must be if it is to attain the place of importance that it must have in an automated age.

The responsibility for the development of occupational education in the United States must be shared by both general and vocational educators. It is high time that the general educator realizes this responsibility and assumes his share of it. The unnatural dichotomy between occupational and liberal education must be destroyed through the fusing of both programs into a unified whole.

### *Curriculum Revision in the Elementary and Junior High Schools to Provide Occupational Information and Exploration*

Specific occupational education located in the later years of full-time school attendance must be based upon solid foundations of occupational information and exploration. Information about work life must be intro-

duced effectively into the curriculum of the elementary school, followed in the junior high school with more extensive information and with opportunity for exploratory experiences. If wise occupational choices are to be made by youth in later years, there is need for well developed programs of basic understandings. The MIT Summer Study brought out many of these needed curriculum revisions.

#### *High School Occupational Education Programs*

The present day weaknesses of the American high school indicate the need for widespread changes in curriculum objectives and implementation. The time when the youth could complete his full-time occupational schooling in high school is rapidly passing. The labor market today asks for a higher level of preparation for many jobs previously entered with only high school instruction. Although some specific preparation still finds an appropriate place in the high school, the main task of this institution in the years ahead is that of basic preparation for specific training offered in post-high school institutions.

The high school over the years has provided such preparation for professional education later obtained in the colleges. It is now faced with the task of adding to the total program suitable curriculums that will provide basic understandings and skills to get students ready for specific instruction in area vocational-technical schools, technical institutes, community college occupational programs, and other post-high school institutions. The basic program for the skilled occupations may well take the form of curriculums designed to provide the skills and understandings underlying clusters of closely related occupations in selected occupational fields. For many students a work-study pattern such as the ones used in distributive education, diversified occupations, Job Corps, and junior achievement programs will be an important phase of the total program.

#### *Program Patterns for Area Vocational-Technical Schools and Skill Centers*

The rapid change in skill requirements in work life, in sophistication as well as in character, has forced much occupational education into post-high school institutions.

Stimulated by the availability of federal funds for the construction of facilities and the operation of programs for such institutions, the several states have undertaken extensive programs of construction. The occupational education goals set forth for these area facilities include part-time instruction of high school youth by serving as skill centers for several comprehensive high schools. They also serve as centers for MDTA programs and for adult extension course centers. The future of many of these area schools does not appear to be clear. Experience has shown that some of them start as high school service centers and relatively soon exclude the high school students in favor of adult programs. Others move into community college status.

In some states there appears to be little coordination of new development of area vocational-technical schools and other post-high school institutions. It

may be that the future pattern will emerge as a community college with which is affiliated a comprehensive skill center serving both junior college students and high school students from neighboring schools, with the adults of the area also served by the program.

#### *Occupational Curriculum Offerings in Community Colleges*

The community college is the logical institution in which to locate many types of occupational education curriculum. Those of semi-professional character, those dealing with the education of various types of technicians, and curriculums that prepare workers for certain skilled occupations find the community college a desirable setting.

The prestige of the institution, the breadth of general education course offerings, the support offered as a part of higher education, and the like, together with increasing concern for occupational education by community college leaders, make it a logical place in which to expand the overall program of post-secondary occupational education. The recent rapid growth in new community colleges based upon many years of solid development offer an opportunity for assuming a major responsibility for education beyond the high school. Failure to do so may result in the establishment of less desirable types of programs outside the mainstream of education.

#### *Technician Programs in Technical Institutes*

The technical institute with its singleness of purpose and high selectivity meets a special need for the training of engineering technicians in geographic areas with concentrated industrial activity or as branches of engineering colleges. The numbers are not large but they should continue to play an important part in this phase of occupational education.

#### *Enlarged and Improved Apprenticeship Programs*

Formal apprenticeship programs have provided many skilled craftsmen in such occupational fields as construction, the metal trades, and the printing crafts. The output falls far below the total manpower needs.

