

APPRENTICESHIP

PRINCIPLES, RELATIONSHIPS, PROCEDURES

BY

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APPRENTICESHIP

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TO
MY MOTHER

PREFACE

Not many years ago apprenticeship was regarded by most educators and perhaps by a majority of industrialists as a thing of only the past. It then seemed that apprenticeship had met its death blow in the advent of the machine era. That view has now changed. At the present time much is being written and accomplished in the name of apprenticeship. No longer does it need a champion. The value of apprenticeship is everywhere recognized, and its development is now the object of well-organized movements, as an examination of trade papers and educational bulletins will reveal. In the United States, however, little has appeared on what might be called the philosophy of apprenticeship, although considerable literature has been evolved dealing with the technique of apprenticeship relations and methods of training.

This study was originally undertaken at the suggestion of Dr. Selig Perlman, Professor of Economics at the University of Wisconsin, who pointed out the need for a treatise on the philosophy of apprenticeship relations—a book which would reveal the respective limitations of the state, of the employer, and of labor, in apprenticeship administration. This inquiry led to further extensions of the study. It is hoped that the following pages may reveal the fundamental philosophy upon which apprenticeship development must proceed, and that they will call attention to its essential elements.

This book attempts to review the meaning of apprenticeship in its relation to modern industry; to present its status with reference to labor; to show its relation to the employer; to reveal its inevitable affinity with formal education; and to show its relation to the functions of the state itself. A study is also made of the new manifestation of apprenticeship in the form of cooperative training. Finally, some problems of state administrative experience which have been encountered in the Wisconsin plan are presented because they show principles and

procedures which must receive recognition if a thorough knowledge of industrial training is to be obtained, and particularly if this training is to be subject to any form of state control.

It would be impossible for the author to mention all those to whom he is indebted for contributing in one way or another, to the subject matter of this book. Special acknowledgement is extended to Mr. George P. Hambrecht, State Director of Vocational Education, for making possible the sound development of the Wisconsin plan while he was Chairman of the Industrial Commission of Wisconsin; to Mr. Walter F. Simon, the present Supervisor of Apprenticeship of the Wisconsin Industrial Commission, for hearty cooperation in providing recent data; to Dr. R. L. Cooley, Director of the Milwaukee Vocational Schools, for his friendly counsel; and to Dr. Edwin E. Witte, Chief, Wisconsin Legislative Reference Library, who, in his present capacity and as former secretary of the Industrial Commission, has given assistance in securing material.

A debt of gratitude which can never be adequately expressed is acknowledged to the author's former teacher, Dr. John R. Commons, of the University of Wisconsin, whose encouragement and appreciation have meant so much. Finally, the author cheerfully recognizes the priceless assistance and inspiration of his wife who has made the pains of authorship less severe.

STEWART SCRIMSHAW.

MILWAUKEE, WISCONSIN,
March, 1932.

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FOREWORD

It is unusual that an author of a book on industrial relations and education has himself gone through every stage of the whole subject that he writes about. Dr. Scrimshaw began as an apprentice to the bricklayer's trade in England; supported himself through a university education as a member of the trade-union working at his trade in America; became State Supervisor of Apprenticeship under a new law on that subject in Wisconsin, for which position he was selected by representatives of the State Manufacturers' Association and the State Federation of Labor; became the Personnel Administrator in a large machinery-manufacturing corporation; then director of the engineering cooperative relations between a university and the manufacturing establishments of a great industrial city; finally Professor of Personnel Administration and Economics in that university. Seldom is there such a combination of practical, scientific, and educational activity, covering twenty-five years, brought together in one person as preparation for an authoritative book on his subject. He began with the ancient system of apprenticeship, which, in England could not be excelled in its training of the craftsman; then came through all of the mechanization that broke down the old system; then participated in the efforts of a state, of private employers, and of wage-earners to fit apprenticeship to the new conditions; then had several years of teaching and research during which he could organize his mass of experience into a notable contribution to the modern methods of the science of political economy. This book certainly will find a place with all forward-looking vocational educators, personnel executives, leaders of labor organizations, and educational and economics departments of colleges and universities.

JOHN R. COMMONS.

UNIVERSITY OF WISCONSIN,
March, 1932.

INTRODUCTION

Many modern influences have contributed to a renewal of interest in apprenticeship training. The recent emphasis upon industrial and vocational education has brought apprenticeship to the center of the stage. With the growing appreciation of programs of training which involve a combination of work and school, there will inevitably ensue still greater efforts to capitalize the values inherent in apprenticeship training.

Apprenticeship literature is prolific. It teems with romance, and many of its human-interest phases have been told and retold to every schoolboy, although quite often with inaccuracy. Apprenticeship has been subject to the vicissitudes of centuries of economic evolution. In the provincial old world of landed estates, rather than of close-knit nations as we conceive of them today, there were many variations and individualistic practices. Guild apprenticeship practices were so much a matter of local custom that, it is evident, many aspects of apprenticeship training differed with the location or town in which the crafts were practiced. It is little wonder, then, that medieval apprenticeship covers a field, concerning many elements of which not even celebrated historians can find unanimity of view.

It is medieval apprenticeship that is usually described in the industrial- and vocational-education textbooks, and the description is frequently drawn from the imagination as are other aspects of medieval life. Although most treatises on apprenticeship devote the major consideration to the historical aspects, the present work does not attempt to cover the ground which has been so well cultivated by others.

In this book the historical observations are not presented in a formal way but find ready place in many parts, particularly in the chapter dealing with Apprenticeship and Public Authority. In fact, wherever they have aided in throwing light upon modern conceptions, relationships, or practices, historical references have been freely utilized. Those students who desire to make a

special study of apprenticeship history will find some noteworthy historical studies available. The following works will prove to be of great interest and value:

DUNLOP and DENMAN, "English Apprenticeship and Child Labor," T. Fisher Unwin, London.

UNWIN, GEORGE, "Industrial Organization in the Sixteenth and Seventeenth Century," Clarendon Press, London.

SCOTT, JONATHON FRENCH, "Historical Essays on Apprenticeship and Vocational Education," Ann Arbor Press, Ann Arbor, Mich.

MOTLEY, JAMES M., "Apprenticeship in American Trade Unionism," *Johns Hopkins University Studies in Historical and Political Science*.

DOUGLAS, PAUL H., "American Apprenticeship and Industrial Education," Columbia University Press, New York. (Early chapters.)

The present work is a textbook on *apprenticeship and cooperative part-time education*. Students of vocational education and human relations in industry are finding it increasingly necessary to become students of economics. For those, this text will have particular meaning, because it is based upon economic study. It touches lightly on educational theory, but more strongly on the functioning of education. All through, however, it remains not only a study of apprenticeship in the abstract, but also a study of human relations as expressed in apprenticeship training.

No attempt is made to minimize the good work being done on apprenticeship, no matter whether voluntary or compulsory plans are being followed. The principles and relationships discussed in this text will find broad application wherever apprenticeship is practiced. Since this work is primarily concerned with the principles of apprenticeship and the nature of apprenticeship relations, there has been no attempt to give a recital of specific plans in operation in individual places throughout the country. Even if such a recital of methods were possible, it would be obsolete before it was completed. Successful apprenticeship does show variations in technique, but not in basic principles.

A treatment of cooperative part-time education has been included because the successful plans of cooperative training are based upon apprenticeship principles and techniques.

Consideration has been directed to special problems of apprenticeship administration, because they are common to all present-

day apprenticeship systems, whether under the control of public authority, trade unions, or employer organizations.

In the appendices will be found some material which may be of value to those interested in studying state systems. Forms and specific procedures must vary in different places. The attempt of the present work is to establish principles and to present modes of procedure. The inclusion of some of the recent laws on apprenticeship will provide a ready reference to the latest contribution of public authority to one of the oldest institutions of civilization. However, no formal ready-made scheme, no matter how perfect, can be a substitute for intelligent planning or the exercise of good judgment, since no law or rule of administration is any better than its enforcement.

It will be observed that apprentices are spoken of in the text as masculine, but apprenticeship is also applicable to girls. It is true, however, that the more extensive employment turnover of young women, due primarily to marriage, will always make apprenticeship for girls of relatively less importance.

At the conclusion of each chapter will be found some suggestive questions and exercises. These are designed to challenge the interest of the reader in the basic considerations of the chapter contents and at the same time to prove a time-saving device for the teacher.

APPRENTICESHIP

PRINCIPLES, RELATIONSHIPS, PROCEDURES

CHAPTER I

THE NATURE OF APPRENTICESHIP

Apprenticeship is one of the oldest institutions of civilization. While most writers have assumed that apprenticeship developed with the craft guilds and had its origin in them, some scholars have shown that apprenticeship flourished even in ancient times. Furthermore, apprenticeship has been common to the Orient as well as to the Occident.¹ It is suggested in the literature of all people. Its ancient forms, however, are so interwoven with the institution of slavery that it is easy to understand that modern peoples find it difficult to contemplate apprenticeship prior to the middle ages. How much of the apprenticeship before that time was a real aspect of slavery and how many of the apprentices were the sons of slaves have not been revealed in apprenticeship literature.

Today when apprenticeship is spoken of, people think of the apprenticeship of the middle-ages craft guilds. It is the medieval period of apprenticeship which is the classical age of the institution of apprenticeship, although some would acclaim the period of the building of King Solomon's temple. The latter time, of course, is part of the poetry and song that have so frequently accompanied the portrayal of early apprenticeship.

Apprenticeship is a human institution. It has noble traditions which have been extolled by innumerable writers, even to the point of idealization. It is well to remember, however, that no human institution of any sort is ever more than relatively perfected, and industrial apprenticeship is no exception. It is a mis-

¹ See DOUGLAS, PAUL H., *American Apprenticeship and Industrial Education*, Chap. 1, *Columbia University Studies*, Vol. 95, No. 2.

take to make a fetish of medieval apprenticeship; it is better rather to accept it as a scheme of education that must be made to conform to the requirements of our newer industrial day. The failure to recognize this principle accounts for the observation to which Carroll D. Wright referred in a report on apprenticeship in 1908, namely, "Nearly all writers and speakers on industrial education state broadly and definitely that the system is dead."¹ Even today we encounter individuals making positive statements to the same effect, with the same definite conviction, and we may suggest that these statements are made with the same definiteness of error. The fact is that although the old apprenticeship became decadent, apprenticeship was never entirely killed. The tradition, the fact, and the principles of apprenticeship are very real and are ever present. The substance is there although the form may be changed.

With recent attempts to give apprenticeship its place in our modern economic society there has unfortunately been a tendency to neglect a proper understanding of the essential elements of apprenticeship and to confuse nonessential aspects with fundamental principles. This has been partly due to the fact that there are two phases to the learning-while-earning principle. One is the historical apprenticeship method of training individuals for some specific trade or profession, and the other a method of giving the apprentice a general training while he receives his initial contact with industry. The latter arises out of the nature of modern industrial society, where the needs of all industrial workers cannot be met adequately by training everybody for some special craft or occupation, however good that training may be.

Certain types of individuals can be trained for definite trades or occupations. Others must be trained on a more general basis to participate intelligently in whatever industrial activity they may become engaged; but the latter form of training under present conditions is not apprenticeship, even though it embraces some of the same principles.

Apprenticeship suggests specific training of an individual for a craft or occupation; industrial training of a more general character

¹ The Apprenticeship System in Its Relation to Industrial Education, *U. S. Bur. Ed. Bull.* 6, p. 9, 1908.

fits him in a broader sense for life in an industrial society. The apprenticeship ideas, techniques, and principles are very effective in this general type of vocational education; they are so much so that industrial training is deemed effective or of value in proportion to the extent that there is an application of apprenticeship principles. In fact, so strongly has this idea captivated some writers that they have been inadvertently led to treat all forms of education for working people as apprenticeship training. This idea, however, is somewhat confusing. Apprenticeship has a technical meaning and must not be made identical with *general* continuation-school procedure. *Not until there is a definite contractual relationship in the learning procedure can there be real apprenticeship.*

Definition of Apprenticeship.—*Apprenticeship is that method of training in which a learner, usually a minor, enters employment for a definite period of time under an express or implied contract to learn a trade, craft, or business.* This agreement provides that the learner shall receive for his services remuneration in two forms: first, a specific monetary payment; and second, instruction in the occupation in question, or at least an opportunity to learn the trade, craft, or business through practical experience—a learning-while-earning process. It is a process of learning in which practice is supplemented by theory and implies a combination of both elements. Modern apprenticeship differs from the earlier apprenticeship training in the fact that the theory of the trade is taught to the apprentice by some special means of instruction, usually in school classes, rather than by being acquired by the apprentice through the individual interest and tutelage of the master of the craft. Moreover, in the old apprenticeship, theory and practice were taught together and were hardly distinguishable; but in modern apprenticeship, the theoretical element, because of the scientific aspect of industrial activity, forms a larger factor in the training. Any trade today requires special scientific theory, and therefore needs special effort on the part of the apprentice to acquire that knowledge.

One of the characteristics of the apprenticeship of other days was the fact that the apprentice lived in the home of the master. The fact that such a condition of things could not exist today in no way affects the real essence of apprenticeship. It may be sug-

gested by some that apprenticeship in the home of the master made the discipline of the apprentice more effective. However, it can readily be believed that attention to the working regulations of the industrial establishment and to the necessity of learning to become adjusted to the different personalities found in employment is equally as effective discipline as the old-time apprenticeship arrangements.

Modern apprenticeship is not confined to those medieval trades which characterized the craft guild period. There are many trades today which were unknown before the industrial revolution. Of interest here is the statement by Prosser and Allen:

The total number of these ancient crafts was not much in excess of a dozen. Many of the occupations included within their sacred circle, such as those of the butcher, the baker, the blacksmith, the saddler, the shoe repairer, and the tailor, still persist on virtually a hand tool basis in small communities everywhere, and to a considerable extent in large communities as well. Here they are followed by a great many more workmen than in the days of English indentured apprenticeship. In the smaller towns and in most of the building construction of large cities, many of the building trades are still carried on "by hand" in the sense that the power driven tool has not supplanted to any considerable extent the uses of hand tool processes. This is obviously true in bricklaying, plastering, and painting and to a large extent of carpentry and tinsmithing. The workers in such employments probably equal in number all the artisans of Europe in the Eighteenth Century.

If it be conceded that hand composition in the printing trade is a skilled occupation, then we have more skilled workmen pursuing this one skilled art in the city of New York today than the total number of craftsmen employed in England at any time during the reign of "Good Queen Bess." During this same century, the total number engaged at any given time in all the skilled crafts of all Europe including England, was very much less than the total number of hand compositors in the United States at the present writing. If it be conceded that the modern toolmaker, who is really both blacksmith and machinist, possesses a skill at least equal to the ancient blacksmith, then we have much more skill in quantity and quality represented by the toolmakers of the single state of Pennsylvania than was possessed by all the iron workers of England at the close of the Seventeenth Century.¹

¹ PROSSER and ALLEN, "Vocational Education in a Democracy," pp. 72-73, Century Company, New York, 1925.

It may be said in behalf of modern apprenticeship that any employment which necessitates a grouping of operations or jobs or experiences within the range of the ordinary individual in that employment could be subject to apprenticeship arrangements. For example, a man could be apprenticed to the grocery business or to an office occupation just as well as to the plumbing trade. The handicap exists in the minds of the employers or the public, and not in the nature of the occupation. The main consideration, then, is that *any trade or occupation which gives a diversified series of specific jobs that can be coordinated would make an apprenticeable trade*. Just how many these occupations may be, for any particular time, will depend upon the character of contemporary trade and industry. An enumeration of them could never be made complete. Nevertheless, when the principles are understood it is easy to know when apprenticeship can be established.

Objectives of Apprenticeship Training.—In the preceding paragraphs there has been a presentation of the meaning of apprenticeship, with a formal definition. It is now necessary to examine the principal objectives of apprenticeship. In other words, what is to be accomplished through this form of training?

It would appear that the functions of apprenticeship would include, first, the development of skilled workmen; second, the provision for a practical method of training for skill; third, the development of integrity of character; and fourth, the training of men capable of ready adjustment to technical changes in production.

The Development of Skilled Workers.—Apprenticeship especially is a device to turn out men of skill in the different trades and occupations. This fact is the most evident thing about apprenticeship. It is an acknowledgment that skill can come only by working on tasks that require skill by repetition, by comparing present with past performance, by bringing to bear on the day-to-day experience the benefit of accumulated knowledge, and by profiting from the experiences of fellow workmen, either from their positive accomplishments or from their mistakes. Developing skill is, in other words, a process of acquiring judgment, dexterity, and an appreciation of the value of the application of scientific knowledge to the tasks in hand—a process of training

the hand, the eye, and the brain, and of acquiring proper coordination of these faculties.

Furnishing a Practical Method of Training.—This learning-while-earning process puts the young person in touch with all the forces of economic life, and therefore he gradually becomes adjusted to life and work. It is a natural means of preparing individuals to accept their responsibilities. There is in apprenticeship no question as to whether the kind of work that the youth does will coordinate with industrial situations, for it is industrial experience itself. The apprentice is learning to swim in the water, so to speak, and, after all, that is the only place in which one can become proficient in swimming.

Development of Integrity of Character.—A third important objective of apprenticeship training is to develop in workmen character and integrity. It is here that the idea of discipline comes in. There is no question but that the perseverance and “stick-to-itiveness” engendered by finishing a course of training lasting over a period of years are a great asset in making the youth a dependable man. The obligations which apprenticeship necessitates, if carried out, help not only to make the youth an asset to industry but to make of him a worthy citizen. The very idea of a contractual relationship is a fine thing to teach the boy the significance of agreement. The institution of contract, or more properly the right of contract, is one of the basic concepts not only of our own social order but of civilization itself. If from no other point of view, at least from that of character, the men who complete their apprenticeship, provided they have been intelligently handled by the employer, should be the aristocracy of shop men.

Development of Men Adaptable to Technical Change.—In modern apprenticeship a more recent aspect than those previously mentioned is the desire to make *men capable of ready adjustment to technical changes in production*, that is, to develop men who will become dynamic rather than static factors in the shop.

It is a patent fact that one of the outstanding characteristics of modern economic life is change, and not merely change, but rather rapid change—almost cataclysmic in its movement. The statically minded individual cannot keep pace. Apprenticeship training on the job over a period of years will teach a young man or woman the fact that no two days of industrial

effort are alike. There is some change all the time, and it is the skillful person, the adequately trained person, who is enabled to make adjustments from day to day. This is a new type of skill and one of the prime justifications of apprenticeship training.

It is scarcely necessary to say that apprenticeship may, and usually does, have many other effects which can be said to be by-products of training. These by-products in some instances become real objectives with certain employers and trade unions. The nature of these will be apparent when apprenticeship is considered in relation to these particular groups of economic interests.

An English writer, Reginald A. Bray, speaks very much to the point in his book "Boy Labour and Apprenticeship":

An apprenticeship system worthy of the name must satisfy three conditions. First, it must provide for the adequate supervision of boys until they reach at least the age of eighteen. Before that age a lad is not fit to be his own master, and should remain at least to some extent under the control of elder persons. Such supervision must have respect both to his conduct and to his physical development. Secondly, an apprenticeship system must offer full opportunities of training, both general and special—the training of the citizen and the training of the worker. And, lastly, it must lead forward to some opening in the ranks of adult labour, for which definite preparation has been made, and in which good character may find reasonable prospects of permanent employment. Supervision, training, the provision of a suitable opening—these must be regarded as the three essentials of an apprenticeship system.¹

Modern apprenticeship cannot merely happen. It is a system of training that must be properly organized. The apprentices cannot be left to chance. There must be positive supervision, and finally instruction in related trade theory, not as an after-thought but as the capstone of the whole apprenticeship structure.

On page 8 is a comparison of the old apprentice with the new. It will be seen that the apprenticeship technique of the craft guilds would not fit in this industrial age. On the other hand, the general purpose of the old apprenticeship is fulfilled by some modifications. These adjustments vitalize apprenticeship and

¹ "Boy Labour and Apprenticeship," p. 2, Archibald Constable & Co., Ltd., London, 1912.

make the institution effective—if anything even more effective than it was in its heyday.

OLD APPRENTICESHIP	NEW APPRENTICESHIP
1. Method of vocational training	1. Method of vocational training
2. For minors	2. For minors
3. Based on custom, later on statutes	3. Based on <i>trade agreements</i> , sometimes on statutes
4. Requires indenture (written agreement)	4. May or <i>may not require indenture</i>
5. Apprentice began under compulsion	5. <i>Apprentice begins under option</i>
6. Apprentice lived in the home of the master	6. <i>Apprentice lives away from the home of the employer</i>
7. Apprentice performed menial household duties after hours	7. <i>Apprentice is entirely removed from the menial service about home of the employer</i>
8. Rules of master and servant apply at law	8. Legal relationship that of employer and employee
9. Master gives all of the training	9. <i>Public authority assists in the training</i>
10. Theory and practice combined	10. Theory and practice <i>coordinated</i> , not necessarily combined
11. Related theory not essential	11. <i>Related theory absolutely necessary</i>
12. Trade established by custom	12. Trade determined by <i>conditions and trade agreements</i>
13. Apprenticeship agreements enforced on apprentice	13. Arrangements largely optional (<i>not enforced on apprentice</i>)
14. Trade subject to little change	14. Trade subject to <i>constant change</i>
15. Apprenticeship maintains status quo (static)	15. Apprenticeship <i>leads to new developments and skills (dynamic)</i>
16. Apprenticeship supervised by guilds (sometimes by public authority)	16. Apprenticeship <i>supervised through trade associations, trade unions, and public authority</i>
17. Formal science unknown	17. <i>Science the sine qua non of modern apprenticeship</i>
18. Restrictions placed upon private life of apprentice	18. Apprenticeship <i>restrictions only during working hours</i>
19. Learning while earning	19. Learning while earning
20. Masterpiece often required	20. Masterpiece not required (impracticable)
21. Apprentice usually earned his "keep"	21. Apprentice usually requires a living wage
22. Period usually from fourteen years to twenty-one years	22. Period from sixteen years to twenty-one years, usually four years or less.

Such a comparison should convince even the most skeptical that apprenticeship is being adapted to modern conditions and that the establishment of apprenticeship training in modern industry does not entail the necessity of trying to make application of the incidental feature which characterized apprenticeship in another mode of economic life. The analysis of the new apprenticeship reveals the fact that the same principles of learning to do on the job, under supervision, and according to agreement, during the period of youth can be just as adequately carried out today as in the time of the craft guilds. One of the outstanding differences is the greater amount of education that the youth brings to the apprenticeship today as compared with other years; a corollary to that is the more technical and scientific character of the knowledge which is expected to be acquired through the modern apprenticeship.

The apprenticeship of yesterday was that of the medieval craft guilds. It is a story concerning which most people have but a hazy conception. It has been couched in idyllic language with poetic background. We have been told of the fascination of the work for the boy, of the master and apprentice's mutual devotion, of the romance which culminated the terms of the apprenticeship when wedding bells signaled the occasion at which the erstwhile apprentice led the master's daughter to the altar. There is no question that there were many times when such a picture could be accurately portrayed from life. However, one must not allow such a conception to preclude a proper understanding of the real essence of classical apprenticeship. "We hear much of a few eminent artisans, but nothing of the low standards, bungling efforts, and poor goods produced by the great body of ignorant, indifferent and incompetent workmen."¹

Medieval apprenticeship flourished in an agricultural age, but the present is an industrial age. The old apprenticeship was the only form of education for the masses, but today we have free education in schools at public expense. Formerly the apprentice lived in the home with his master and performed many menial tasks after working hours; today the apprentice goes to his own home after a relatively short working day. Formerly most of the working hours of the boy were spent on the confines of the

¹ *Ibid.*, p. 81.

small shop; now industrial activity is carried on largely in factory organizations (some of the building trades being exceptions). The apprentice of yesterday learned the secrets of the trade from his master, but today these are available through books and schooling. Yesterday the apprentice could not read, but today the apprentice who is illiterate is a rare exception. In the days of the craft guilds economic life may have been an art but it was not yet a science. Today, however, we see man's economic activity explained in principles of universal application, and economics is one of the most popular sciences. The activity of the craft apprenticeship was once a relatively local affair, but the apprenticeship of today is a matter of national concern, sustained by national associations. So one might continue with the comparison, which seems to give a basis for the view that since modern conditions are so different from those when apprenticeship existed at its best, there can be no possibility of an old institution's being fitted into our environment. However, such an idea is as far from correct as is the idea that the ancient institution of the family cannot thrive in our modern economic environment.

It is only necessary here to point out that present human needs are basically no different from those of remote times. Human psychology is the same now as in the days of ancient Babylon. Although educational methods may have changed, learning processes of today do not differ from those of yesterday.

A survey of educational methods today will reveal the fact that most of the newer methods or techniques involve principles of apprenticeship. It is an interesting fact that all modern education is acquiring more and more of the apprenticeship principles. Increasingly do we see the tendency to combine work and education, theory and practice, and to make achievements possible through up-grading programs.

The development of the high-school and college cooperative courses reveals the fact that apprenticeship principles are necessary to effect the most practicable program of education.

It need scarcely be said that an apprenticeship system identical with that of the middle ages is out of the question—and who would want it? An intelligent application of apprenticeship does not call for all of the conditions of the earlier systems, as the tabular analysis indicates, but rather for the adaptation of the

institution to fit modern needs, that is, a taking of what is serviceable and a forgetting of the rest. Modern apprenticeship takes the permanent essence of the experience of yesterday, the best of the old days, and applies that to modern needs and conditions. An analysis of the points described above as essential to apprenticeship will reveal the fact that there is nothing in them incompatible with modern economic life.

Questions and Exercises

1. Analyze the elements in the definition of apprenticeship and explain each one.
2. Indicate the aspects of modern apprenticeship which are identical with the old apprenticeship. Are these the essential considerations?
3. What are the main differences between the apprenticeship of our own day and that of the sixteenth century?
4. Explain the objectives of modern apprenticeship.
5. How extensive is the apprenticeship method in modern industry and education? Illustrate.
6. Does work itself have an educational value? Explain.

CHAPTER II

APPRENTICESHIP AND MODERN INDUSTRY

Characteristics of Modern Industry.—The last century and a half has brought about such a complete mechanization of economic life that the present era has been fittingly called the machine age. Our economic order is sometimes characterized as the factory system, the cooperative system, the system of division of labor. All of these characterizations are valid and useful in distinguishing present industry from the domestic system, or the handicraft system. However, when we view industry from the standpoint of apprenticeship alone, we must conclude that modern industry has two fundamental and important characteristics which, more than any others, have led people to believe that apprenticeship is incompatible with the industry of our day. The first of these characteristics is specialization; the second is increasing mechanization. The word mechanization alone might have sufficed, but it is well to realize that a characteristic of mechanization is that it is *cumulative* in its effect giving results which seem to find no metes and bounds. Specialization means the dividing of the manufacturing process into special parts—it is the “division of labor” principle carried to the *n*th degree. Mechanization, of course, means the substitution of machine processes for hand labor.

Specialization.—Specialization has gone so far in modern times that it is not a question of one man’s making an article, or even one part of it, alone. It is quite usual in the present productive organizations to have men working on but one single operation. Well-known examples of specialization can be seen in the meat-packing industry and in automobile manufacture. The tendency in American industry is to push forward this idea of specialization, which, in the factories, has come to be implied under the term production method, sometimes called quantity production. It is a system possible only where there is a large potential market, and

for this reason it is not of the same economic advantage in some of the European countries where the population is relatively small. However, specialization is not a new phenomenon. A description of specialized processes in the manufacture of pins was given by Adam Smith in that famous work "The Wealth of Nations," published in the year 1776:

To take an example, therefore, from a very trifling manufacture: but one in which the division of labour has been very often taken notice of, the trade of the pin-maker; a workman not educated to this business (which the division of labour has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labour has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them. I have seen a small manufactory of this kind where ten men only were employed, and where some of them consequently performed two or three distinct operations. But though they were very poor, and therefore but indifferently accommodated with the necessary machinery, they could, when they exerted themselves, make among them about twelve pounds of pins in a day. There are in a pound upwards of four thousand pins of a middling size. Those ten persons, therefore, could make among them upwards of forty-eight thousand pins in a day. Each person, therefore, making a tenth part of forty-eight thousand pins, might be considered as making four thousand eight hundred pins in a day. But if they had all wrought separately and independently, and without any of them having been educated to this peculiar business, they certainly could not each of them have made twenty, perhaps not one pin in a day, that is, certainly, not the two hundred and fortieth, perhaps not the four thousand eight hundredth part of what they are at present capable of performing, in

consequence of a proper division and combination of their different operations.

What a world of industry has developed since then! The United States, which in 1776 was the scene of struggling colonies, is now a united industrial empire, and specialized industry is the rule of the day. This process of specialization has been developed so far that in many cases it has overawed even educators. Many have been led to believe that all the industrial experience and traditions of the past are made completely obsolete by this relatively new process of manufacturing commodities.

This extraordinary development of industrial specialization has not arisen without significant causes. One of these was the earlier American policy of immigration. A great portion of the labor force in American industries has come through European immigration. Before 1890 many skilled men from northern Europe emigrated to the new world and helped to build up the industries of the American nation. Since 1890 the character of the immigration has been largely unskilled. The American manufacturer found that in recent years the skilled men were growing older and scarcer. A natural result of the lack of skilled immigration was a more or less unconscious attempt to adapt industry and its processes to the character of the unskilled labor available. The immigration of unskilled workers persisted from about 1890 until the World War. This development accentuated both specialization and mechanization.

Since the economic development of the United States has been very remarkable, and in view of the fact that the resulting relative prosperity of the nation is on the whole quite apparent, it is no wonder that many people look askance at any questioning of the efficacy of our present economic order. However, the present system has its deserving critics. A satisfactory industrial system has not yet come to fruition, as our intermittent periods of depression reveal. The system which makes a worker obsolete at forty is scarcely to be considered ideal. However, it is not the writer's purpose here to decry our industrial system, but merely to recognize its reality, for it is this system which some believe makes apprenticeship impossible, while others believe that revitalized apprenticeship is a partial solution of industry's fundamental problems.

Mechanization.—The genius of American manufacture is expressed in the continual substitution of machinery for man power. In all progressive industries there are inroads made by the machine upon the work formerly done by hand. This development was accelerated by the efficiency movement ushered in by Frederick W. Taylor and his followers. This was a movement which stressed the fact that there is a best way to do every job, that processes should be systemized, that wherever possible automatic devices should control these systems, that waste should be eliminated, that there should be proper recording of experience, planning, and courageous experimentation, but most important of all that there must be good will and cooperation between employer and employees. In fact, the efficiency engineers know full well that all the devices of mechanization are useless unless the human element is satisfactory—that unless there can be real human cooperation, efficiency plans are as sounding brass and tinkling cymbals.

Mechanization requires complicated machinery, is very costly, and therefore must be kept in continuous operation if satisfactory returns on the capital invested are to be made. The manipulation and repair of the machinery of mechanization require the services of skilled men; moreover, skilled workmen are necessary to create the "Iron Man." The lack of available skill creates a hazard, for if the machinery is not maintained in good running order, obviously the profits of the business will disappear. Modern manufacturing is undertaken with such minute calculations, under the stress of keen competition, that a fraction of a cent gained or lost on the cost of the manufacture of an article produced in quantities will be sufficient either to make a reasonable profit or to put the business enterprise into bankruptcy. When all is said and done, it is human skill and ingenuity that are necessary to make effective the proper functioning of mechanical processes.

Demand of Industry for Skill.—In the preceding paragraphs we have sketched the well-known fact that there has been a phenomenal development of specialization and mechanization, which means, in other language, that there has developed a very remarkable application of science and scientific method in industrial enterprise. It means that in the economic affairs of men

there has been applied an extensive mechanization. As a nation we have made almost a god of mechanization. We have thought that it would deliver us from evil, that through it we could reach the promised land, and that it remained only for engineering technique to bring the millennium.¹ But we have been disillusioned. Human nature cannot be handled as mechanical forces. The human factor, the limitations of man, has proved that the law of diminishing returns applies to mechanized industry just as surely as it applies to agriculture. The point of diminishing returns is determined by the limitations of human skill. In other words the development of general human skill has not kept pace with the development of mechanization. Scientists discover the use of new elements, skilled engineers devise new methods of utilization and manipulation of material, keen business minds evolve newer and more efficient systems of industrial organization while the rank and file of industrial workers with inherent conservatism or inertia, seem to be unable to keep up with the growing demand for skill and intelligence.

Much has been made of the elimination of waste through improvements on labor-saving devices and the development of automatic machinery, and perhaps more characteristically in the development within the factory of automatic systems of conveying material to the point of fabrication or utilization, but the conviction is now well established that the most essential avenue to the elimination of waste is the scientific training and intelligent handling of the human element in industry. The development of technical schools and colleges, the organization of courses dealing with the management of personnel, the outpouring of books and articles on the problems of utilization of labor and foremanship, reveal the fact that, particularly if the gains of specialization and mechanization are to be maintained, improvement in the skill and efficiency of industrial workers is the most evident necessity in modern industry.

Universal Need for Industrial Training.—No more striking evidence of the necessity for industrial training in American industry can be found than the organization and evolution of the National Association of Corporation Schools. This association,

¹ See FORD, HENRY, "My Philosophy of Industry," Coward-McCann, Inc., New York, 1929.

which was organized in 1906, has had a remarkable development and signal success. It was reorganized into the American Personnel Association and in 1923 was incorporated as the American Management Association. This association is perhaps the most potent general industrial and business association of the present day; and the keynote of all its manifold endeavors is the proper training and utilization of the human elements in industry.

Another striking evidence of the recent emphasis upon industrial education is the American Vocational Association, which was organized in 1906 as the National Society for the Promotion of Industrial Education. In 1917, as the result of the activities of this society, the Federal Smith-Hughes law was passed, which is designed to foster vocational education through the provision of Federal subsidies to the states for the promotion and maintenance of industrial and vocational education. It is a further significant fact that the National Industrial Conference Board was first organized as the Conference Board on Training of Apprentices.

The Conference Board on Training of Apprentices is organized to promote cooperation among employers in training employees "for industry in industry" and to impress upon employers their peculiar responsibility in this respect: to stimulate the establishment in employments of effective apprenticeship systems for young people based upon coordinated trade training and technical instruction, and of specialized training courses for men and women; to devise plans and make recommendations to employers for the accomplishment of this purpose; and to cooperate with all public and private agencies engaged in effective preparation of young people for industrial life.¹

Industrial and vocational education is now an established fact; and as systems of effective part-time education become more general there will be in the United States one of the most complete schemes of education that modern conditions can afford. It is not a matter of accident that such a widespread interest in industrial education has come about. It has grown up out of stern necessity. The necessity out of which these far-reaching modern educational plans have grown can be gathered from the agreement in the pronouncements of manufacturers, labor leaders,

¹ Necessity of Apprenticeship, *Conference Board on Training of Apprentices Bull.* 1, May, 1916.

and the public alike. In the Denver Convention of 1908, the American Federation of Labor passed a resolution calling for a committee to study the subject of industrial education. This committee's report was presented on August 17, 1912. On page 108 of this report is the following statement:

The demand for industrial knowledge and skill and the universal interest in the subject manifested by business organizations, boards of trade, labor organizations, as well as by educators and public men, is sufficient proof that the right kind of education for a boy or girl who expects to enter upon a vocational career is second only in importance to their having an education at all.

The report observes that:

It is of more than passing interest to note that a revival of apprenticeship by large corporate interests through comprehensive and sane regulations is taking force.

A marked tendency toward apprenticeship is taking place, and the feeling expressed by both employer and employee is that a gradual return will take place if such training is conducted sanely and advantageously to the American Youth.

In a bulletin entitled "The Apprenticeship System, in its Relation to Industrial Education," Carroll D. Wright says:

There are certain well defined advantages of a proper apprenticeship system over almost any industrial school system which is likely to be devised. A good shop system assures the boy a practical training in actual shop processes and methods, for every apprentice is employed on the regular factory product.

Again the United States Commission on Industrial Relations reported in 1915:

The great importance of this subject appears to be fairly well appreciated by every class of our citizenship, trade unions, employers' associations, educators, merchants, legislators, and so forth. The universal interest in this subject warrants the conclusion that its proper solution is of paramount importance to the welfare of the nation in order to establish that kind of education that will enable the boys and girls of the United States to enter upon their industrial life properly equipped to make their lives a success.

In 1916 the Chairman of the Committee on Industrial Education of the National Association of Manufacturers said,¹

We may also contemplate with satisfaction the attitude of the American Federation of Labor upon Industrial Education. Its position is substantially identical with our own.