Restrictive union practices, unwillingness of employers to bear the training costs, reluctance of youth to enter apprenticeship at lower wages than they could earn on the production line, and other reasons, have kept the output far below its potential. With high school programs providing basic instruction in occupational clusters—thus providing tryout experience as well as basic skills—recruitment for apprenticeship programs might be stimulated and attrition in the programs reduced.

Apprenticeship might well be developed within certain other occupational fields from those now served. Some revision in entrance qualifications and program content may well be needed to meet present social and technological needs.

#### *Continuing Occupational Education for Adults*

This type of occupational education program looms large in the total picture of the needs of present day life, yet it receives less attention in many

institutions than the full-time day program. If the needs of tomorrow are to be met, this situation must be changed.

Occupational education for adults must be recognized as a vital need and given proper support. A large share of such education is now provided by agencies outside the educational establishment. Most of these are desirable programs, but they should be supplemented by largely increased offerings through public education. In all occupational education programs it is essential that the door to advanced study not be closed.

#### *Programs to Provide Skilled Labor for New or Expanding Industries*

The economy of a state is improved by the addition of good basic job-generating industries financed by risk capital. Such industries not only provide jobs within the new plants, but they generate service and other jobs in the area. When such industries consider new plant locations they look into such items as the tax structure, availability of sites, utilities, transportation, public schools, housing, and many others. Of chief importance are the supply of skilled labor and the facilities for occupational upgrading of workers. Many underdeveloped communities that are now passed up by expanding industries could be favorably considered if a trained labor supply were available.

Certain states have recognized this situation and done something about it—South Carolina, for example. The state has set up a special administrative educational unit to work cooperatively with the Department of Economic Development. This unit makes an analysis of the skilled worker needs of the proposed plant, studies the potential supply of trainable persons, and outlines a training program to supply the needed personnel. If the company decides to come to the community, the state educational resources are mobilized, space secured for the training, equipment moved from a central warehouse and installed for temporary service, an instructional staff is assigned, and trainees recruited. Such service, if properly implemented, can add appreciably to the economy of a state.

#### **CRITERIA FOR ASSESSING CURRENT PRACTICE**

In the second proposal of this report, it was suggested that the Occupational Education Commission give attention to assessing existing vocational-technical education programs in the state in order to understand the baselines with which they are working, and determine next steps. Practices that are current in some states may be next steps for other states, so any listing of criteria for assessing current practice will, of course, be viewed differently in various states. The following items are presented as "checkpoints" for consideration by the Occupational Education Commission.

### *Instruction*

Each state should have a master plan for occupational education at all levels that looks ahead as far as is practicable with respect to curriculum offerings, adequacy of coverage of the needs of persons and employers, new construction needed, financial outlay required, and the like. The diversity of employment and population found in large cities, small cities, and rural areas calls for varied types and levels of programs.

a. Continuing curriculum development should be undertaken at all levels—from elementary school through college.

b. Close articulation should be developed for easy transition for all students from one level to the next and one institution or program to another.

c. Occupational education offerings in the public schools should be in keeping with projected local employment needs as well as the needs of the population to be served through full-time and continuation programs.

d. Close working relations should be maintained with employers, with public employment service, and other pertinent agencies.

e. Curriculum patterns should reflect current and emerging labor market demands for trained versatility by providing for experimental and experiential learning.

f. The media utilized for occupational instruction should cover a wide range of learning situations that may include programmed instruction, tutorial sessions, case discussions, role playing, computer assisted instruction, industrial visits, work experience, etc., required to develop the desired behavior patterns in students.

g. Teacher aides, lay instructors, and tutors should be used, when feasible, under the direction of master teachers, toward the end of utilizing most effectively the abilities of the professional.

h. A guidance system should be developed for the entire educational establishment that will provide at all levels the best possible assistance to persons in their choice and pursuit of occupational instruction. This should include a pattern of systematic check-up for full-time students, together with effective placement services when leaving full-time school.

The program should include service for working adults. Part of the total program may well be carried out by the public employment service, closely coordinated with the school program.

i. Occupationally-oriented education should begin at the age level of the elementary school including information about occupations which will interest students of that age, and continue through the full-time school with exploration at the junior high school level, basic occupational instruction in the senior high school dealing with occupational clusters, and specific occupational instruction at the upper high school level when appropriate, at the community college level, and at the adult level.

j. 1. At the elementary education level, the instruction should take the form of occupational information dissemination using various media such as programmed written materials, films and film strips, television, visits to work places, etc. Provision will need to be made for appropriate teacher education.

2. In the junior high school the instruction concerning work life should be an integral part of the total curriculum and should include exploratory experiences with in-school industrial arts, business arts, and other broad laboratory patterns reflecting activities of work life, with visits to work situations, and with various media designed to bring to the students an understanding of the requirements and opportunities of occupational groups.

This will require curriculum reorganization and development, changes in industrial arts practices and emphasis, and re-education of instructors. The program in the junior high school should evolve into broad avenues of occupational education in the senior high school.

3. Far-reaching changes will be needed in the high school, if the educational pattern is to develop into a form that will really meet the life needs of the wide range of students who attend. The heavy academic emphasis will need to be modified to provide for the needs of students who will enter work life at the close of high school (or possibly before), those who will enter organized work education programs of apprenticeship or company training, those who will enter occupational education programs of specific type in area vocational schools or community colleges, and those who will go on to college either directly or via the transfer programs of the community college.

Much of the high school program will take the form of "paths" or "avenues" that provide organized prevocational or basic occupational instruction leading the student to effective entrance into post-high school instruction in the selected field. For example, the path leading to engineering technician training would include pertinent mathematics and science, mandated or selected general education subjects, and possibly mechanical drawing and materials of industry.

A significant part of the high school instruction may well take the form of basic preparation for clusters of closely related jobs, such as mechanical maintenance, or building construction, or office practice. This part of the curriculum would be derived from analysis of common basic elements of knowledge and skill found in the various jobs in the cluster. Upon graduation from high school, the student would be prepared to pursue specialized instruction in some one of the fields that make up the cluster in a post-secondary school, employer school, or apprenticeship.

A part of the high school occupational program should be special programs designed to meet the needs of students who are socio-economically handicapped, with small classes and much individual attention.

4. Post-high school education criteria are detailed in the report of the Ad Hoc Committee for Community-centered, Post-High School Education, Education Commission of the States.<sup>3</sup>

#### *Labor Market Data*

The state should improve its facilities for obtaining and making available current labor market data for use in occupational education program planning, and these data should be utilized in keeping programs geared to current occupational needs.

The state education establishment may well take the lead in the development of uses of the computer in occupational education.

#### *The State Education Establishment*

a. The service role of the state education establishment with respect to occupational education should be expanded to a size compatible with the importance of this phase in the total education program. This service may well include program consultant service to local communities, curriculum and instructional materials development on a statewide basis, building and equipment planning, research and development, statewide coordination of curriculum offerings, and efficient administration of state and federal financial aid designed for this field. In some cases this may require restructuring of the present state administrative pattern for vocational education to provide for closer integration of all state educational services.

b. The state education establishment should provide effective coordination and development of appropriate programs within the state, using conferences, workshops, institutes for leadership development, and the like, in addition to personal consultant service.

c. The state education establishment should maintain effective public relations concerning occupational education with all pertinent elements of society within the state—employer organizations; labor organizations; professional, technical organizations; civic organizations, and the like.

d. The state education establishment may well consider the development of occupational guidance service for adults, developed cooperatively with the state employment service. Well planned guidance centers where adults can go for counsel on personal problems concerning work life will be a real asset to many persons, as well as to the economy.

e. The state education establishment should take steps to bring occupational teacher qualifications and teacher education programs into line with the needs of an automated age.