The statements above are noted, even though they are of a few years' standing, to show how relatively recent this industrial education movement is, and with what conviction it was born. The significant fact is that the ideas expressed at that time have been amplified in universal utterances up to the present moment. Furthermore, the recent interest in foreman training is incontrovertible testimony that the workers of a previous generation in which industrial training was not a factor, are unable to meet the demands of the modern industrial technique. On that account belated efforts are necessary to develop the capacity in these older employees, to adapt themselves to changing methods and processes for which they have little appreciation, if not antagonism.

Since the necessity for skill is widely acknowledged, there is no choice but to face the fact that some system of training to produce the desired skill is imperative.

During the last ten or fifteen years the process of specialization and mechanization has gone on to a degree almost unbelievable, but strange as it may seem, it is this period which has seen the greatest development of modern apprenticeship, as an examination of the current literature and the activities of the trade associations will show. It is of interest at this point, therefore, to examine the relation of specialization and mechanization to apprenticeship training.

Apprenticeship Not Obviated by Modern Industry.—Large-scale production and specialization, with all their implications, are thought by many to obviate apprenticeship training and the demand for skilled labor. It is true that specialization seems to be the most formidable foe of apprenticeship, but as the linotype invention ultimately led to the demand for more compositors so

¹ Report of the Committee of Industrial Education, National Association of Manufacturers, pp. 1-2, 1916.

the application of specialized production has called for more industrial skill—as will be seen.

There are employers who cling to the view that with specialized industry apprenticeship is impossible. In the machinists' industry, for example, the employer says he wants "a lathe hand" (a man who can operate a lathe) or "a milling machine hand" (a man who can operate a milling machine) or "a drill press hand" (a man who can operate a drill press). Likewise, in the printing industry, an employer says he wants "a linotype operator" (a man who can run a linotype) he does not necessarily want a man who understands the principles of composition and who has the training, the intelligence, and the judgment necessary to put up a good piece of work, but he wants just an "operator." He depends upon the fallacious hope that perhaps the brains of the foreman or some other individual may make up what is lacking in a man who is merely an operator. Again, the printer may call for a man who can set up advertising, or a man who can run a monotype. In the wood-working industry we find the cabinet-making business split up into a number of processes where the work is performed by some special machines. So seemingly without end, we could continue in the metal, leather, wool, cotton and other industries.

However, strange as it may seem, this demand for specialists inevitably leads to apprenticeship, for apprenticeship does not mean the abandonment of specialization. It means a higher and more intelligent application of that principle. Past developments have shown that specialized industry has been largely a matter of mechanization. It has evolved around special machines and automatic processes. This specialization has not been thoroughly synchronized with human psychology, neither has it taken into consideration the social results of unadulterated specialization. It is not the purpose of this chapter to elaborate upon the evils of work specialization. That subject has been adequately presented by others, but it is desired to show how, through apprenticeship, the human technique of specialization can be enhanced with profit to industry and to society.

Experience in industry reveals daily that a great number of specialists are very poor specialists. They know just a particular process but rarely know the relation of that process to others

equally essential in the production of the economic goods for the market. One worker's act of ignorance or carelessness may prove to be a serious matter not only in marketing the product but also after the goods are put to use, to say nothing of the unwarranted extra costs involved.

Specialized industry on the human side does not really need specialists, so called. It requires experts. Is there a difference? Superficially considered, no. Fundamentally, yes. When we refer to an expert in science, in law, in medicine, or in research, do we not tacitly imply a specialized skill which is *specialization plus a background of related knowledge*? A surgeon who is skillful merely with the knife and in sewing up the aperture made by the incision would not be considered an expert. He would not command confidence unless he knew the reasons for and the probable consequences of the operation. Moreover, the certain knowledge of human anatomy which he should possess cannot be said to be inherent in the mere skill of carving human flesh. Is a lawyer admitted to the bar because he has become specialized in transferring titles of property? Obviously not. On the other hand, he may become "expert" in the transfer of real property by virtue of a long and careful training in other branches of the law, such experience giving him better judgment and understanding of the special transactions in which he is primarily interested and their relation to other legal factors.

In order to have more intelligent specialization, more experts are required in industry. It is not enough that a workman be put on one process and kept there. He should learn a number of processes and become expert in the one for which he is best fitted or in which he is the most interested. When a boy enters high school or college, it is scarcely necessary to say that he is not limited to one subject with a view to specialization. On the other hand, he does, as a rule, prefer some subject and pursues it as a major toward the end of his course. The industrial worker should undergo a variety of experiences in several different processes, and then, to follow the analogy of the student, should major in the processes in which he shows the greatest aptitude and interest. The benefits would be manifold. Specialized industry would then prove more interesting to the workers, production would be more efficient, competent experts would be

available, opportunity for steady employment on the part of the workmen would be enlarged, and many other results of benefit to both industry and society would follow. Apprenticeship, if properly understood, does not purport to obviate specialization but to make of the relatively ignorant specialist an intelligent expert.

The experience of the apprenticeship arrangement of the Reo Motor Car Company shows how experts can be made of specialists in the automotive shops. The following quotation is taken from the apprenticeship indenture in a bulletin issued by this company.

The Company agrees adequately to train and instruct the Apprentice in the principal operations of said art or trade, including:

Shop mathematics	Motor assembly	Lathe work
Drawing	Rear axle assembly	Gear cutting
Lay-out work	Final assembly	Grinding
General machine work	Motor test	Milling
Drill press	Service work	Bench work

Modern industry has been struggling with the problem of labor turnover, one of the great wastes that has been revealed in industry of our day. Unfortunately this waste has not been eliminated by the development of the efficiency movement, or scientific management, which was expected to check it. In other words, we have acquired efficiency with our machinery and efficiency in mechanical operations, but human efficiency has been left largely out of the category. Young people working on monotonous, never-changing, uninteresting processes are not long satisfied in such employment, and their demand for change is as inevitable as that night follows day. Where interest cannot be inculcated into a person's work, and where something cannot be devised to contribute to personal satisfaction and ordinary human intelligence, there is an unrest developed of which a high percentage of labor turnover is but a symptom.

In any event, few young workers stick long at one monotonous job. New operators must be introduced. Changes go on without control. An apprenticeship system would group operations into a program of training, and the operators could be changed from time to time according to plan. This would enlarge the opportunity of employment, give the worker greater satisfaction,

increase interest, engender good will, and result in more efficient productive effort.

While employers and industry in general have suffered because of the lack of a balancing factor for the high specialization of labor, and the lack of or failure to apply apprenticeship, so also have the workers suffered. By limited vision, by failure to understand their ultimate welfare, many workmen not only have been individually handicapped, but have proved in many ways a hindrance to social progress, since highly specialized workers usually have an inadequate conception of citizenship obligations. The lack of statesmanship on the part of either labor or management must inevitably react on the welfare of society.

Owing to the pronounced efforts of modern manufacturers to cheapen production in order to obtain wider markets, and ultimately to acquire greater profits, the employer has sometimes unwittingly assumed all labor to be of substantially the same importance. That is to say, the workman has been considered and treated as a commodity, as though he were subject only to economic forces. The employer has obtained this commodity at the cheapest possible rate, or, at least, what was apparently the cheapest rate.

Modern industry, in spite of specialization, has not been able to dispense altogether with trade training. While it is unquestionable that trades and occupations have been changed as a result of the industrial revolution and the development of specialization, no person cognizant of the facts of history can claim that the need for human skill and ingenuity has become obsolete. Far from it! It has meant simply that the form of learning has had to change, and new adaptations made of the old, as is being done in every other line of human endeavor.

Industrial processes must be learned in some way or other, not from abstractions, but from contact with industry itself. This fact always brings us face to face with apprenticeship.

Many employers are to be found who proclaim they have no apprenticeship and will never need any, although they are at the same time training young men in every method essential to apprenticeship, except the formality of an agreement. They have the substance but do not recognize the form. Young men in their plants pick up skill and experience by periodic shifts

in the work; this is necessary in order that they be trained, even though inadequately, for different places of responsibility. Since under such circumstances, the employers refuse to acknowledge apprenticeship, they merely delude themselves into thinking that the obnoxious institution of apprenticeship, as they conceive it, is avoided, just as the proverbial ostrich which sticks its head in the sand appears to feel that because it cannot see danger, the danger does not exist.

This attitude on the part of the employer is quite understandable. The nature of modern industrial development has required so much attention to the mechanical phases, to systems, to finance, and the like, that the entrepreneur has quite largely taken the human factor for granted. And it is the human factor, with all its caprices, its potentialities, and its limitations, which has in the past been too often neglected. No doubt labor has been taken for granted because it is the oldest and most readily available factor.

The question finally presents itself, "Shall this training be costly, inefficient, unorganized, and inadequate; or shall it be so conducted as to be at the same time economical, efficient, organized, and adequate?" Apprenticeship is the economical and efficient method because it makes it possible for training to be given in an intelligent way and with the full consciousness of its aims and purposes.

During the last two decades, apprenticeship as an instrument for improving the productive skill of the worker has been resuscitated from what was really only an apparent oblivion, to a position in which it is today perhaps the most talked of enterprise among all industrial groups—from the Machinist's Union to the Society of Mechanical Engineers, from the Bricklayer's Union to the American Society of Architects. Even private correspondence schools have found it to be a profitable field of endeavor.

All this is no mere accident. Apprenticeship, as previously set forth, is inherent in the healthy progress of any institution depending upon the skill and brains of human beings. Industry certainly is such an institution.

Fundamental Reason for Apprenticeship.—It is apparent that apprenticeship affords a very practicable and desirable

means of meeting the needs of boys and girls on the one hand, and the managers of industry on the other. Since apprenticeship entails the necessity of working in the shop where the actual work of production is being carried on, it is there that the final judgment concerning apprenticeship must be made.

In conclusion it may be reiterated that there are some fundamental reasons why apprenticeship is necessary in American industries. The *first* is the fact that no longer can we as a nation rely upon the supply of workers obtained through the European apprenticeship systems. This patent fact has been many times set forth. It is significant that when skilled mechanics have been obtained from European countries, they were those who were apprentices in the old world. In other words, apprenticeship was not obviated by immigration, for these men themselves were the products of apprenticeship in another country. Now, however, this source of supply is a thing of history. Recent immigration legislation in the United States has in effect proclaimed that no more shall we neglect our own youth and exploit the European immigrant. In short, we have learned that American industry should be manned by its own nationals. The American boy must be given the opportunity to prepare for the places which have been filled in other days by old-world artisans.

A *second* reason why apprenticeship is necessary is the evident need for intelligent supervisors, foremen, and maintenance men, and at the same time a demand for more intelligent specialists. Modern industry demands the kind of skill based upon broad intelligence and ready adaptability, rather than mere manual dexterity. There must be clear thinking, quick acting, and self-reliance. It is the tri-square of accuracy, adaptability, and initiative. These qualities, to a certain degree, must be acquired; therefore they must be taught in industry by some method or other. The acquisition of these qualities can come about in one of three ways: first, by indentured or formal apprenticeship; second, by informal apprenticeship, that is, apprentice without formal agreements or schedules of experiences; and third, by "picking up" skill and experience from job to job, or in other words, what used to be known as "stealing the trade"—an expensive procedure for the employer. One of these methods, and sometimes all three, prevail with varying degrees of success

in our American industry. We have not in the past and could not now get along without apprenticeship in one form or another; therefore, it is better to make apprenticeship training a conscious undertaking than to leave training to the hazards of chance.

A *third* necessity for apprenticeship is the fact that modern industry requires manipulation with skill and ingenuity equal to any needed in the ages that have passed. Even in our metal industries where specialized production flourishes, we find machine parts must be milled or turned or shaped to a fraction of a thousandth of an inch. Automatic machines may do some of this; nevertheless these machines need skilled men to set them up. A "set-up man" is a real prize in the shop and always in demand. Moreover, as has been pointed out before, someone must make the iron man. Where *less than automatic* machines are in use, and sometimes even with the automatic machines, the trained eye, the trained hand, and the element of judgment which comes only through experience are essential. The more intricate the machinery process, the more skilled, ultimately, must be the man who makes, assembles, and controls the machines on which these processes are performed.

The *fourth* reason why apprenticeship is necessary is the demand for experts or better specialists. In the words of Prosser and Allen:

He who plans the handling of large quantities of material and the making of large numbers of articles must be more efficient than the man who plans the making of only one or only a few articles. He who designs anything to be reproduced many times must be more efficient than the man who designs one thing to be made one time. He who handles or contributes in any way to the handling of large quantities of material and many articles must be more efficient than the man who handles a small quantity of stock to make only one or a very few articles. He who works in cooperation with others must be more efficient than the man who works alone.¹

Finally, it must be remembered that although industry changes, learning processes do not change. There is no substitute for experience on the job. Since apprenticeship is merely a method of training, it is possible and desirable to adapt this method of training to suit modern conditions. The fact that

¹ "Vocational Education in a Democracy," p. 82.

apprenticeship is widely accepted and utilized shows that the institution can be adapted to modern needs. It is economical and efficient, and, with enlightened use, can be made a great asset not only to industry, but to our citizenship, and a boon to the industrial worker.

Questions and Exercises

1. How do you characterize modern industry?
2. What is meant by specialization?
3. Explain the meaning of mechanization.
4. Does the specialization of industrial processes obviate the necessity for industrial training? Explain.
5. What relationship is there between mechanization in industry and the United States immigration laws?
6. About what period did the industrial education movement come into being?
7. What does the existence of foreman training activities denote?
8. Has the mechanization of industry made necessary the use of more skilled workers, or has it made it possible to use unskilled labor, or both?
9. How does the number of skilled men of today in the United States compare with the number in England during the seventeenth century?

CHAPTER III

APPRENTICESHIP AND ORGANIZED LABOR

Apprenticeship has always been close to the interests of labor. When labor is referred to, it is necessary to understand that it is organized labor that reflects the attitude and interest of the ordinary industrial workers. Indeed, through the expressions of the American Federation of Labor it can be discovered that no apprenticeship plan can fail to attract the vigilant eye of organized labor. The 1925 Annual Report of the American Federation of Labor gives assurance on that point, for it states that "trade training is a problem that concerns the unions vitally." This attitude, however, is not new. The history of the relations of organized labor to apprenticeship is itself an interesting and engaging study. For the reader who is interested in following that phase there is that scholarly treatise "Apprenticeship in American Trade-Unions," by James M. Motley.

In this chapter attention is focused only on the recent developments and future possibilities of labor's relation to apprenticeship training.

Of interest is another statement of the American Federation of Labor which says:

We hold that the best interests of wage earners as well as the whole social groups are served by increasing production in quality as well as in quantity, and by high wage standards which assure sustained purchasing power to the workers, and therefore higher national standards for the environment in which they live, and the means to enjoy cultural opportunities.

This statement of the economic creed of the American Federation of Labor implies a definite relationship between apprenticeship and labor. The interest in trade training is involved in the quest for the economic and social advantages which are explicitly mentioned, because only through adequate training of the youth

who enter industry can quality and quantity of production be enhanced, and the earning power of labor be sustained.

There is a definite relationship, then, between apprenticeship and the ultimate aims of labor. Apprenticeship is not only a powerful instrument, but is one of the best forms of training for the achievement of that quality and quantity of production which labor believes will bring the high wages and cultural advantages deemed desirable.

The more immediate relations of apprenticeship to organized labor can be classified under five main heads: *first* the question of balancing the distribution of apprentices, expressed usually in the terms of "limitation of apprentices"; *second*, the question of the character or quality of training; *third*, the proposition of a common initial experience to induce class solidarity; *fourth*, the problem of the administrative control of apprenticeship; and *finally*, the concern of labor in legislation affecting apprenticeship relations.

Limitation of Apprentices.—A lack of balance in the distribution of apprentices among the different occupations is a disconcerting factor for labor, for it means an oversupply of skill in one craft with the corresponding lack of skill in some other. Such an oversupply, however produced, becomes a serious menace to the members of the craft. This menace may occur in two ways. It may mean that youths are in competition with adults, or that the occupation is overfilled. In either case standards of wages and conditions of work for the individuals in that trade will be undermined. Undue labor competition in the crafts leads directly to the consideration of the problem of the limitation of numbers.

In reality the problem of limitation of numbers is not a general consideration among the ranks of labor, but merely a matter of limitation in particular groups. It could not mean that labor is consciously seeking to limit entry into all occupations. Labor is tacitly striving for a balance of the different crafts and occupations—a result it desires to bring about faster than the ordinary forces of supply and demand will accomplish. It is evident that all the individuals who go to make up our industrial society must find profitable employment in some productive group; hence it can be seen that the problem is not to eliminate individ-

uals from a legitimate participation in economic life, but rather to plan for better distribution so that particular crafts or occupations will not be overcrowded and become demoralized. In passing, it may be said that the new movement for vocational guidance or advisement has a definite bearing on this problem, and this fact should be recognized by the individuals responsible for guidance. It may be acknowledged that when a sufficient number of groups seek to limit their membership it may appear on the whole as a class movement. However, this is more apparent than real. In the final analysis it is seen that the crux of the limitation phenomenon is the matter of keeping a balance between the different crafts so that one may not unduly profit through greater bargaining power, at the expense of another.

Limitation of apprentices in itself cannot be classed either as a good practice or as an evil one. Sometimes limitation is both necessary and desirable; at other times it is both unnecessary and vicious. The test of the efficacy of apprentice limitation is to be measured by the end to be achieved. Does restriction of apprenticeship raise the standard of the craft? Is the raising of trade standards socially beneficial? Is the limitation a purely selfish maneuver? The answer to such questions will throw light upon the desirability of limitation of apprentices. A hasty judgment of the relative value of what is merely a means to an end cannot be considered weighty. It is the value of the result to be achieved through limitation of apprentices that will determine the merit of limitation itself.

If any particular trade or occupation is being impaired by an oversupply of workmen, or if there is a breaking down of employment standards on account of the exploitation of youth to the detriment of adults, then clearly apprenticeship limitation is not only not an evil, but is something to be desired. This is particularly true if no social advantage accrues because of the breaking down of the occupational status of the members of the craft. If, on the other hand, the limitation is merely the expression of inherent selfishness of a group, and not dictated by social needs, then the practice is to be condemned. The appraisal as to the good or bad effects must be based upon circumstances in each instance. These facts, the labor groups themselves are not always in a position to ascertain satisfactorily. The unions do

not possess the facilities for obtaining statistical information, and do not, ordinarily, have trained investigators, nor do they possess the authority to demand information. Furthermore, their interest in the impartial findings may be too subjective or personal. This is one case where labor must place its confidence in the judgments of impartial tribunals, which tribunals must usually be public or quasi-public agencies.

In undue limitation labor must inevitably be the loser. The nature of economic life is such that when labor is in demand in any particular line there will be sufficient inducements through competitive wages and working conditions to attract a supply to meet that demand. If through a limitation of apprentices, or of new recruits, the demand is not fulfilled in a legitimate way then the group which brings about that condition is abusing its monopoly power, and will work its own destruction. The fact is that when the demand in any occupation is strong enough, new recruits will inevitably find their way into that occupation. They may not be admitted through the regular channels but they will work in through irregular methods. In other words, if they are not admitted into the organized group, then they will work at the trade outside of the group. If they are untrained as they most likely are, they will both destroy the union's monopoly and break down the standards of the craft. Nothing is more certain than the fact that men will drift into those occupations in which, because of current economic demand, there is opportunity. Since it is absurd to assume that the movement of supply toward the demand can be definitely stopped, it is better for organized labor to take care that this supply shall be ample, but properly trained and kept up to the standard. This action on the part of labor is at the same time in line with the general good.

There are many local situations where trade-union groups have defeated their own interests, as well as the interests of society, by refusing to admit apprentices into their ranks at a time when the demand for their skill has been high. This has happened when numbers of unskilled and "half-baked" mechanics have worked into the trade through irregular methods. The natural consequence of this illegitimate increase in the numbers of workers in the trade has been both to reduce the standards of skill and to undermine the strength of the union's position before

the employer. It is interesting to observe that notwithstanding what has been stated above, labor's position with reference to apprenticeship limitation is overstated in frequent instances by opposing interests. The accusation is made against the unions that their attitude of restriction is responsible for the opposition on the part of the employer. In reality this opposition of the employer is due to the union's control and conduct in the matter, rather than to the principle or policy of restriction itself. These employers either prefer to handle apprenticeship matters to their own liking or to have no apprentices at all.

In the matter of limitation of apprentices, it may be said in conclusion that judging by the almost universal cooperation given by trade unions to public apprenticeship efforts, it would appear that labor is not anxious as a whole to trust itself to the hazards involved in pursuing its more immediate interests, when the ultimate benefits of adequate numbers of trained men call for a wiser policy of action.

Quality of Training.—Quality of training can scarcely be thought of apart from the idea of quality of production. If the quality of training is high, so will be the quality of production. The interest in quality of training is prompted first of all by the fact that if the standard of skill of the workmen in any craft is maintained on a high level, the members are thereby enabled to hold greater monopoly power for purposes of collective bargaining. If this quest for quality of training means merely adherence to antiquated trade practices, then it defeats its own end. Only a training in present-day methods can enhance the productive process. Labor can do much to improve the quality of training. The workmen themselves can be interested in the apprentices and display a willingness to show the young recruits the technical points of the craft. It is within their power either to encourage the apprentice boys to make of themselves high-grade workmen, or on the other hand, completely to demoralize the boys in the early period of their apprenticeship.

Moreover, labor can educate the rank and file to assist in apprenticeship training and should do so, because this training program will bring advantages, ultimately, to all wage earners. That this point is not overlooked is attested by the cooperation of labor in the development of recent apprenticeship movements.

It is sometimes pointed out that apprenticeship is a matter exclusively for the employer, and that its success in "open shop" communities proves that labor has no direct influence upon it. Indeed the contrary is the case. The trade unions in any particular instance could kill the apprenticeship scheme overnight if they were sufficiently short-sighted to wish to do so. The fact is that labor invariably gives at least its passive support, and most of the time its active support in addition. It must be remembered that the parents of the trade apprentices are found, not among the professional and employing classes, but chiefly among industrial workers. It is a mistake to suppose that the influence of the opinion of workmen toward apprenticeship can be ignored in any industry, whether organized or non-union.

Another problem of apprenticeship training is the kind of school instruction which shall be given to the apprentice. Organized labor properly favors the giving of the related schooling for apprentices in a public institution, and has been especially insistent in promoting public control over this academic phase of apprenticeship training. Labor is desirous that the related training will not be exclusively concerned with the job, but that it will have some elements of a cultural nature. Furthermore, it is in the interests of labor to see that instruction along the lines of citizenship, English, economics, and the like, will be presented in such a way as not to prejudice the apprentice against the point of view of the union. Incidentally this interest of labor is very far-reaching. It is an attempt to make it possible for the workers to appreciate labor's social philosophy, or at least to prevent the economic philosophy of the employers from receiving undue stress.

Class Solidarity.—A third direct interest of labor in apprenticeship, which it is quite possible to overlook, grows out of the fact that a common experience such as an initiation into the trade, gives a basis for class solidarity. Those workmen who pass through an organized apprenticeship system have a bond among them, that would be impossible otherwise to attain. This system is to the tradesman what degree work is to the members of a fraternal order, what the law-school training is to the members of the Bar Association, or what the medical school and the internship are to the members of the medical profession. It

capitalizes a fundamental trait of mankind, "fellow-feeling," and this common initial experience which practices the fellow-feeling is doubtless part of the story which accounts for the persistence of apprenticeship through the centuries.

Problems of Administrative Control. *Advantages of Union Control.*—Now will be considered the relation of labor organization to the control of apprenticeship. It is fitting at the outset to speak of union control of apprenticeship and to show its advantages and disadvantages to labor.

Among the advantages of monopoly control may be mentioned, *first*, a more general interest in apprenticeship in the trade. When a trade union is in control of apprenticeship, the whole craft has a stake in it and all the members have some interest in either its success or its failure. On the other hand, if the employer only is in control, then the apprenticeship developments are likely to be irregular. One employer may give a lot of attention to apprentice training while others may ignore this training altogether. Union control on the other hand will cause diffusion of apprenticeship throughout the shops, in marked contrast to the employers' overdevelopment in certain places, and underdevelopment of it in other places.

A *second* advantage of union control is the fact that the union will usually be active in its participation. It will either stand strongly for apprenticeship training or just as positively oppose it. If apprenticeship in the particular trade is not thought to be inimical to the interests of the members it will be fostered by the union with much interest where the union controls, and in rare cases only will it be opposed.

A *third* advantage of union control is the fact that there is likely to be a greater feeling of security on the part of the apprentice himself when he feels that the journeymen in the trade are back of him and have an interest in his work.

A *fourth* advantage of the union monopoly of apprenticeship is the possibility that the union may compel more interest in the academic education of the apprentice. The interest of the union in the training is not primarily to promote production, but to make better members of the group who will be a credit to the members of the craft and therefore an aid to labor in obtaining the benefits of intelligent collective bargaining.

In concluding the discussion of the advantages of union control of apprenticeship, it must be said that the advantages set forth are predicated in the main upon wise labor leadership. When this leadership is not as enlightened as it should be, there must necessarily be serious disadvantages. There are two sides to the question of union control of apprenticeship. Perhaps the advantages are offset by the disadvantages, which will now be considered.

Disadvantages of Union Control.—Among the disadvantages of union monopoly of apprenticeship is, *first*, the probability that the good will of the employer may be jeopardized, for even though the requests of the union to the employer may be reasonable and just, they may be untactfully set forth, with the result that the employer resents what he considers undue interference with a matter which he deems his own affair. This loss of good will is a serious handicap to successful apprenticeship.

A *second* disadvantage of union monopoly of apprenticeship is the fact that it may result in the undue restriction of apprenticeship—a policy not merely of limitation, but of exclusion. An experience can be recalled where a union of journeymen tailors would allow no apprenticeship to exist in the trade. Many of the members expressed themselves to the effect that a scarcity among journeymen tailors resulted in high wages, and that it was that in which they were interested, and that they were not going to allow themselves to be concerned about the needs of the future. They did not feel any social responsibility for the training, or opportunity, of the coming generation, nor did they realize that they were driving their craft out of existence.

A *third* disadvantage of union monopoly of apprenticeship sometimes cited is the fact that the boy may be aligned with trade-unionism too early in his career. His partisanship may become too narrow, and may be accentuated beyond the point where any good accrues to either the union or economic society as a whole. At all events the success of such early espousal of the union's cause will depend upon the relative intelligence and integrity of the members or leaders of that particular organized craft. It must be remembered, however, that when youth affiliates with any side in economic or social conflicts, its allegiance becomes unusually enthusiastic and militant and may go beyond the bounds of special advantage to either side.

It would appear that for labor's general and ultimate benefit, union monopoly of apprenticeship is not to be desired, and that labor itself does not insist upon it. What, then, is labor's position on the control of apprenticeship? The answer may be found in the report of the American Federation of Labor.

Vocational and trade education should be a cooperative undertaking between the school and industry . . . ¹

On the same page we read:

All local unions or local industrial groups such as building and metal trades councils are urged to interest themselves in local vocational and trade training for apprentices. The first step is the establishment of tripartite control. Some unions provide schools for their own apprentices and such undertakings are greatly to be commended. We hope that work of this nature will be initiated by all trade unions.

Tripartite control signifies the joint control of labor, management and government.

It is significant that tripartite control is the "first step." Labor leaders evidently recognize the larger good to accrue from the apprenticeship which is based upon the joint interest of the employers, the organized workers, and public authority. When this is not attainable, then it is clear from the statement of labor that the unions should establish apprenticeship, otherwise there could be no schools for supplementary training in any particular trade.

Tripartite control in reality means indirect control by public authority. As a general proposition, where the immediate interests of labor and the employers are not identical a happy solution can be found only through the intervention of public authority. Too much initiative in a particular situation by either labor or employers' organizations may meet with some resentment on the part of the other group. The initiative can be taken with better effect by public agency. Public authority, then, can bring the parties together and act on the best counsel that can be obtained from both sides. Tripartite control, in reality, as has been previously stated, means control by public authority with the assistance of trade committees chosen from among both employers and labor groups. What, then, are the

¹ Annual Report of American Federation of Labor, p. 74, 1925.

opportunities of labor to assist in such a scheme of apprenticeship administration? They are twofold—*direct*, in that labor is justly responsible for working of apprenticeship administration, and *indirect*, in that labor may exercise influence in determining the policy of legislation.

Labor's direct influence in apprenticeship may be reflected through the willingness or unwillingness of local groups to confer with other parties on apprenticeship matters. If effective, it is a participation of good will. This joint participation should be such that differences with employers not related to apprenticeship should not preclude the possibility of labor's getting together with the employers on matters pertaining to apprenticeship training.

Labor's direct interest in apprenticeship should furthermore result in the union's cooperation with those agents of public authority who are charged with the administration of apprenticeship. This can be done by encouraging boys to stick to their course of training on the job. It can be accomplished by taking an interest in the character of instruction and training of the apprentices and by other constructive suggestions given wherever they may be of value. In the case of organized trades or in union shops it may take the form of inducing the employer to join with the union in the apprenticeship work on a basis of mutual interest and good will rather than by force of organization. This cooperation can be pursued by encouraging every voluntary effort on the part of the employers in apprenticeship so long as this apprenticeship is not directly contrary to the interests of labor.

Legislation Affecting Apprenticeship Relations.—Although the direct participation of labor in apprenticeship training may be important, it is scarcely as efficacious in the long run as the indirect or political participation. The latter has more abiding results. Political participation is usually less offensive to employers and may be the result of more mature considerations. An example of this phase of labor's interest can be seen in the fact that the Smith-Hughes law establishing Federal aid for industrial education and the establishment of the Federal Board for Vocational Education, were supported strongly by the national labor organizations, particularly the American Federation of Labor.

Local labor interest was manifested by the participation of the labor movement in the apprentice system established by the State of Wisconsin. The part that labor played was singularly noteworthy in the preliminary work, in the legislative deliberation, and in the early administration which began in 1913. In the preliminary efforts labor helped the employers and the state to determine the actual status and the extent of the need for apprenticeship. It aided in arriving at an understanding of the character of the need, and in determining the kind of apprenticeship that was desirable and possible. It deliberated with the employers and the state representatives in forming a comprehensive apprenticeship plan which could be expressed in terms of legislation. Finally, it contributed its good will and assistance to make the administration of the plan a success. Although it is true that in Wisconsin many of the best local apprenticeship organizations are in shops where the union has no control, nevertheless, labor's interest in the development and maintenance of these apprenticeship schemes is permanent, and its criticism constructive.

The tendency is for labor to exercise increasing faith in the public administration of apprenticeship, and it is beginning to look upon apprenticeship as it does on other forms of industrial training. This attitude is expressed by the committee which reported to the Annual Meeting of the American Federation of Labor in 1912, as follows:

We believe that technical and industrial education of the workers in trades and industry, being a public necessity, should not be a private but a public function, conducted by the public, the expense involved at public cost and as part of the public school system. In order to keep such schools in close touch with the trades and industries, there should be local advisory boards, including representatives of the industries, the employers, and organized labor.

Although this statement contemplates the whole field of the training of industrial workers; it has particular application to apprenticeship. It is clear that labor appreciates the feature of "public necessity," and it appears that labor, as a general proposition, realizes the folly of the unions' attempt to exercise exclusive control over apprenticeship. This expressed desire of

labor to take advantage of the cooperation of the employers and of the public working with them in matters of industrial training and apprenticeship, seems to be in line with the best modern thought, and it is fair to say that this attitude if maintained, is certain to make for a more wholesome industrial society.

Questions and Exercises

1. In what ways can the relation of labor to apprenticeship be characterized?
2. What is organized labor's official position with reference to the control of apprenticeship?
3. Discuss the advantages and disadvantages of the union monopoly of apprenticeship?
4. (a) What is meant by tripartite control?
(b) How can labor function to make this sort of control effective?
5. Discuss labor's position with reference to the question of limitation of apprentices.
6. Why is labor a fundamental consideration in the institution of apprenticeship?

CHAPTER IV

EMPLOYERS' ATTITUDES TOWARD APPRENTICESHIP

What is the nature of the relation of the employer to apprenticeship? What are the characteristics and attitudes which employers exhibit toward apprenticeship? There is no categorical answer to these questions. In the first place, we must consider what is meant by the "employer." Too frequently the idea prevails that the employer is a type of individual in our economic society who, figuratively speaking, is a sort of combination which sometimes functions normally, but most of the time is characterized by direful idiosyncrasies and unsocial conduct. Consequently, pseudo-reformers would prescribe proper conduct for the employer. This, however, does not bring the desired results. Employers are human beings with the same capacities and limitations as other people, and though they may be many-sided, they do, after all, function normally. Their psychology is a human psychology, and their conduct is as normal as that of other people who are subject to similar economic and social forces. The fact that an employer may ostensibly be a corporation does not eliminate the human element. Corporations are managed by men, and individuals must assume direction of labor. These observations may seem too obvious to mention, but, since so much is said and written about the employer, one is compelled to believe that there is a conception of the employer not at all unlike the old conception of the "economic man," in other words, a notion which makes him a creature of the imagination. The employer "in general" does not exist. There are many employers, so many that any intelligent analysis of them must necessitate some classification.

Classification of Types of Employers.—For the purpose of this study employers will be classified into three groups. First, there is what we may term the *opportunistic* type of employer. This type is represented by the one who espouses any practice or

principle—not necessarily bad—that will bring immediate returns to his business. He is not concerned with what becomes of his business after he has gone, nor what may happen to his fortune at some future time. He is concerned with the problems of today and does not care to cross the bridge before he reaches it. He is the employer who carries out in business the philosophy of "Eat, drink and be merry, for tomorrow we die." In this class come many employers of the building trades, who do not know what may happen to their business fortunes some other day, but who know they have a business "contract" today, which fact incites them to get as much profit out of it as possible. Some automobile manufacturing organizations have revealed others of like kind who want to make a "killing" while the opportunity is good. Among all kinds of business enterprises this type is to be found here and there. In the main, the attitude of the opportunist is individualistic and his methods are not always social. Therefore the opportunists, as a class, are not satisfactory in apprenticeship dealings because their position is uncertain on many fundamental business policies. For example, this type of employer may be violently opposed to union labor today, but tomorrow may be operating under a union agreement. The opportunist may champion apprenticeship today if that seems to be the thing of the hour, while tomorrow he may literally "throw out" apprenticeship with equal enthusiasm if some turn of events shows it desirable to relinquish obligations to the apprentices. In modern industry there are many employers of this type.

The second general type of employer is what we may term the *conventional or conservative* type. This employer tries to live up to the tradition of the better employing class. He is conservative but he will join hands readily with other employers. He is the backbone of employers' associations. He protects his class interests. He represents capital in the usual meaning of this term when it is linked with labor. He builds for the future but primarily on the lines of past practice. He is slow to take up new things but is sometimes most gullible to those clever salesmen who will sell him artificial schemes for keeping his employees loyal, or who, in other words, will furnish him with some industrial-relations "patent medicine" which is presumed to insure against all alleged insidious encroachments of organized labor. He is

constitutionally opposed to unionism "as it is run," and will deal with union labor only when he is not strong enough either by himself or through his associates to defeat its aim of collective bargaining. All in all, this type is the backbone of American industrial enterprise, and the most strongly entrenched. Here can be placed some of those large corporations of absentee ownership. These employers know the value of well-trained men in their organizations, and it is among this class that there are to be found many examples of good standard apprenticeship systems. It is worthy of note that among this type are to be found many manufacturers in the metal trades, producing what, in terms of economic science, are called capital goods, or goods used not by the ultimate consumers, but in the creation of more wealth or more goods.

The third type of employer may be termed *progressive*. He represents either the business of a new generation, or an old business reorganized. He is usually ready to take up anything which means ultimate success in his business and may evince great faith in progress by investing much money in enterprises which the conventional employer considers fantastic and radical. This employer is quite likely to espouse some particular scheme which virtually becomes the hobby of that particular business. He is looking for improvements both in manufacturing and business technique and also in the field of industrial relations. He quickly senses apparent weaknesses among business organizations and frequently startles his associates by striking along new and untried paths. Sometimes he makes mistakes, but he is often the winner and contributes much which the conventional employers subsequently embrace. He is not averse to dealing with representatives of labor, but usually obviates unionism by going farther forward in industrial relations than the unions demand. Among these employers is found the most fertile field for apprenticeship development, although the cause is sometimes jeopardized by the overreaching that may become characteristic of too much innovation and initial enthusiasm.