#### *Financial Support*

A financial support plan should be developed consistent with the ability of the state to provide the needed funds and secure federal and foundation funds, and with the varied needs of different portions of the occupational education program. This plan should include provision for distribution of

<sup>3</sup> *Analysis of State Programs in Community-Centered Post-High School Education* (October 1968). Available from the Education Commission of the States, 1860 Lincoln Street, Denver, Colorado 80203, for \$1.50.

state and federal funds on an equitable basis by types of institutions and types of programs.

Sound legislation should be enacted which clearly allocates responsibility for occupational education to appropriate agencies and which encourages the development of effective occupational education programs. The legislation should insure close coordination of all programs.

#### *Local School Districts*

a. Steps should be taken to increase the size of most educational administrative units to a point where it is practicable to provide needed occupational education. In some cases the county may be the best unit; in other cases larger units may be needed. For some types of occupational education programs the state itself may be the most desirable unit.

In the reorganization, steps should be taken to free the school district from bureaucratic structure. Provisions for interdistrict and interinstitutional cooperation should be made and retained regardless of the extent of the reorganization.

b. Physical plant for occupational education is a vital aspect of effective programs. Venn comments on "institutionalization of obsolescence" when schools are unable to keep up with industrial changes in the replacement of equipment. New thinking is required concerning the possible use of mobile units, portable units, and learning "stations" in business and industry.

## manpower coordinating committee

The Task Force on Vocational-Technical Education believes that the schools have a major responsibility in the field of manpower development by virtue of their responsibility for education and preparing individuals for full participation in the economic life of American society.

In claiming a larger role for the public schools in manpower training, we are faced at once with a multiplicity of federal government programs, some of whose ties to both education and employment are fragile at best. While there are logical divisions of responsibility among these programs, there is also an enormous overlap. And this problem can be solved not by reshuffling, but only by the transfer of the educational components of these programs to the public schools.

Few people are satisfied with the schools' present performance in equipping the disadvantaged members of society with the skills needed to rise on the economic ladder. The whole education system—in the large city schools, the poverty pockets of our rural areas, and even in affluent suburbia—is now in trouble. And one focus of the dissatisfaction is the schools' impotence in meeting the needs of the large number of disadvantaged students for whom the most feasible hope when they finish school is open-ended jobs. (That is, jobs with access to advancement and responsibility. Merely to offer blind-alley employment and obsolescing trades to youngsters in a dynamic technological society is to exchange one kind of subservience and dependence for another.)<sup>4</sup>

The Manpower Coordinating Committee's responsibility would be to effect maximum system-cost effectiveness in the utilization of the various occupational and job-training programs. Its primary function should be coordinative rather than administrative, with the actual implementation of the education and training programs being the responsibility of the appropriate agency.

Planning for the future of occupational education must take into account what we have today. Some of the institutions and programs have realistic goals and are meeting the goals rather effectively. Others need redirection of goals and the development of effective implementation. An overall task as large and as varied as that of providing occupational education for the millions of present and potential American workers requires a wide spread of methods and of agencies.

On-the-job training is the major path to skill development in most occupational fields. But with the increasing demands of technology in all areas, this method is being supplemented by growing numbers and types of institutional programs. These are found within and without the field of public education.

<sup>4</sup> Marvin Feldman, The Ford Foundation, New York.

### *Educational Agencies Outside Public Education*

Workers who advance by the pick-up method are usually helped by relatives, friends or helpful supervisors. Technical books and periodicals are studied or correspondence courses are taken. Some industries now provide programmed learning manuals available to workers who desire to improve themselves.

Apprenticeship provides many workers for the skilled crafts, with the related study usually provided in classes operated by public education programs. The numbers enrolled fluctuate somewhat, but don't appear to be growing. In 1950, some 200,000 were enrolled in registered apprenticeships; in 1965, the number was some 185,000. These programs are sponsored by management, by unions, or by joint apprenticeship committees.

Many occupational training programs are provided by employers on an organized basis, as induction or vestibule programs for new workers, or as extension programs for updating, upgrading, or retraining present workers. Usually these programs are confined to the specific needs of the organization.

Some trade and business associations operate schools on industry-wide service, such as banking. Industry provides a considerable amount of education for all levels of management.

### *Private Schools*

Private vocational schools—proprietary and nonprofitmaking—provide training for thousands of persons each year, usually catering to those who desire preemployment training. These private schools often do the pioneering in new occupational fields. Auto mechanics education got its start in this way. Present programs in private schools include business courses, data processing, flying, cosmetology, electronics, diesel mechanics, and a host of other courses. The education of technicians is well represented in private technical institutes. Private correspondence schools enrolled more than three million students in 1962.

### *Federal Programs*

Numerous government departments operate their own training programs, and some of these enroll thousands of people other than their own employees. Some of these programs are operated jointly with the educational establishment. The U. S. Department of Labor, in cooperation with H.E.W., provides basic and occupational education through the Manpower Development and Training Act. This Act includes allowances for trainees, and permits contracts with private organizations. During 1966, some 135,000 persons completed courses under this Act. The Department of Labor operates special guidance and placement service for youth in 125 Youth Opportunity Centers.

The Office of Economic Opportunity administers 115 residential Job Corps centers, enrolling 30,000 youth in 1966. This Act also provides for contracting with private organizations for the operation of programs. Neighborhood Youth Corps programs provide paid work jobs for youth who need

financial aid to stay in school or to return to school, and for the development of acceptable work habits. OEO also provides a Work Experience and Training Program for welfare clients and other needy persons in cooperation with the Labor and HEW departments. Numerous special programs involving occupational training are included in the overall attack on poverty.

The Economic Development Administration of the Department of Commerce provides subsidies for training programs in areas of critical employment. The Department of Agriculture reaches thousands of persons through the Agricultural Extension Service. Nearly every department of the federal government, and many departments in the several states, provide some type of occupational education.

#### *Occupational Education Programs Within Public Education*

Although the public schools are most directly concerned at present with academic education, much is being done in the field of occupational education. Such programs are found in public vocational high schools, comprehensive high schools, area vocational-technical schools, technical institutes, community colleges, and other institutions. Professional education—another level of occupational education—is largely the province of the public and private universities.

Separate vocational schools for youth of high school age are found in many states. Some of these have programs geared quite closely to the needs of industry, although perhaps the majority have included enough general education content to meet the status of vocational high schools. In keeping with the regulations of the Smith-Hughes Act, the curriculum pattern generally provides a half-day of shopwork on a useful or productive basis, one-quarter of the day of related mathematics, science and drawing, and the remainder of the day in general education. Usually the range of offerings is relatively limited, except in large cities where several schools cater to different occupational fields. Some of these schools are highly selective, with resultant excellent placement records of their graduates. Others have become dumping grounds for the less able student. The separate vocational schools are essentially outside the mainstream of education.

Thousands of high schools throughout America are of the comprehensive type, combining academic and occupational education. The larger schools may offer curriculums of business, distributive, trade, technical, and agricultural types, and may include "vocational" home economics. Small high schools—especially in rural areas—often limit their programs to agriculture and home economics.

In the comprehensive high school the students in occupational curriculums mix with those in academic programs in certain classes and in extracurricular activities, and thus are a part of the mainstream of education. Work-study programs are often found in the fields of business, distributive and industrial occupations. Youth leadership organizations, such as the Future Farmers of America (FFA), contribute their part to occupational understanding.

Since the enactment of the Vocational Education Act of 1963 with its more liberal regulations, we are seeing the development of many curriculums geared to clusters of closely related occupations, in contrast with the programs which are usually found aimed at a specific occupation.

Since the passage of the Vocational Education for National Defense Act of 1958, with its provisions under Title VIII for federal subsidy for technician education programs in area schools, the term "area vocational-technical school" has come into popular usage. The Vocational Education Act of 1963 stimulated this development by earmarking funds for the development and operation of such programs.

In essence, an area vocational-technical school is one which serves the needs of an area larger than that of the usual high school district. It may be administrated by a state, county, large city, a combination of two or more school districts, or another agency.