Each type of employer is to be found in all employers' associations; and whatever policy the trade association follows, that policy is, in the main, the resultant of this triangle of forces—that is, the influence of the opportunist, the conservative, and of the progressive.

It is now in point to examine the relation of the three individual types of employers to the institution of apprenticeship, to see in a general way how their respective attitudes affect apprenticeship developments.

The Opportunistic Employer.—How does the opportunistic employer look upon apprenticeship training? He will measure its efficiency by the conditions of his own particular business situation. If he is badly in need of labor, skilled or unskilled, he will think of apprenticeship. If apprenticeship affords an opportunity to get bright boys into his shop when other help is not available, he will exploit apprenticeship so far as he is able, and will endeavor to justify his action by showing how much better it is for these boys to work for him than in some other places with which he may make a comparison favorable to himself. If full exploitation is not possible for him under given conditions, he will try to arrange a program for the employment of youth which has some aspects of apprenticeship. However, with the first favorable wind that brings him a supply of cheap labor, which appears more advantageous to him than the use of apprentices, he will present excuses showing why apprenticeship does not work in his business, and he will immediately lose his interest in the institution.

In another instance he may want to make a favorable impression among his associates and therefore will devote much lip service to apprenticeship, and sometimes not a little practical effort in the shop, because apprenticeship is embraced by the best employers. He expects by being an advocate of training for mechanics to acquire status among his fellow employers. He wants to be thought of as one who plays the game. Of course, after he has fostered apprenticeship in his plant for a sufficient period of time, he may be led to see its genuine and permanent advantages and accordingly may continue to maintain it; on the other hand there is a great probability that when some other newer or more popular project comes along, he may espouse it with like enthusiasm and rest on his oars so far as apprenticeship is concerned. Many a plant carries a reputation for successful endeavor on some particular phase of industrial relations for many years after the thing for which it is renowned has ceased to be a fact in the establishment. This is due to the fact that the

people who are interested in any special development are more concerned in spreading the news of the achievement than in the follow-up of the subsequent experience. In other words, it is the positive achievements which are exploited in news and advertising. The negative aspects are left to be discovered by the vigilance of organized labor.

Furthermore, the opportunistic employer will protest against shouldering responsibility for industry's future skill. If he can obtain skilled help without the cost of training, he will do so. Since apprenticeship cannot be made compulsory for the employer, this situation resolves itself into one of business ethics. Exigencies of the moment may very likely cause this employer to practice indirect stealing. He will take the men other employers have trained, but in case this practice becomes so flagrant as to bring protests from other employers, he will, of course, proclaim innocence and perhaps temporarily discontinue the practice, but with no feeling of having done anything not justified by "good business."

This type of employer may capitalize on the efforts of the organized group, while outside of its membership and without sharing any of its responsibilities. It would not be fair, however, to assume that this type of employer never favors genuine apprenticeship; the significant thing to observe here is the fact that he is not strategic for the development of the institution. His business philosophy is inimical to consistent development of apprenticeship. He is likely to resemble the "fair weather Christian" who is delighted to go to church only while the sun is shining. In other words, apprenticeship does not become a part of his business but only a temporary expedient.

Among the motives which cause the opportunistic type of employer to espouse apprenticeship may be enumerated the following: (1) a desire to "play the game"—to maintain status through practices which are presumed to be the proper thing at the time; (2) a desire to ease a shortage of available adult labor; (3) a desire to train men for immediate demands, because he deems it to be good business for the time being.

Among the reasons which may cause this type of employer to ignore the institution of apprenticeship for his plant are: (1) the lack of interest in anticipating future needs; (2) the possibility

of getting men others have trained; (3) the feeling that training is expensive and bothersome; and (4) the lack of assurance that those trained will not go to other employers.

The Conventional Employer.—Our next inquiry will concern the second type of employer, whom we have classified as of the conventional or conservative type, in his relation to apprenticeship. This type of employer is well acquainted with the institution of apprenticeship, although he is likely to be thinking of it in its historical aspect rather than the modern. He may always have had some semblance of apprenticeship in his shop, or, he may believe, as he conceives it, that apprenticeship is impracticable. This type of employer will, however, face the facts when confronted with them, and will do what the necessities of good conservative business demand. He will spend money for training if he believes there will be results, and he will, moreover, in building up the personnel in his own establishment contribute liberally to the needs of the newer and opportunistic employers. This he will do both consciously and unconsciously. If he realizes that others may get many of the men that he trains he will count it to the good if he can get a reasonable share, and if he has done a good apprenticeship job with the remainder who go to other shops, he may count it as good advertising. Employers of this type carry the main burden of their industry and they have some sense of pride in meeting their obligations to the industry. It is this type that makes group action in apprenticeship possible. They may not be advanced in apprenticeship work, socially considered, but they aim at least to take care of the needs of their industry. With certain conventional employers many good systems of apprenticeship training exist, while, of course, among others there are forms of apprenticeship not so fortunate. At all events, they are the employers who are most likely to accept apprenticeship—if they have it at all—as a permanent and necessary part of their industrial organization. Where the conventional employer does not have apprenticeship, it is most likely due to the fact that he has until recent years obtained through immigration a sufficient number of skilled men to obviate the “pinch,” and has not thought of apprenticeship because of inertia or the lack of a sufficiently compelling motive; but even these employers are now awake to the problem. At the present time,

however, it may be said that it is among the conservative employers that the best permanent apprenticeship work is being done. This is partly accounted for by the fact that they are accustomed to think of their businesses as permanent corporate entities. These businesses represent vested interests which are large enough to suggest the necessity for an adequate personnel to keep intact the investments. Indeed it is these very factors of conservatism that tend to develop apprenticeship not because it is popularly spoken of as a good thing, or a desirable thing to do, but because it is known to be an essential enterprise. This is especially true if the industrial plants are to be maintained in perpetuity and to be kept up with the demands of competition in dynamic economic society. With this type of employer apprenticeship is not a fad, not a pose, but a veritable necessity, and it is from this point of necessity that the institution of apprenticeship must be viewed, and upon this foundation it must be built.

In concluding the discussion of the relationship of apprenticeship to this second type of employer it may be stated by way of reiteration that the conservative employer generally looks with favor upon apprenticeship because, first, he sees the necessity for skilled men in the industrial establishment; second, he knows apprenticeship gives perpetuity of skill; and, third, he wants to meet his obligations to the industry.

The Progressive Employer.—The progressive employer is quite frequently one whose business is new, and who is a resultant of the developments that are a corollary to our rising standards of living. It is necessary for him to have a personnel that can be adapted to his particular scheme of production. He knows he cannot get such a personnel already trained, therefore he turns a ready ear to apprenticeship, and is eager to take advantage of any plan which will add to the efficiency of man power and permit his cost of production to be low enough for him to market his product with profit. In effect, this is the force of competition, and the progressive employer sees it. The employer of this type is not a philanthropist but he is close to the scientific developments of his time and knows their import. His asset is a quickened appreciation of human psychology. He knows what to do to get a good day's work from his men. He knows that if work-

men are treated with proper consideration for their individuality and with fair dealing in the human intrashop relations, it may be the readier means of making of the men better producers. There is more likely to be an increment of production which can be imputed to the element of good will, to say nothing of the increased production because of better physical equipment.

In developing apprenticeship, then, it would seem quite natural that the progressive type of employer will be sought, and his establishment utilized as an incubation ground, so to speak, for new developments in personnel training. Since apprenticeship is the real substance of all industrial training, it is natural that, among these employers, apprenticeship will get increments of good, while at the same time losing some of its inherited nonessentials.

The progressive employer, then, is not so much concerned with tradition as he is with results. If apprenticeship will be a benefit, he wants it. He is not going to be worried about the historical duels with reference to the proportion of apprentices to journeymen, the enforcing of the agreement, etc. These things he will handle as they arise, but he takes up the work unfettered by illusions or fear or misgivings. He decides that he has everything to gain from a training program and little to lose. He is not concerned about others' taking his men when trained, because he expects to be able to keep the best of them; they will be more valuable to him than to others, consequently he can afford to hold them with pay commensurate with their services. At all events, he expects that the training given and interest evinced toward the apprentices will cause those that leave him to bring new business to his establishment. In such an employer's plant there can be instituted the most modern type of apprenticeship training, which can be copied with adaptations of either a plus or minus quantity by other types of employers.

In short, this employer will take apprentices because he is scientific in his attitude and wants the facts and the experience without being concerned with outworn traditions or illusions. He has the spirit of the frontier man, since he is the product very largely of the newer countries, or places where industrial development is making new inroads upon an older economic order. He holds the torchlight in the procession and perhaps may be too

exuberant at times, but, withal, he is a contributing factor in improved industrial technique and enhanced human relations between employer and employee.

It might be interesting to observe that in this class are many businesses that contribute toward the satisfaction of the more direct human wants, which would include the manufacture of food, clothing, and certain luxuries.

No type of industry could be safely said to represent any one type of employer alone because all types exist in all industrial groups, but for purposes of finding illustrations it has been stated that the building trade furnishes good examples of employer opportunism; the metal trades group, the builders of capital equipment, contains many of the second type; and those employers who, as we have stated, manufacture "consumers' goods" may give examples of the third type.

The foregoing analysis has been given with the thought in mind that a better understanding of the psychology of management with respect to apprenticeship would result in more effective apprenticeship work. When individuals dealing with apprenticeship realize the differences among employers they may further more intelligent apprenticeship training, obtain greater satisfaction, and achieve abiding results.

Questions and Exercises

1. Can you state precisely what is the employers' attitude on apprenticeship? Explain.
2. How are employers classified in the text? Can you give any example to fit this classification from your own knowledge and experience?
3. Characterize the opportunistic employer.
4. How does the conservative or conventional employer differ from the progressive type?
5. Are there any economic reasons which account for the different types of employers? Explain.
6. If you wished to give apprenticeship a thorough test, in what type of industry would you expect to get results? With what type of employer?

CHAPTER V

FUNCTIONS OF THE EMPLOYER IN APPRENTICESHIP

In the preceding chapter attention was directed to the characteristic attitudes of employers. In this analysis it was shown that employers could be classified with respect to their attitudes toward apprenticeship. In the present chapter it is intended to stress the possibilities of apprenticeship both in the establishment of the individual employer or corporation and in the trade association where apprenticeship plans are in operation. In other words, attention will be directed to the question of the employer's participation in the development and maintenance of apprenticeship relations. "The employer is the key to the situation," said the representatives of six of the great national trade associations, employing over five million persons, meeting as the Conference Board on the Training of Apprentices in 1916. It may just as fittingly be said that the employer *holds* the key to the situation, but unfortunately, not all employers use the key to unlock the door to skill. While some realize that their front doors are barred, they nevertheless hope that skilled men will somehow get in at the back gate. The front entrance for skill is an apprenticeship program. Certainly the employer *must* have trained men, and he has no right to complain of their scarcity if he does not do his share to train them, for as said the Nazarene, "Do men gather grapes of thorns, or figs of thistles?" What, then, can the employer do in this program of apprenticeship training?

The Individual Employer.—The first privilege and responsibility that the employer must assume with respect to apprenticeship is *Cooperation with public authority*. Every state has boards and commissions in constant touch with industry. There are regulations with respect to child labor, school attendance, and employment relations, all of which have been set up as a result of the needs which have grown out of human experience and

suffering. These regulations are designed to protect not only youth, but in a larger sense society itself. No employer can espouse a plan of real apprenticeship and at the same time scorn public authority. The employer himself depends upon public authority to back his enterprise, protect his property, and safeguard his contracts. It seems logical, therefore, that the wise employer will find it to his advantage to cooperate with the forces of government, especially when, he himself is to be the principal beneficiary. It may be the Industrial Commission, the State Board of Vocational Education, the Federal Board for Vocational Education, or some effective local educational or civic group that is interested in a program of vocational education and apprenticeship. Whatever the agency, employers of apprentices or prospective employers of apprentices, should find it to their advantage to cooperate for the benefit of training. In many cities of the United States and in foreign countries very effective apprenticeship arrangements have been established and maintained because the employers were willing to join forces with those whose special business it was to see that youth had an adequate opportunity for training. The apprenticeship programs in Oregon, in New York State, in Wisconsin, in Canada, in New South Wales and Victoria illustrate what can be accomplished when employers are willing to cooperate with agents of the state. If the significance of these developments and their possibilities were fully realized, the employers of every state in the union would demand of their legislatures an effective law to promote and to supervise apprenticeship relations. In a large way public authority establishes the "rules of the game." Such rules can be established for apprenticeship, and the employers themselves through the cooperation they give the state may assist in their determination.

The next important consideration for the employer in the maintenance of apprenticeship, is that he should *offer a bona fide apprenticeship plan*. It is not enough to "hire apprentices"; there must be a real educational opportunity for the boy or girl. Jobs must be classified, related, and grouped, and as a consequence, a reasonably broad field of definite experience provided. The trade or occupation must, in the last analysis, consist of a series of related jobs, which will make of the apprentice, as was

pointed out in Chapter II, not merely a specialist, but an expert. A genuine plan of apprenticeship will provide for a regular agreement—an indenture, with all the details of the relationship set forth in specific language. The processes that will be taught to the boy, the length of time that the apprentice must serve, the wage consideration, and the provision for related academic and trade-theory instruction will all be stipulated in the agreement. However, all these stipulations will be worthless without the interest and good will of the employer. "No apprenticeship system nor any scheme of industrial training can be successful without the *active* interest of the employer," says the Conference Board on the Training of Apprentices.¹ On the other hand, it might be added that with the active interest of the employer it is bound to be effective. It is certain that if the employer has a genuine program of training, it will soon become known among the men and boys of the community, and accordingly duly appreciated. The better program, or even the good program, will attract the better boys to the plant. The cheapest and most economical way to carry on the training, as to do anything else, is to do it well. A good well-planned apprenticeship program will go a long way to make the training of youth both pleasant and effective.

The third important responsibility of the employer is that *he must cooperate with fellow employers*. For years employers of the country were their own worst enemies on the labor question. One employer would have an apprenticeship system and produce skilled men, and another employer would take advantage of that fact and steal away skilled men from his fellow employer. A third employer who wanted to have apprentices would observe what was taking place, and remark, "What's the use!" It appears that employers have been afraid of one another. A solution for such a situation has been discovered in the practice of cooperation. To make apprenticeship what it should and could be, cooperation among employers is essential. There must be cooperation for the agreement on trade standards, on the character of the apprenticeship indenture, wages to be paid, length of the apprenticeship period, and other considerations

¹ Necessity of Apprenticeship, Conference Board on the Training of Apprentices, Bull. 2, 1916.

which ought to be common to all the employers in the same industry. There should be an exchange of experience on apprenticeship matters so that higher standards and better procedures can be developed. Moreover, cooperation among the employers affords a means of bringing together groups of apprentices for educational and recreational purposes. More will be said of this in the discussion of Trade Associations and Apprenticeship. A third example of what can be accomplished by cooperation is the system of exchange of apprentices. This practice is very desirable where the experience in one shop will help the apprentice to round out his experience gained in another. The point of this scheme is that each employer of apprentices is making his contribution to the skilled-labor market for his industry, and the training project is more complete if one employer is willing to supplement the work of another.

Altogether, cooperation among employers on the training of apprentices should be of such a character that competition on apprenticeship should be reduced to the one proposition—that of seeing who can do the best training job in the shop.

A fourth consideration of the employer in apprentice training is that there should be a proper *understanding of the apprenticeship arrangement with the parents*. While the influence of parents is not so significant as it once was, nevertheless, it is usually sufficient to spoil the apprenticeship if full understanding with the parents is not established. It is a profitable thing, sometime along the course of training, to invite the parents to the plant where the boy works. At all events, the parents should understand that an apprenticeship is not merely a job. The parents should be kept informed of the progress of the boy in pretty much the same way as they are informed by the school of the pupil's progress. The parents themselves, in the last analysis, should be the allies of the employer in a common endeavor to make the boy not only a good mechanic but a high-grade member of society.

The fifth prerequisite for an effective apprenticeship is that the employer must *secure the cooperation of the foremen*. Many an apprenticeship plan has been wrecked because the foremen have not been in sympathy with it. It is impossible to do justice to the apprentices so long as the foremen are not interested in the boys. On the other hand, foremen, because of their close contact with

the boys in their productive work can do much to make their training period a success.

The foremen are the key men in an organization, and unless these men are in sympathy with the training program it is impossible for such a program to succeed. Foremen are interested in production and will not see the efficacy of apprenticeship training if it appears to interfere with their production schedules. Foremen very often discourage boys who are learning their trades and sometimes suggest to them that they are wasting their time; not infrequently they suspect that some of these young trainees may be competitors for their position. It is a requirement, if training is to succeed, that the foremen appreciate that a training program is an asset to them, and that it will in the end make their own work more effective and their position stronger.

The next proposition that the employer must consider in a successful apprenticeship plan is to *secure cooperation of journeymen*. It is very often thought by the manufacturer that it is no concern of the ordinary workman in the shop as to what is to be done on a training program, and it is not always thought necessary to inform journeymen concerning apprenticeship propositions. Where the trades are organized and trade agreements entered into between labor organizations and employers' groups the journeymen naturally know all about the training program and regard it as a part of their own responsibility. Under such circumstances they are more likely to cooperate for the success of an apprenticeship system, and offer the boys what assistance they can give. On the other hand, if the journeymen are not taken into confidence, and if they are not made to feel that the apprenticeship scheme has any relation to them, they are likely to interfere considerably with its successful execution. The man who works beside an apprentice day after day can have much more potent influence than is very often supposed. It takes unusual faith on the part of the apprentice in his supervisors to withstand the constant negative suggestions of the men working with him from day to day. When an apprenticeship program is first introduced it is very often met with animosity from journeymen. If, however, the management is steadfast in this program, it soon becomes evident to the journeymen that training really counts for something. Indeed, very often the journey-

man himself begins to investigate and discover means of improving his own situation—the scoffer “remains to pray.”

The universal feeling in the shop that everybody will profit from training produces the atmosphere which is essential in order to get the greatest good out of an apprenticeship system. Management must see that it is evident to the whole organization that education, training, or improvement is a necessity for everybody in the organization.