In pattern it may be an industrial education center, a technical education center, an area vocational-technical school, a community college, a technical institute, a skill center, or it may have some other designation. To be legally considered an area school for subsidy purposes it must provide occupational curriculums in at least five different fields.

With federal subsidy available for construction as well as for operation, in many states there has been strenuous development to get these schools under way. Four hundred such schools were in operation in 1965, 750 in 1966, and an additional thousand have been authorized for operation by 1975.

Most of these schools are highly specialized and largely single purpose in their offerings. The new ones are modern in construction and well equipped. They have a "no-nonsense" atmosphere. They may serve high school students on a "skill center" basis, for half-time or less of the student's day, and they may offer MDTA programs. They usually provide also for extension courses for employed workers.

Technological development of recent years has greatly increased the needs for technicians in many branches of industry, business, and agriculture. The type of institution designed for the training of technicians is the technical institute, and curriculums provided for such training, wherever offered, are usually called technical institute type curriculums.

Such curriculums are found in separate technical institutes, in technical institute branches of engineering colleges, in community colleges, and in some area vocational-technical schools. The curriculums are highly technical in content, resembling an engineering curriculum more than that of a trade school, and require students of reasonably high intellectual ability. The programs are usually two years in length. The development of this phase of occupational education has been stimulated by the VEND Act of 1958, and subsequent acts, and it is perhaps growing more rapidly than any other part of occupational education.

The community college is growing rapidly, both in the numbers of new institutions coming into being, and also in its concern for the development of occupational education. In the early years of its development the community was concerned largely with "lower division" or "transfer" programs which provided the first two years of traditional college curriculums. These colleges then began to include curriculums of semi-professional nature, of sufficient prestige to warrant inclusion in a college-level institution. Technician education subsidized under Title VIII of VED then became acceptable.

Although in some states vocational-industrial courses have been in community colleges for many years, in other states they have been introduced only recently. At present the general pattern toward which the community colleges are working is that of comprehensive occupational education offerings in a wide range of fields.

Technological and social change are steadily pushing upward the occupational education programs with respect to age and grade level. Post-high school institutions today are the most logical location for specific occupational education offerings.

#### *Federal Aid for Vocational Education*

Federal legislation has had a profound effect on the development of occupational education. In order to receive federal funds each state had to set up a state plan for the operation of vocational education programs within the state, in conformity with the federal acts. This has placed a considerable amount of control within the hands of the U. S. Office of Education. Within this frame of reference each state has developed its own program, but with considerable uniformity of pattern outlined by the federal legislation.

The first of the specific federal acts—the Smith-Hughes Act of 1917—set up many meticulous requirements, which appeared to be suited to the needs of that period. The Smith-Hughes Act is an act in perpetuity, remaining on the statute books until repealed by the Congress, together with its mandated appropriation. This Act is still in force.

All of the federal vocational education acts have provided liberal appropriations for agriculture and home economics, reflecting congressional favor for the rural areas. Several acts of short duration—the George-Reed Act of 1929, the George-Elzey Act of 1934, and the George-Deen Act of 1937—provided additional funds. The George-Deen Act added distributive education to the list of approved fields; otherwise the provisions were largely those of the original Smith-Hughes Act. In 1946, the George-Barden Act was passed which provided substantial additional funds, and which liberalized somewhat the restrictive provisions. Additional funds for health education were added by a 1956 amendment. Technician education and the development of area schools were greatly stimulated by Title VIII of the National Defense Education Act of 1958. In 1962, the MDTA, with subsequent revisions, added a new facet to occupational education, in its cooperative administration between the Departments of Labor and of Health, Education, and Welfare.

In 1961, a Panel of Consultants of Vocational Education was appointed at the request of the President, and its report recommended drastic changes in legislation for vocational education. As a result of this recommendation, the Vocational Education Act of 1963 was passed which authorized large increases in federal funds and provided a wide revision of program emphasis.

One significant feature of this Act was the section permitting state boards for vocational education, with the approval of the Commissioner of Education (USOE), to transfer funds from one category to another. This makes it possible to transfer all Smith-Hughes and George-Barden funds into categories of the Vocational Education Act of 1963, thus virtually permitting repeal of the Smith-Hughes and George-Barden Acts if the state so desires.

The permitted use of federal funds for construction and operation of area type programs has stimulated much development of post-high school programs, and the broadened curriculum patterns permitted under the new Act have resulted in much activity in the development of occupational-cluster programs in the high schools. The legislation also requires periodic review of accomplishments.

The occupational education programs sponsored under the Office of Economic Opportunity and those of MDTA lean heavily toward on-the-job training.

## **task force for occupational education and economic development**

The responsibility of this task force would be to help build up the state's industrial output through new or expanded industries. This would be done by means of providing information to assist industries in considering the state as a site, providing a pool of trained workers, and/or making available undeveloped (or underdeveloped) workers who can be trained for jobs provided by new industries.

## **regional learning centers**

The responsibility of these centers would be to provide leadership in development of broad, interdisciplinary curricula that are responsive to the needs of society and the individual, and geared to the resources of the region. The centers, placed regionally within the state in intermediate district offices or otherwise, would provide the link between the Human Resources Council (and Occupational Education Commission) and the local community Advisory Councils on Vocational-Technical Education—interpreting the goals on the one hand and assessing regional resources on the other so as to lead in curriculum development designed to achieve the goals. Two basic premises provide the rationale for the centers:

A. Transmitting meaningful knowledge to others and developing in others the intellectual and communication skills vital to learning requires special scholarship and understanding of human potential, and teachers and students should be protected and encouraged in these rigorous and demanding activities by leadership and environment which frees them from other concerns and objectives.

B. The development of skills, values, attitudes, and competence in such important matters as self-government, job-training, cultural, and social pursuits can be most successfully achieved, and therefore should take place in the environment where they are sustained and "under the tutelage of the best performers." Such development cannot be accomplished satisfactorily or economically if it is limited to instruction in the simulated or isolated environment of a school building.

## initial target population

The second proposal of the task force report calls upon the Occupational Education Commission to identify school dropouts, potential dropouts, and unemployed and underemployed adults. It is not necessary to describe this population at length. It is generally known that current educational practice does not motivate nor serve the youngsters represented by the 20 per cent high school dropout rate and the additional large number of those who are "passive" about our present offerings. Only 20 per cent of our young people are graduating from college. If present trends continue, by 1975, 32 million persons in our labor forces will not have completed their high school education.

Young people are entering a technological world of work unequipped with the tools they need for survival. More than a million of them are now out of school and out of work, and, given the circumstances, this figure can but continue to rise. (Venn)

Every serious concern about the human condition in America today—about poverty, unemployment, racial discrimination, juvenile delinquency, the fear of walking the cities' streets at night—must center on the building of new bridges between American learning and American doing, bridges that everyone can cross.<sup>5</sup>

These individuals, identified by the most appropriate means in each state, would constitute the initial target population for programs that emphasize the related school and community contexts for education.

This proposal, however, is not intended to be limited to "crisis" or "crash" programs. The Human Resources Council would be responsible for working through its commissions to establish, maintain, and nurture pilot programs with a view toward individualized learning experiences that use broad-based resources becoming normal educational practice with all youngsters and adults. Occupational education is proposed as the first area for concentration because specific training and job entry is of key importance to the initial-target population. Education in the other areas—cultural, social, political, and intellectual—can also take place more effectively in related school and community contexts and Human Resources Councils are called upon to attend to those areas as quickly as possible, drawing upon their experiences with immediate efforts in occupational education.

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<sup>5</sup> Willard Wirtz, Secretary of Labor, Washington, D. C.

## variety of approaches

The legal responsibility for education rests with the separate states, and each state has unique potentials, resources, and problems. Consideration of the proposals presented in the Report of the Task Force on Vocational-Technical Education, therefore, will be given in the light of a great range of perspectives held by states.