The next important consideration in an apprenticeship program is *adequate supervision for the apprentices*. In order that any manufacturer or employer may get his money's worth out of a training enterprise it is necessary that there be adequate supervision. Supervision requires a competent supervisor, a man who understands boys as well as he understands the background and objectives of the business. He must be an individual who knows the particular field and who is as highly qualified as any other man in the organization. It does not pay the employer to take a man who is a “lame duck” in some other work and put him in charge of apprentices. Such practice spells failure for apprenticeship. The Conference Board for the Training of Apprentices says:

Without competent supervision the apprentice is very apt to be exploited to the disadvantage of himself and his employer. For instance, if the boy is left to the care of the average shop foreman it will quickly become evident that the ideals of foremen and apprentice are at cross purposes. The apprentice is intent upon learning the trade. The foreman understands his job to be that of keeping down the cost of producing. Consequently, he will look upon the boy either as an unnecessary burden in his department, or, accepting him as a necessary evil, will compel him to perform certain duties that have no relation to trade instruction. He may often keep the boy constantly employed at some given operation because of a special required proficiency instead of advancing him to the various stages.¹

On the other hand, the supervisor, unlike the foreman, is interested in the ultimate well-being of the boy and must therefore have the authority to direct the boy's work and see that his training program is made subordinate to a production record. This supervision will result in giving a square deal to the apprentice

¹ *Bull.* 2, 1916.

in offering adequate opportunity for experience to him. Furthermore, adequate supervision means that the boy will receive instruction on the job. A successful apprenticeship scheme requires supervision for shop instruction. In a small shop the supervisor might himself give the instruction, but in a larger shop, the supervisor's duties would be too manifold to permit of his giving instruction in the technique of the trade. Moreover, in the large establishments where there are numbers of different trades it would be impossible for a supervisor to be competent to give instructions in the several trades. The number of instructors would depend upon the circumstances of the trade, layout of the shop, etc. It is reasonable to state that an instructor over a number of boys will bring an increase of production and enhance the quality of production and at the same time give the boy a better training. It is evident that this is made possible because of the elimination of waste and the increase in the quantity and quality of production due to the instructors' efforts. In other words, the instructors pay for themselves. Of interest is the following testimony from a Midwest corporation which employs over 150 apprentices.

Cost per piece for every job made by apprentices during this year was compared with cost per piece of same jobs when made by journeymen, overhead included in both cases. Answer: *It costs nothing.* Investigation disclosed that apprentices earned their wages and total cost of administering apprenticeship. If all apprentices left our employ upon graduating, we would still lose no money.

It goes without saying that these instructors should be first-class mechanics. One firm in the machine tool industry took as an instructor for its apprentices a man who had been foreman of a large tool room, on the basis that making men was a bigger and more important job than making tools. Needless to say, this proposition paid big dividends in the development of skill.

Competent supervision makes it possible for the boy to have a court where grievances may be aired and adjudicated. A supervisor of apprenticeship should be the man to adjust all the grievances of the boys. He should represent the employer or the corporation in a big way and should show that same personal interest which was always present in the old apprenticeship

system, but which has become less possible with modern corporation business.

The next aspect of adequate supervision is the fact that there will be opportunity given for theoretical trade instruction. Where public authority has provided schools and time for the apprentice to attend them, this question is somewhat simplified, but in cases where the opportunity for this theoretical trade instruction depends upon the good will of the employer, it is necessary for the supervisor to arrange work so that there will be technical courses dealing with related trade theory. In most cities there are classes established for this purpose, but in other communities the manufacturers themselves must set up their own schoolroom, either individually or jointly. It is necessary to furnish the apprentices the instruction in the related trade theory referred to in this book. This aspect of supervision can be so arranged as to discommode the department as little as possible and to obviate the criticism that ordinarily come from the foremen. This is a problem of all part-time education and one of the problems of all cooperative educational schemes. It might be mentioned at this point that adequate supervision will determine the amount of this theoretical instruction necessary. Moreover, it will go further than that, for there will not be satisfaction with the mere minimum requirements in this respect, but some more liberal developments along this line, particularly in trades where a wide knowledge of science is required.

Adequate supervision will reveal the necessity of giving of a living wage to the apprentice. Frequently the fact is forgotten that under the old apprenticeship the boy lived in the home of the master. He obtained not only his room and board, but clothing and usually many other extra things. We have heard of the premium that was paid by the parents to the master for the apprenticeship but have not sufficiently taken note of the fact that this premium paid by the parents was returned at the end of the apprenticeship. It was given in the form of a bond and had no relation to the question of the boy's keep. Because of the low wages or apparent lack of wages of earlier days, many modern employers fail to remember that the apprentice boy should be worth at least his keep if he is any good at all, and this means that there should be a wage paid sufficient to enable the young man

to pay his room and board and take care of the ordinary necessities of life. It does not mean that the wage must be a high wage, but it means that the principle that the boy must make his own way should be established.

Adequate supervision may require a record of achievements. There must be a record of the boy's experience from day to day, of his proficiency, of his application, of his interest, his production record, etc. This is necessary for the boy's own check, also to give experience to the employer in order that he may learn how to improve the apprenticeship arrangements. Another aspect of adequate supervision is the fitting certification of the apprentice after he has finished his period of training. Sometimes this may be accomplished through cooperation with public authority. In any event this certification depends upon the fitting recognition by the employer that the boy has finished his period of training and has accomplished certain specific things.

Adequate supervision might take into consideration the matter of assisting the boy to buy his trade tools. The purchasing power of the employer is much more efficient than that of the boy. The employer can take advantage of discounts which come from wholesale buying. The apprentice boy should be given an opportunity to buy his tools through the firm at discount prices, and an opportunity to pay for these tools over a period of time on the deferred payment plan. It should be said, finally, that adequate supervision must contemplate steady work for the apprentice, that even though there be times when production schedules are low, the boys should be kept busy on some form of development, either in technical training in the school, or in some special work in the plant which will increase their knowledge and ability. In other words, advantage should be taken of the slack period to intensify the business knowledge, but in no ordinary case should boys be laid off. As has been pointed out elsewhere, the employer should adjust the ratio of apprentices to journeymen so that he can keep a steady list of apprentices through all the phases of his business cycle.

Employers' and Trade Associations.—It is a common thing in these days to find people in the several trades and industries organizing for mutual protection and profit. We seem to live in an age of mergers. This merging proclivity expresses an

unconscious attempt to take full advantage of modern specialization which necessitates real cooperation and integration. It is apparent that employers and industries working together can accomplish much more in the common interest than can be accomplished by single-handed performance.

Organization of groups represents the formal aspect of association but does not always guarantee the development, among the members, of that group consciousness which renders such an association successful. It will be recalled from the chapter dealing with Employer Attitudes that there are peculiar constituent parts of any trade or business grouping. There must be a synthesis established with respect to the varying forces which make up a trade association, and this synthesis is effected through the office organization of the association, and ordinarily through the paid organizer or the full-time secretary. In industrial groups or associations there will be found opportunistic, conventional, and progressive employers. It is essential, therefore, that proper appreciation be had of the different points of fact or motives which may prompt the association's committal on such a question as apprenticeship.

It is worthy of observation at this point that the success of apprenticeship training depends more and more, upon groups of employers, group attitudes, and group action rather than upon the individual employer. The future of apprenticeship as an institution depends preeminently upon the cooperative effort which can come from organized groups. It is important at this point that consideration shall be given to the function or functions of these associations in relation to apprenticeship. The question now arises "What can employers' associations do to promote and maintain apprenticeship?" Stated in another way, "What should employers' associations do in the apprenticeship program?"

Cooperation with Public Authority.—As it was observed with reference to the individual employer that there must be cooperation with public authority, it can now be said with equal emphasis that the first obligation of employers' groups is to cooperate with public authority. The state boards and local boards of education and other administrative bodies are able in a large measure to render assistance to employers' associations on any kind of educational endeavor, particularly with reference

to the training and education of youth. The association can sometimes save considerable expense by obtaining assistance from the state or local government bodies.

The second aspect of employers' association activity in apprenticeship is *the organization of trade committees*. In a national association there would, of course, be general committees and local committees to carry forth the principles and policies which have been established by the association. It is

STATUS OF APPRENTICESHIP IN THE NATIONAL METAL TRADES ASSOCIATION
Reported by Branches, January 1, 1930

Branch	Members training Jan. 1, 1930	Skilled employees in plants training	In training		Gain	Loss
			July 1, 1929	Jan. 1, 1930		
1. Milwaukee.....	28	8,863	1,024	1,007	...	17
2. Cincinnati.....	33	5,787	289	385	96	
3. Chicago.....	31	6,291	232	303	70	
4. Southern Connecticut.....	19	6,252	221	277	56	
5. Detroit.....	18	22,289	252	258	6	
6. New York and New Jersey.....	33	7,242	319	215	...	104
7. Rhode Island.....	9	4,496	178	208	30	
8. Boston.....	22	3,504	161	159	...	2
9. Cleveland.....	28	3,561	138	150	12	
10. Worcester.....	11	2,808	128	137	9	
11. St. Louis.....	43	2,813	138	126	...	12
12. Pittsburgh.....	10	960	82	106	24	
13. Western Massachusetts.....	14	1,758	205	105	...	100
14. Central New York.....	14	2,988	81	100	19	
15. Valley.....	8	1,299	89	99	10	
16. Toledo.....	11	5,033	88	92	4	
17. Indianapolis.....	14	2,146	126	87	...	39
18. Northwestern Pennsylvania.....	10	1,546	66	83	17	
19. Jamestown.....	4	929	59	79	20	
20. Tri-City.....	9	1,198	68	70	2	
21. Philadelphia.....	8	2,016	53	63	10	
22. Columbus.....	13	2,586	52	52		
23. Northeastern Pennsylvania.....	5	487	45	42	...	3
24. Hartford.....	7	1,085	34	32	...	2
25. Grand Rapids.....	8	811	24	24		
26. Jackson.....	8	2,493	30	23	...	7
27. Muskegon.....	3	1,808	14	14		
28. Central Illinois.....	3	410	5	9	4	
Non Branch.....	52	10,149	408	415	7	
Totals.....	476	113,608	4,609	4,720	111	

these general and special committees which can, perhaps, more than any other agency, cooperate with the public institutions such as the schools. The employers' associations can make their committee findings available to the schools, and can furnish to them and to governmental authorities points of view, and perhaps advice with respect to administrative problems affecting education and employment of minors.

The next great possibility of employers' associations in apprenticeship is to effect *clearing houses for trade or industrial*

RATIO OF APPRENTICES TO SKILLED EMPLOYEES IN THE NATIONAL METAL
TRADES ASSOCIATION
Reported by Branches

Branch	In all plants	In plants training apprentices
1. Milwaukee.....	1 to 8	1 to 7.8
2. Pittsburgh.....	1 to 12	1 to 8
3. Valley.....	1 to 13	1 to 12
4. Jamestown.....	1 to 18	1 to 10
5. Cincinnati.....	1 to 19	1 to 14
6. Tri-city.....	1 to 19	1 to 16
7. Northeastern Pennsylvania.....	1 to 20	1 to 11
8. Western Massachusetts.....	1 to 21	1 to 16
9. Southern Connecticut.....	1 to 23	1 to 22
10. Worcester.....	1 to 24	1 to 19
11. Rhode Island.....	1 to 27	1 to 21
12. Northwestern Pennsylvania.....	1 to 28	1 to 18
13. Boston.....	1 to 31	1 to 22
14. St. Louis.....	1 to 36	1 to 21
15. Cleveland.....	1 to 36	1 to 23
16. Philadelphia.....	1 to 37	1 to 31
17. New York and New Jersey.....	1 to 45	1 to 33
18. Central New York.....	1 to 51	1 to 28
19. Indianapolis.....	1 to 53	1 to 24
20. Chicago.....	1 to 57	1 to 19
21. Columbus.....	1 to 58	1 to 49
22. Toledo.....	1 to 61	1 to 54
23. Grand Rapids.....	1 to 63	1 to 33
24. Hartford.....	1 to 76	1 to 33
25. Detroit.....	1 to 116	1 to 85
26. Jackson.....	1 to 119	1 to 107
27. Muskegon.....	1 to 183	1 to 128
28. Central Illinois.....	1 to 210	1 to 44

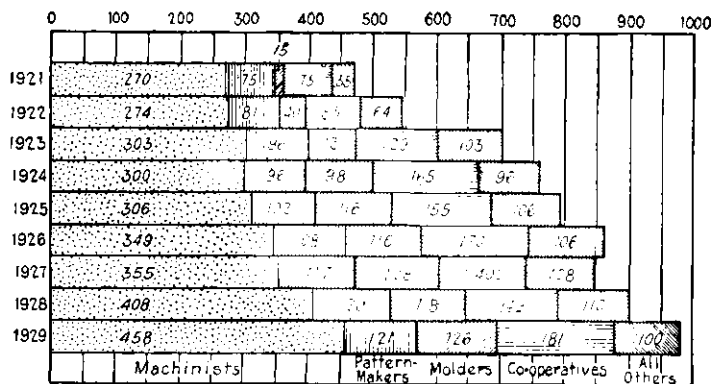
information which can be utilized for apprenticeship. The work of the National Industrial Conference Board furnishes an example of an agency which makes available statistical data of value to industry which otherwise would be buried in the archives of the Bureau of Labor Statistics. More than that, however, there is the fact that since industrial and business life is so dynamic, it is necessary for the trade associations to make

TREND OF APPRENTICESHIP IN THE NATIONAL METAL TRADES ASSOCIATION
Reported by Branches, July 1, 1929, to January 1, 1930

Branch	Apprentices, gain or loss	
	Number	Per cent
1. Cincinnati.....	+ 96	33
2. Chicago.....	+ 70	30
3. Southern Connecticut.....	+ 56	25
4. Rhode Island.....	+ 30	17
5. Pittsburgh.....	+ 24	30
6. Jamestown.....	+ 20	34
7. Central New York.....	+ 19	23
8. Northwestern Pennsylvania.....	+ 17	25
9. Cleveland.....	+ 12	9
10. Philadelphia.....	+ 10	19
11. Valley.....	+ 10	11
12. Worcester.....	+ 9	7
13. Detroit.....	+ 6	2
14. Central Illinois.....	+ 4	80
15. Toledo.....	+ 4	4
16. Tri-city.....	+ 2	3
17. Hartford.....	- 2	6
18. Boston.....	- 2	1.2
19. Northeastern Pennsylvania.....	- 3	7
20. Jackson.....	- 7	23
21. St. Louis.....	- 12	8
22. Milwaukee.....	- 17	1.6
23. Indianapolis.....	- 39	30
24. Western Massachusetts.....	-100	48
25. New York and New Jersey.....	-104	32
26. Columbus.....	No change	
27. Grand Rapids.....	No change	
28. Muskegon.....	No change	

current information available for all branches of the business. Therefore, it is an easy matter, of course, to bring together all kinds of information useful to the apprenticeship systems. Employers' groups make possible comparative statistics, so that one employer, or a group of employers, is able to compare to mutual advantage his own experience with that of others. The kind of information which trade associations can gather is illustrated by the tables shown on pages 59, 60, and 61.

Such data might be furnished for other associations, such as the National Building Trades Congress, The United Typothetae, or railroad and public utilities associations. The accomplishment of a local organization can be indicated by the table given below with respect to one branch of a national group referred to above.



Apprenticeship in the Milwaukee Branch of the N. M. T. A. (Courtesy of W. J. Fairbairn, Sec.)

Such information makes cooperative enterprise in apprenticeship much more intelligent and meaningful. Another prerogative of trade associations in the development of apprenticeship is that of furnishing to the trade material dealing with different aspects of apprenticeship and possible apprenticeship arrangements. Apprenticeship is beneficial to employers particularly when it is widely participated in. Participation can be made general through the efforts of the employers' groups. Individual employers must feel that they are being supported in this enterprise by other employers in the same line of business, and

assurances on this fact can come about only through specific information from the group itself.

The fifth and important possibility of the trade group is that of *establishing standards for apprenticeship* in the industry. This can often be accomplished by the employers' group cooperating with the organized labor group in the given trade, and frequently and more happily by conferences with both organized labor and public authority on what is termed the tripartite arrangement. Something of the development of standards is discussed in the chapter dealing with Wisconsin practices. Certainly the trade association is in a position to determine facts upon which a decision concerning the length of apprenticeship will depend, as well as other considerations in the arrangements which determine the standards of the trade itself. Some of the most important factors are the matter of wage schedules which should be uniform in the industry (other things being equal), the necessary related science of the trade, the kind of agreement that shall be entered into, the provision for bonuses, and other special considerations, such as the matter of certification through a diploma. These standards which the trade association may develop will in all probability be revised from time to time, for much progress can be made in the industry when individual establishments can obtain the latest general data available, which can be collected only through the organized group.

Another possibility of employers' association activity in apprenticeship is that of promoting discussions among journeymen in the industry and *holding conferences to develop a sentiment in favor of apprenticeship*. This will also induce parents to think favorably of apprenticeship, so that the right type of boys will be available for the trades. In the organized trades it is very beneficial for committees of the trade-unions to discuss with committees of the employers' associations questions dealing with apprenticeship and its administration.

Trade associations may establish certain working rules with respect to the relation of one employer to another. It may establish certain arrangements for the exchange of apprenticeship, for the mutual cooperation in all phases of apprenticeship work, and it can bring together the apprentices from all the various

shops in the industry from time to time for general educational and recreational purposes. It is necessary to develop in the apprentices themselves that feeling of solidarity of interest which comes about through the knowledge of common accomplishment in skill.

As a final consideration of the function of groups involved in apprenticeship, it may be said that it is quite probable that the future of apprenticeship in the United States will have to depend more on the trade associations than upon individual employers. It is not beyond the range of possibility that developments in this country can take place which will permit the *indenturing of apprentice boys to an industry as a group* rather than to individual employers. This principle is not new. The Bricklayers' International Union for a long time has apprenticed boys to the *union* and assigned the boys to individual employers according to the exigencies of each case. It is possible that trade associations may develop apprenticeship departments and provide for adequate supervision by the association, and encourage cooperation among the individuals in the industry to see that boys may be shifted from plant to plant according to the requirements of the training program. This may seem visionary to some, but the Appendix will show agreements now in vogue in Great Britain which carry forth this very idea. Furthermore, in the United States some of the agreements effected with the approval of cooperative groups, such as the Building Trades Congress in Boston, show clearly that we are approaching the same idea in this country.

Considering the difficulties and the possible hazards of business, and considering some of the limitations which arise out of the conditions of the small employer, this cooperative practice may prove to be a boon to the development of apprenticeship, benefiting both the boys and the individual employers.