One way to classify state characteristics into categories is by the nature of the population distribution within states, i.e., whether a state is basically metropolitan, urban-rural, or rural. This is a particularly useful classification when occupational education programs are being considered because the diversity of employment and population found in large cities, small cities, and rural areas calls for varied types and levels of programs.

When determining the approaches it will use in considering and implementing the proposals in the Task Force Report, the states should note the following:

1. Depending upon the population distribution within a state, the nature of the agencies with which the Occupation Education Council and their Local Advisory Committee Council counterparts will concentrate their efforts may range from the Grange (in rural states), to the AFL-CIO (in metropolitan states). The state agencies with which the work is done will vary, too, depending upon the relative strength of certain Departments as a result of emphases given different areas in the past.
2. Depending upon the population distribution within a state, the way in which the state organizes the councils, commissions, and committees proposed in the Task Force Report will vary. It may be that some relatively rural states whose departments of education and other departments are small, and where communication and working relationships with local schools and communities are not complex, will want to establish only a Human Resources Council and provide for subcommittees of that group to perform all the functions proposed for the Occupational Education (and social, cultural, political, intellectual) Commission as well as for the Manpower Coordinating Committee, and the Task Force for Occupational Education and Economic Development. The urban-rural states may want to establish both the Human Resources Council and Occupational Education Commission but leave manpower coordination and occupational education-economic development as subcommittee functions for the Occupational Education Commission.
3. Pilot programs should concentrate initially upon specific problem areas (congested areas in cities or sparsely populated rural areas, for example) but include as soon as possible, areas throughout the state that are representative geographically and by community-size categories.
4. Depending upon the extent to which a state desires and/or finds it necessary to be a highly industrial one, it will want to adjust the emphasis given to special occupational education services relating to industrial development as described in the fourth proposal of this report for the Task Force for Occupational Education and Economic Development.

## ECS PUBLICATIONS

### Regular publications

COMPACT, a bi-monthly magazine

ECS BULLETIN, a monthly newsletter

### Reports published by the Commission

- No. 1. Vocational-Technical Education: Changing The Contexts In Which Occupational Education Takes Place, November 1967.
- No. 2. \*Community-Centered Post-High School Education, by S. V. Martorana, May 1967.
- No. 3. Statewide Systems of Higher Education Studies: A Summary, by Samuel K. Gove, Fall 1967.
- No. 4. \*Power-Play For Control of Education: A Report Of The 1967 Annual Meeting, November 1967.
- No. 5. State School System Development: Patterns And Trends, by C. O. Fitzwater, March 1968. \$1.50.
- No. 6. Guide For Evaluating State Programs In Community-Centered Post-High School Education, March 1968.
- No. 7. Achievements, Legislation and Problems In Education: A Survey Of The States, May 1968.
- No. 8. Background Material On Collective Bargaining For Teachers, by J. Philip Linn and M. Chester Nolte, June 1968. \$1.50.
- No. 9. Teacher Militancy: Strikes, Sanctions and State Government: A Report Of The 1968 Annual Meeting, August 1968  
COMPACT.
- No. 10. Analysis of State Programs in Community-Centered Post High School Education, October 1968. \$1.00.
- No. 11. The Politics of Elementary-Secondary and Higher Education by Michael Usdan, David Minar and Emanuel Hurwitz, Jr., November 1968. \$1.00.
- No. 12. Proposals for Federal Legislation, 1969, December 1968, \$1.00.
- No. 13. Collective Bargaining for Teachers, by J. Philip Linn and Chester M. Nolte, December 1968, \$1.50.
- No. 14. State Support for Student Financial Aid in Higher Education, by Richard Grant, December 1968, \$1.00.
- No. 15. ECS Proposal for Vocational-Technical Accreditation, December 1968.

### Materials Distributed by the Commission

\*Early Childhood Education, March 1968.

Planning for Educational Development in a Planning, Programming, Budgeting System, by Selma Mushkin and James Cleveland, November 1968, \$1.00.

### Information about the Commission

The Compact For Education, 1966.

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\*Out of Print