Questions and Exercises

1. In what way can the individual employer cooperate with public authority?
2. Outline the procedure necessary, on the part of the employer, for a successful apprenticeship experience.
3. What do you understand to be included under the term "adequate supervision of apprenticeship"?

4. How can employers' associations contribute to the program of apprentice training?
5. What is the status of apprenticeship in the metal-trades industry of the United States?
6. Is the future likely to bring greater cooperation among employers for apprenticeship, or more individualistic action for this form of vocational training? Explain.

CHAPTER VI

LIMITATIONS AND ADVANTAGES OF EMPLOYERS' APPRENTICESHIP ADMINISTRATION

It has frequently been asserted that the responsibility for apprenticeship is entirely the employer's. This statement, however, needs considerable modification. Obviously, the employer cannot be responsible altogether for the attitude of organized labor, or the parents, or the boy, or the public with reference to many phases of apprenticeship. It becomes a matter of interest, therefore, at this point, to discuss some of the principal limitations in a program of apprenticeship undertaken by employers alone. Since apprenticeship involves manifold human relations there must be metes and bounds to the activity of any one of the groups which have to deal with the apprentice. In this chapter, then, we shall examine some of the characteristic limitations to the employer's participation in apprenticeship and show that, in spite of these limitations, there are significant benefits of apprenticeship, to the employer, to the boy, and, incidentally, to the public.

Limitations of Employers' Functions.—Many industrial plants evince individualistic consciousness, which prevents them from pooling their training facilities. This feeling, which grows out of the pride of proprietorship, precludes getting the maximum of training of skill for the industry. This factor can easily be discovered whenever the plan of exchange of apprentices between shops is projected. Each employer likes to think that it is unnecessary for his apprentice to go to another shop to complete his training. He says, "Interchange of apprentices is a fine idea, but not necessary in our own shop, etc." All men who have studied apprenticeship have thought of the idea or plan of interchange. In the building trades apprentices have been transferred from one employer to another for many years; however, every apprenticeship supervisor knows how hard it is to

get a satisfactory working plan of interchange of apprentices that any group of employers will accept. One local branch of the National Metal Trades Association has tried through its apprenticeship committee to promote a plan which is a step beyond mere interchange of apprentices. It has been heralded as the "Milwaukee plan." It proposes to have a few of the larger plants practically "underwrite" a certain number of apprentices, and from the "parent plants" to "farm out" the boys for certain limited periods into the smaller shops. This diffusion of apprentices is designed to take advantage of the training possibilities of the small shops, and to afford high-grade supervision of the apprentices, which the smaller shops alone cannot afford.

Perhaps there are a few companies that are intermittently operating on such a plan of interchange, but as might be expected, the individual pride of most manufacturing establishments prevents full cooperation on such a scheme, although the plan is excellent on paper. It is a plan which has possibilities and can be successfully worked, but it is not likely ever to be very largely employed until employers as a class lose more of their individualism or acquire more group consciousness in relation to training people for their respective industries.

In the European apprenticeship of other days, the master was largely responsible for the general conduct of the apprentice and supervised his personal life. But this was under a social and political system different from our Western democracy. One may ask how far the American employer can go into the personal life of the apprentice. The answer is, "not far beyond the confines of the physical business establishment," and "very little beyond the minute the apprentice punches the time clock at the end of the day." American industry, born and nurtured in a democracy, causes the young American under the usual conditions to desire to live his own life unhampered outside the confines of the shop. It is common knowledge that in many individual cases large corporations control and influence in a wholesome way the apprentice boys during the hours they are away from the shop. However, many times it is heard from those responsible for these outside activities, recreations, and educational endeavors, that the boys of today don't appreciate their opportunities; that they are

ungrateful, and so forth. There is no mystery about this. Except in small manufacturing cities where recreational activities of sufficient magnitude could scarcely otherwise be provided, there is little ultimate success with these out-of-hours enterprises.

It is an interesting question, then, how far the employer can go in this direction. Of course, no solution could be given which would universally apply. In the following general proposition, however, may be found a partial answer. The manufacturing plants can with profit provide for the leisure time of the apprentices in case the community does not make such provision. This obligation is secondary to industry. Too much solicitude on the part of the firm for the outside personal life of the apprentices is ultimately sure to bring a certain amount of suspicion and resentment from the boys themselves, their parents, and their fellow workmen. A resentment of the employers' well-meant philanthropy may be engendered, establishing the conviction that in the last analysis this philanthropy accomplishes little good. Further, too much interest on the part of the employers in the private life of the young men may, and frequently does, result in absolute harm to the employers.

To sum up, the employer cannot be justified in going beyond the grounds of plain good business. If industries, in dealing with young people, are moved to philanthropy, and many of them are, then it would be better for them and for those they employ, and therefore for the public, to support generously community recreational and educational enterprises rather than to attempt such activities themselves. In other words, where possible they should cooperate heartily with public authority, because there can be no public good which does not ultimately spell welfare for both employer and those who work under his direction. Does it not seem a sound doctrine that sufficient opportunities for recreation and education should be provided by the community, and that the responsibility for such activity should not be placed upon the manufacturing establishments? There is a common-sense limit to industry's control over the individual, and this is no less true in the case of the apprentice, no matter how well meaning this control may be. Consequently there must come a time when the employer will say, "thus far and no farther—the responsibility is now with public authority." A recognition of these

principles would in many cases both save the employer money and result in great help to the cause of apprenticeship.

Metes and Bounds of Shop Training.—What are the limiting factors of a training program in the shop? Since apprenticeship is not merely a proposition of employment but an educational process, the employer, in the main, cannot be expected to do more than the normal processes of production in his plant permits—or the normal run of his business warrants. He can give only the experience encountered in his business. He may set up a school in his plant for mechanical or trade instruction if he thinks that better than having the apprentices distributed among the workers and the actual processes of the shop. Experience seems to prove the latter plan to be the more practical. Some of the objections, pointed out elsewhere, that prevail against the public trade school, apply also to a shop trade school, although perhaps with less force.

Most of the employers of the country stick to the diffusion plan of training apprentices, that is, the system under which apprentices take their places among the workmen in the regular production jobs. It is easy to conclude that the place where the actual work is being done in the direct process of preparing the goods for shipment to the market is where the boy can really learn the business or occupation to the best advantage. If more experience is required for the completion of the training for that particular industry, then cooperation should be sought from other industrial establishments.

The employer's primary function is to produce goods and services for an exchange market. He educates only incidentally and can be expected to give only the educational advantages that inhere in his business. It is not to be imagined that an educational institution should be superimposed on the manufacturing plant, but it is not too much to expect that there should be an educational motive in addition to that of production in the management of industry and in the handling of industrial relations. In short, all the industrial processes available should be used to educate the apprentices, and for that matter the principle could extend to those who are not formal apprentices. Thus, the factory becomes a school of genuine experience and therefore extremely effective in industrial education. On the

contrary, training equipment which is not a part of the business procedure, but which is artificially set up, is neither as effective nor as economical.

The elements of training which are necessary to youth for general social reasons, and which it is not possible to provide for in the normal course of factory experience, are clearly an obligation of public authority, directly or indirectly. All that can be asked of the employer, of industry, with respect to providing training is that the idea of improvement, promotion, and education shall permeate the whole industrial or business enterprise, so that the latent powers of young people engaged in the industry can be developed even though it be in the much-heralded school of experience. As a result there will be advantages for youth, for the employers, and for the whole of society.

There are economic limitations to educational work faced by employers from time to time, which depend upon the vicissitudes of business. When business is good, it would seem that apprenticeship systems should thrive. As a matter of fact, the scheme or idea does receive considerable emphasis, but it is probable that the realization of a growth in the actual number of apprentices may be disappointing. This may be due to the pressure of production. On the other hand, in times of depressions, apprenticeship can in reality be built up. There are two reasons which make this possible: one is the fact that the slackening in the demand for labor makes it possible to obtain likely young people for apprenticeship, and the other reason is that management can give more attention to the apprentices when the demands for production are not so high. However, human nature is true to form. Too often the employer will plan to wait until the plant is not so busy before he undertakes apprenticeship, but when business slacks up he is likely to find many objections to apprenticeship which he had not thought of before. He will then probably say: "I guess I'll let the apprenticeship go for a while, anyway. Maybe when we get busy again we will take it up." These words substantially as given are often repeated and the cycles of varying indifference go on forever with this type of employer or management. Farsighted management will, in times of depression, prepare for prosperity; it will find the desirable personnel for supervision more available;

it will, moreover, obtain the more promising apprentices—those who, when business becomes pressing, will stick to the job and not yield to the first opportunity for higher wages. Where apprenticeship is inaugurated during a prosperous period candidates for apprenticeship are not so available to the firm which is without apprenticeship traditions. A firm without an established apprenticeship will certainly have many disappointments in starting apprentices, which could be obviated by preparing the ground at a time when the plant does not encounter the difficulties and problems that an increasing production schedule calls for.

Another economic limitation in this category is the inability of the employer to maintain a constant force of employees. This is due to the effects of the business cycle with its periods of intermittent activity. However, when the employer finds it is necessary to reduce his labor force from time to time, he cannot in good faith accept more apprentices than he will be in a position to maintain when his force is cut down to its minimum proportions. With adult workers the labor contract can be broken at will by the employer but with the apprentice the employer assumes a moral, if not legal, obligation to keep the apprentice going until he has finished his period of apprenticeship. The adult worker laid off by one industrial plant may succeed in obtaining work in some other, as rarely are all industries at the same point in the cycle of business prosperity and depression at one time. The apprentice, on the other hand, cannot easily fit himself into another establishment. In such periods as this, the situation is very often improved by the employer's finding some other firm where the apprentice may work until business picks up again in his own establishment. This practice is naturally more needed among employers with seasonal trades and among those whose businesses depend upon individual jobs and contracts, rather than in the case of enterprises such as the railroads and other public utilities which are not subject to such violent and seasonal fluctuations.

The building trades furnish a good example of what can be done in transferring apprentices. It is quite customary for the bricklayers, for instance, in their control of apprenticeship, to move the apprentice from the contractor who has no job to offer to some other employer who may have work, and to cause

a return of the apprentice again when the first contractor obtains more business. This is a sensible scheme and ought to become more general, for, as has been observed before, all employers in the industry profit alike when the supply in their labor market is made up of workers properly trained.

It is well to emphasize that as a permanent policy the employer should proportion his training program, the number of trainees being determined by the mean level of employment. This can be ascertained by the number on the payroll throughout a complete period of the business cycle, which would reveal the high and low points of the business. Just what this proportion is in any particular instance depends upon the supply of skill in the industry and the prospects for the future. The determination of the number of employees, according to which apprentices should be apportioned, will depend upon the peculiar characteristics of the particular business; the principle of establishing a ratio of apprenticeship to a "norm" rather than a peak of prosperity is the important thing to be observed. If young people are to be encouraged to enter apprenticeship training, foregoing immediate higher earnings in order to obtain a skilled training the advantages of which are to accrue in the future, then there must be a genuine interest in their welfare and they must be protected against the hazard of unemployment. It should be of interest to point out here that it is a dangerous policy to cause the disillusion and embitterment of a generation of young people in industry through thoughtless treatment on the part of employers. Their discontent may subsequently work havoc in the labor market, may prove expensive to the industry, and take many years to overcome. The young workers of today are the adults of tomorrow, and it is from this source that industrial conflicts may arise. It is scarcely necessary to say that most members of the labor force obtain their prejudices, their lasting impressions, their attitude toward the social and economic systems, during their youthful and early contact with industry; therefore, for the employer to neglect this fundamental fact is frankly dangerous for him.

Labor movements, like other reform movements, thrive not because of the so-called "hair-brained economists" whom many employers take exception to, but because of practical causes, real

conditions. Where there is more attention on the part of industrial management to these—to the normal psychological reactions of the ordinary uneducated worker—there is less need or opportunity to condemn the radical philosopher in economic theory.

Does Apprenticeship Pay?—In the foregoing discussion of certain principles involved in employers' participation in industrial training we have spoken of training in such a way as to carry the assumption that the training for skill is its own reward. The assumption is correct. Training pays, whatever the cost, because it is positively essential. Anything really essential must be worth its cost. Training assists production. It is essential to economic production, but in the words of Sam A. Lewisohn, Vice President and Treasurer of the Miami Copper Company, in an address before the Eighth Annual Industrial Conference of the State Department of Labor held in New York City, December 2, 3, and 4, 1924: "We want production, but we do not want production that will cripple the human beings in the system morally, emotionally, or physically. We want the self-development of the human beings in the system, but any scheme for developing them must be shaped to assist and not retard production." It is precisely this that apprenticeship accomplishes; it enhances productive effort, and at the same time conserves human values.

In the consideration of the question whether apprenticeship pays the employer, the advantages which the industrial or business establishment enjoys as a by-product must have considerable weight. Therefore, these will be discussed at length.

Advantages Which Accrue to the Employer.—Apart from the obvious fact that apprenticeship produces skill, there are other benefits which accrue to the employer, and which at the same time develop the apprentices as human beings and as citizens of a democracy. Attention will now be directed to some of the advantages.

Development of Morale and Improvement of the Working Force.—What is the moral effect of a training program in industry? It is so extensive as to be almost impossible to approximate. Where a training program exists, it becomes evident to the rank and file that intelligence and skill are valuable assets. This is a stimulus for self-education and improvement on the part of many members

of the labor force not included in the apprenticeship program. It is an incentive for employees to pursue correspondence courses, night courses, or any other available means of self-improvement. This adds moral tone to the industrial organization. There is an obvious advantage in having a working force seeking to improve itself, a working force which realizes that intelligence and increased ability make things more interesting and profitable. This intelligent interest has a direct salutary effect on the cost of production, while at the same time it enhances the value of the individual as a citizen. A training program must essentially recognize the individuality of the workers. This fact in itself helps to offset some of the reputed evil effects of the drudgery of ordinary shop work.

Reduction of Labor Turnover.—When the firm shows a genuine interest in the individual success of its employees, these individuals in return are more interested in the particular firm. Labor turnover tends to diminish. A contrast of the turnover figures of shops having a proper training program—an apprenticeship plan—with the figures of shops having no such plan, where such data are available, will convince the most skeptical that the shops with apprentices have less turnover than those shops without apprentices. The secretaries of some of the large trade associations can furnish such evidence. “Make the shop a fit place for the apprentice boy,” says one proponent of apprenticeship among the employers, “and it will be the place in which men are willing to stay.” And the same individual furnishes the following information from the largest groups of employers in a large industrial center. Addressing a group of manufacturers, he says:

While you have been endeavoring to interest your boys, you will have aroused interest in your men, in fact, the atmosphere of your whole shop will have changed with the result that the men, like the boys, will be both interested and contented. “Turnover” will slip back to normal and will no longer be excessive.

To prove this last statement, the average yearly turnover per cent of fourteen shops where apprenticeship is established was compared with the yearly turnover of sixteen shops where apprenticeship was meager or entirely lacking. The result was so surprising that we have reproduced the figures in the table shown on page 75:

AVERAGE YEARLY TURNOVER PERCENTAGE IN SHOPS WITH AND WITHOUT APPRENTICES

	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
16 shops without apprentices.....	269	133	211	266	146	150	180	120	103	128
14 shops with apprentices.....	191	98	114	141	98	102	101	83	81	96

Undoubtedly there are arguments against apprenticeship being the whole cause for this difference, but it is so persistent throughout the whole period, we believe that it must have considerable to do with it.¹

Although, as Mr. Fairbairn implies, other considerations may enter into the reduction of turnover, the fact is that the far-sightedness of the firms that adopt apprenticeship finds expression in other phases of the business relations, all of which improves employment relations.

This is profoundly true. Workmen will bring their boys into the plant, for they desire in many instances in every establishment to have their boys working near them. In this way, traditions are built up, and the shop becomes the "old home," even a place of sentiment, of happy memories, and the employer has an organization which will stick to him when he most needs it. However, it is not proposed that these individuals will stand more maltreatment as a consequence. They may tolerate even less; but at the same time they will have greater capacity and a greater desire for cooperation. Anyone, who knows industry intimately, knows how the employer too infrequently obtains that amount of cooperation which he would pay anything to have. To any business unit this cooperation or lack of cooperation may mean the difference between success and failure, so close many times is the possible margin above the cost of production. While these advantages are for the individual employees, it must not be forgotten that at the same time they enhance the production process and directly benefit the employer. Of course an educational program is not the only influence upon the labor-turnover phenomenon and cannot be presented as a panacea, but nevertheless it is a noteworthy factor and merits considerable attention.

¹ W. J. Fairbairn, Milwaukee, Wisconsin.

Industrial Safety.—The next question for attention is the relation between apprenticeship and industrial accidents. Industrial safety experts claim that the greatest asset in safety is the careful man. How does a man who has not been properly trained know how to be careful? Obviously a mechanic who knows how to handle the machines and tools of his trade is certain, for one thing, to err less, and for another thing, to know the points of danger in the process of manipulating his tools and materials. It goes without saying that the saving of life and limb is of benefit both to individual workmen and to society. Incidentally, it saves the employer money. Apprenticeship affords safety not only because a well-trained mechanic is a safety man, but in addition because an apprenticeship course affords an opportunity to teach the youth safe practices and to point out the hazards of the occupation in a systematic manner as progress is made in acquiring a knowledge of it. This element of instruction becomes a vital part of the apprentice's academic or related work which he receives either in instruction classes in the manufacturing plant or in a school provided by public authority.

Maintenance of Industrial Peace.—The fourth consideration is the effect of apprenticeship on industrial peace. Without doubt peaceful industry with its minimum of class conflict is a thing desired by all factors of our industrial society. Is there a relationship between apprenticeship and industrial peace? There is. However, there are misconceptions about this matter which may arise either from a failure to understand the philosophy of the labor movement, on the one hand, or from a too optimistic view of the value of the influence of the employer's personnel technique, on the other.

Apprenticeship as an institution is not affected by the organization of labor, or its lack of organization. It thrives both in the atmosphere of the trade-union and in the atmosphere of the open shop. It is not the fact of apprenticeship that rules the situation, but rather the attitude of the employer with respect to it and the technique or tactics he employs in administering it. The influence of other factors in industrial relations outside of apprenticeship cannot be ignored. Rather than to obviate unionism, it is quite possible that an apprenticeship system might be so illiberally handled as to promote the very cause of unionism, and

it is possible that the employer, by too anxiously anticipating union propaganda in his apprenticeship relations, might give cause for more attention to the subject than the mutual good of either the apprentice or himself might warrant.

Apprenticeship, it should be frankly avowed, cannot be entered into with a view to educating young men against trade unionism. Employers know better than to imagine such a thing possible. The unions on the other hand know that employers cannot be successful with that aim even if it be an avowed purpose. If it were not so, the unions would not support apprenticeship as they do. Moreover, apprenticeship could not succeed if the workmen were against it, because after all it is their boys who are involved. In no direct sense can the question of industrial conflict have a place in apprenticeship technique or administration.

Notwithstanding what has been stated above, it is true that in a much larger sense apprenticeship does serve the ends of industrial peace. Apprenticeship makes of the worker a better informed individual, who consequently is more reasonable to deal with than the ignorant untrained worker. Such an individual, to prove susceptible to radical propaganda, would require an agitator with more acumen than those with whom the employer is familiar.

It is not impossible that in many cases even an apprentice may join a trade-union. In such an event one of two things is likely to happen. The former apprentice will either become a leader of the group or be much more susceptible to the reasonable enlightened leadership of others than the non-apprenticed youth. In fact, it is possible that this training of industrial employees in the shop, supplemented by public education for adult workers after the realities of life have made them seriously interested, might eventually develop a type of organized workmen with whom employers would be anxious to deal.

This, many employers hope, will come to pass; for when some of the present abuses growing out of the heterogeneity of our labor population pass away, the story of industrial relations may be a different one. In any event, inside the union or outside the union, it is better for the employer to deal with intelligent labor. Skilled and adequately trained workers will make for the public good, and labor and management must profit accordingly.

When apprenticeship becomes involved in the sensitive field of industrial relations, an opportunity is presented to public authority to function, for the state can see to it that misconception or false motives on either side will not allow apprenticeship to run amuck; for what injures either employers or employees injures all. It is the solidarity of interests which must be uppermost in apprenticeship work, and it is the function of public authority to keep the common interests in the foreground.

Improvement in Quality of Product.—A fifth result of apprenticeship, which benefits alike all industry and the public, is the improvement of the product. It is enough when, through apprenticeship, the technique of production is enhanced; it is enough if even the quantity be increased; but there are not only these two points of merit, there is, in addition, the inevitable improvement in the product itself. Wherever apprenticeship prevails, there is attention given consciously or unconsciously to the improvement of the product. This promotes real national economy. Whatever it be, an automobile or a kitchen utensil, a better article for the same amount of purchasing power enhances the material welfare of all. Moreover, there is a moral advantage for our economic society when producers are themselves individually interested in quality.

This is illustrated by the experience of a machine-tool manufacturing company which works on the basis that apprenticeship is essential for the maintenance of high quality in the product. The moral effect is obvious all around. The workmen who evince this interest in the quality of work, and who fashion the material to the point of nicety, naturally, through force of habit, take care of their tools and machines, thereby reducing the cost of upkeep. Moreover this particular establishment has gone so far as to undertake at very frequent intervals to have the floor scrubbed throughout the whole shop, until many observers have remarked that the machine-shop floor was clean enough for a kitchen table. Intelligent managers know that clean surroundings engender accurate work and at the same time attract a higher grade of workmen. There is a consequent higher morale throughout such a shop. The men are on their honor to turn out first-class work, and the atmosphere and the working conditions are such that it is not easy to perform a poor grade of work.

Suffice it to say that no such conditions could be achieved in an establishment unless the tradition of apprenticeship and its fruition of skill prevailed.

Another concern that could be named has had such success with its apprenticeship program that it has not found it necessary to set up an employment department, although it employs from 1,200 to 1,800 men. The apprenticeship department seems to supply the need for new employees, and for such reasons as have been previously described in this chapter, has very few separations of the older hands. Here again, of course, it is evident that a program of apprenticeship indicates an enlightened attitude on the part of the employer, which must find expression in all aspects of the business.

It has been observed before that in apprenticeship the employer has everything to gain and little to lose. The workmen have an opportunity to enhance their earning power and at the same time to experience more interest in work, and a greater fullness of life, which social philosophers so much covet for employees in a democracy. The public welfare—identical with the mutual interest of employers and employed—is greatly benefited as well.

Summary of Advantages and Limitations.—It has been pointed out in this chapter that although the main responsibility for apprenticeship rests with the employer, there are, nevertheless, limits beyond which he cannot ordinarily go: limitations which arise out of the inherent individualism of business enterprise, limitations which are inevitable by virtue of the fact that the experience of any particular business must of necessity be circumscribed by conditions which are due to economic considerations, and limitations which arise out of current social and political ideas. In spite of the fact that employers cannot control every aspect of apprenticeship, there are some fundamental advantages to him beyond the obvious fact that the supply of skill is maintained, the chief of which are first, an enhancement of morale among shop workers, second, a tendency to stabilize employment, third, the promotion of industrial safety, fourth, the maintenance of industrial peace, and fifth, the improvement of the quality of product. In addition it should be added that owing to the fact that as a consequence of training, the materials and equipment

of the establishment will be handled more efficiently there will ensue a saving.

Questions and Exercises

1. It is sometimes said that apprenticeship training is a matter for the employer. Do you agree with this view? Explain.
2. To what extent is the experience of the apprentice in the shop inadequate for making a really intelligent and skilled workmen?
3. How would you decide whether apprenticeship is a paying proposition for the employer?
4. What limitations does the employer encounter in an apprenticeship program?
5. Explain the advantages of apprentices to the employer. Do the apprentices share in the benefits which accrue to the employer? How?
6. What is the relation of apprenticeship to industrial peace?

CHAPTER VII

APPRENTICESHIP AND THE SCHOOLS

Apprenticeship, it has already been observed, is one form of education. In this chapter, the apprenticeship plan of education will be considered in its relation to some other plans. These standard educational schemes are so well known and so widely accepted, that they are often popularly thought of as the only real forms of education. These comprise, in the main; systems of schools, which, since they exist in a *democracy*, should provide a fitting plan for the development of citizenship. They will be considered in the following order: grade and high schools, trade schools, manual training schools, and correspondence and evening schools.

One of the first questions that may suggest itself to the interested reader is: Why is not apprenticeship a generally accepted form of education? The answer should be that it is, although many people are not cognizant of the fact. The chief reason for this is that the *principles* underlying apprenticeship have not been sufficiently distinguished from the *form* of apprenticeship. Many unfriendly critics of apprenticeship forget that for many centuries it was the only form of general education; these same critics, however, would never think of condemning general education. True, education has taken on new phases, but it has, in many instances, unconsciously embodied some of the fundamental principles of the old apprenticeship system.

The value of apprenticeship methods is seen everywhere in formal education. The engineer must have his industrial or shop experience, the lawyer must have legal experience as well as knowledge, teachers must have their practice work, physicians must serve their internship, and even the librarians who aid us in our research must have training in the technique of library experience. So one might continue to give instances of like character. In the business and professional world, wherever we

may turn, we find the eternal demand for men of experience. Why men of experience? Because the individual with experience has learned while doing. He has acquired intimate knowledge, he has assimilated the facts by actual performance, and he knows with increasing clearness the values of future efforts. One of the reasons why educators have turned away from this early form of general education, is the pressure of democracy. In the United States every man is a "king." He is entitled to the best. Consequently, what has been conceived to be a good thing for the learned professions has been recommended to everyone as something to emulate and achieve. This has resulted in some good, but the so-called universal desire for higher education is largely imaginary; it has been read into the minds of people who have in very many cases neither the desire nor the ability to follow the educational processes of the professional groups. Finally, the realities of modern industrial society have forced a turning back of many educators to education's first love—"apprenticeship." In other words, it has been realized that apprenticeship proper was a training for citizenship and economic effort. Many promoters of formal education have inadvertently forgotten that the citizenship of today is primarily the citizenship of an *industrial* society. Therefore, preparation in the world's work can no more be evaded now than at any time in the past. So the question is: What is the best way to accomplish this preparation at particular stages of youth's development? In the past, apprenticeship prepared the youth for his proper place in life. Do the so-called substitutes for apprenticeship adequately fit the youth for his working life? Does even our system of general education adequately prepare a youth for the world's work? Can modern education develop effectively without the aid of apprenticeship? These are a few of the questions which it is hoped will be answered in the following pages.

Grade School. Our system of graded schools (which the Germans call the *Grund-Schule* or foundation school) covers the years of the boy and girl before the age of apprenticeship begins. Most of these boys and girls complete the eighth grade at the age of fourteen years. There should be no real objection to these years being devoted to the development of the qualities which

are prime requisites for manhood and womanhood, of instruments by which those qualities can be expressed, without any reference to development for any specific vocation. As much general culture as can be acquired during these years should be the minimum requirement. Since it is becoming more and more widely recognized that children should not ordinarily go into industry until sixteen years of age, there are still two years for what may be termed prevocational education. This period will be considered under the heading of Part-time Vocational Schools.

Primary education, then, is the common denominator of our democracy. The details of method and content may be left to the educational sociologist. It can be said, however, that there should be neither more nor less direct preparation for industry than for the professions. This practice, however, is not always the case. Many teachers give young boys a distorted idea of the nature, necessity, dignity, and honorableness of industrial activity. They unconsciously give to the young pupils the impression that their own educational experience is the sort to pattern after, and thus incidentally inculcate a wrong idea of the true relation of education to business and industry. It is desirable, then, from the standpoint of apprenticeship, that the boys of our primary-school system shall not be propagandized either for or against industrial pursuits. If they are, the value of this common denominator of our democracy will certainly be impaired.

Even when industrial arts and vocational studies are introduced into the junior high schools, there is grave danger that the wrong emphasis may be given and that the cultural aspects of this sort of educational work may not receive their proper significance. In the complex life of industrial society, the foundation work should be very broad. Too early an emphasis upon one or two specific vocational studies may not prove to be as good for the youth as no vocational work at all.

High School. At this point the question may be asked, "What is the relation of our Secondary School system to industrial apprenticeship?" Until recent years our system of secondary education has consisted of the high-school course, which has been mainly a preparation for the college or the university.

Experience has shown, however, that notwithstanding the fact that a small percentage of the graduates of the high school finish the college and university courses, little encouragement is given to the young people of our high schools to consider a life work in the production side of industry. This does not mean that a high-school education does not represent enough in economic return thoroughly to justify the high school. The money value of high-school education has been well set forth by the United States Bureau of Education.¹

Although there is an unquestionable value in economic terms which accrues from high-school training, it is certain that in very many cases this value would be much higher if the training were combined with an apprenticeship in some industrial pursuit. Manufacturers are disappointed by the paucity of high-school graduates who are candidates for shop careers and who are willing to start in as apprentices. College graduates seem to be willing, perhaps because of their profounder knowledge, to go "through the mill," so to speak; but the high-school boy too frequently limits his opportunity by disdain to prove his mettle in the shop. Every supervisor of apprenticeship in industry can relate experiences with these young men who have been shown the possibilities of achieving success through apprenticeship but who have refused that opportunity with such a remark as "My teacher said I should do better than work on a mechanical job. Have you got a position as a *timekeeper*, *stock-room clerk*, or some other like job?" His request is for a job which will assure the social distinction of the "white collar."

Obviously, we should not find fault with the high-school boys but rather with the atmosphere created for them in the high school. Of course, this condition is not universal, but it is still sufficiently extensive and of enough seriousness to warrant protest. Moreover, prejudices in so deeply rooted and so widely accepted an institution as the American high school will not be easily dethroned. It will take perhaps a generation before the old prejudices which are fostered in the high school against the ordinary work of the world will disappear.

High-school boys who enter a real apprenticeship are usually given a credit of time that materially shortens the duration of the

¹ U. S. Bur. of Education Bull., vol. 22.

apprenticeship period. In the trades they have little competition if they follow the apprenticeship route and their promotion to jobs of responsibility is swift and certain after the completion of the period of training. For its foremen and subexecutives, industry now has to train men recruited from the ranks through the ordinary apprenticeship method. How much easier it would be for high-school boys to work up to some of these responsible jobs. No boy with high-school training need remain in a dead-end job. It is, however, a matter of proverbial comment how many high-school boys are following pursuits in which there will be no advancement. We confidently look to the vocational-guidance movement, in its infancy as yet, to interest more high-school graduates in industrial apprenticeship.

In order to fulfil its function, it is desirable that the high school should give a broad foundation for the youth to build upon, no matter what line he subsequently follows. It is not necessary, however, to vocationalize the high-school curriculum. Fitting are the words of Dr. David Sneddon:¹

The best that we can do today, in fairness to all our people—the prosperous and unprosperous, the able-minded and the frail-minded—is to require that the entire time of compulsory full-time school attendance shall be devoted to the ends of general or liberal education.

However, we must not, if we want to maintain a democracy, permit an educational program to cause youth to disdain the essential work of the world and to lead them away from an appreciation of their economic obligations in the direction of essential cooperative effort. Our economic life is possible only because of conscious or unconscious cooperation. It is this, and this alone, that makes specialization possible. We have a right to expect that educators who extol the virtues of democracy will be true to their teaching in presenting proper attitudes toward necessary occupations.

The world's work can be tied up with the romance of invention and discovery, the struggle upward of the race, the development of language, literature, and the arts. If industry and education are not both to fall short of their purposes they must be linked together. Industry is now stretching out its arms to educators.

¹"Educational Sociology," p. 629, New York, Century Company, 1922.

Industry needs more spiritual content, and it is gradually acquiring it. Education needs more lessons from industry and business. Apprenticeship affords the connecting link. Although, it may be reiterated, it is not necessary to fill the curriculum of the high school with vocational courses, it is highly important that a sympathetic understanding of the social and economic system may be a part of every young person's intellectual equipment.

Manual Training or Manual Arts.—The next consideration is the relation of manual training—now usually referred to as manual arts—and the institution of apprenticeship. In his work on the "American Apprenticeship and Industrial Education," Professor Paul H. Douglas treats manual training as one of the "substitutes" for apprenticeship. Manual training began as a cultural study, that is, it was not designed as vocational training. This author's review of the development of manual training in American education is of particular interest. It is worthy of note that he says:

As manual training developed it grew to have quite different principles from those which the founder Cygnaeus had worked out:

1. As in Russia, it was chiefly in the high schools and not in the primary, but also
2. It came to have a distinct commercial purpose. It was used in part as a means of training workmen for their industrial life, if not for their specific trade.¹

Professor Douglas points out that although leaders of the movement first protested that manual training was a cultural study only, some of them later adhered to the idea that manual-training courses constituted trade training. Professor Woodward, one of the early leaders in manual training quoted by Professor Douglas, stated as late as 1903:

By multiplying manual training schools, *we solve the problem of training all the mechanics our country needs.*²

The weakness of this statement has been proved by experience and has been borne out in the work quoted.

¹ "American Apprenticeship and Industrial Education," p. 178, New York, Longmans, Green & Co., 1921.

² *Ibid.*, p. 180. *Italics author's.*

Three reasons have been ascribed for this metamorphosis of manual training from a cultural to a vocational agency: the development of machine tools to take the place of handicraft, minimizing the importance of the individual; the creation of the independent manual-training high school which freed the movement from the cultural spirit; the hope of business men (perhaps their belief) that the manual-training movement could produce for them the skilled labor which was becoming increasingly necessary and scarce.

The overanxious employer who wanted a useful boy "ready made" for certain trade work has often assumed manual training to be the necessary preparation. Many instructors in this branch of education have been quite ready to follow the flattering inferences of business men and have encouraged the belief that a course in manual training, or what has later been termed "manual arts," would fit a boy for trade work. On this subject there has been much, if not complete, disillusionment. There are few people today, informed along industrial lines, and perhaps few teachers of the manual arts, who would have the temerity to maintain that the superficial and academic character of the shop work in the usual high-school courses could be of much value as trade training.

This, however, should not cause one to lose sight of the fact that there is a worthy place for manual arts in the high schools. In any case this form of training, it would seem, should justify itself on cultural grounds, because on that basis it can function. Manual arts is a good thing for our democracy. If it is desirable that the children of workingmen shall have the same opportunity to attend the high school as the children of professional men, then, of course, it is proper that children of the well-to-do classes shall have the same opportunity to learn to use their hands in mechanical work as the children of workingmen. Manual arts training is not, and cannot be, a substitute for apprenticeship because of the fact that it is taught in an academic atmosphere and at best is a long way detached from real industrial enterprise. Furthermore, there is usually a lack of industrial experience on the part of the teachers. It is not, by any stretch of the imagination, either strictly vocational or apprenticeship training. Apprenticeship is essentially a learning-while-earning process—a direct

participation in industry; but a student of manual arts is learning to use tools as a matter of general culture—although, of course, there are exceptions here and there. The manual-arts student necessarily approaches shop work from the theoretical point of view, just as he approaches anything else. As the student has not had industrial experience in employment the presentation of trade work must be theoretical and academic.

Manual training, if promoted, advocated, or pursued as a means of trade training, as a substitute for apprenticeship, may be a positive harm to the boys themselves, because it misleads them into thinking that they are receiving vocational training. Because of its inadequacy, it may also be detrimental to the industries or trades in which these boys who come from manual-training schools try to secure placement. Certainly in such cases it is inimical to the development of real apprenticeship training because it causes industry to draw the wrong conclusions about the ability of secondary education to supplement apprenticeship training. It is fair to state that one of the big handicaps under which genuine vocational education has had to labor during the past fifteen years is the fact that so many people thought, and some still think, vocational training is the same thing as manual training, although there is a vast difference especially in the psychology of the approach to the subject, particularly as manual training properly functions in the school system.¹ This is so because the real function of manual arts as set up is cultural, and although it is practical work, it is necessarily undertaken with the academic or theoretical approach, while vocational training, which apprenticeship essentially is, is education in the field of actual work which cannot be undertaken in any other approach than the practical. Manual arts has its place, but it is a mistake to imagine that it can be a substitute for apprentice training.

These observations are deemed pertinent because many manual-arts instructors and directors in recent years have lost no opportunity to oppose genuine apprenticeship development, whether with a sincere belief that they themselves could make

¹ SCRIMSHAW, STEWART, Vocational Departments in High Schools vs. Separate Vocational Schools, *Ind. Arts Mag.* Vol. 9, pp. 297-299, August, 1920.

the necessary skilled workmen, or for fear that their work might be thought to be unnecessary.

Full-time Trade School.—In the following paragraphs consideration is given to the full-time trade school which attempts to teach the whole trade, and which is designed to substitute for trade apprenticeship. Those schools which undertake trade extension, or those departments of so-called trade schools which give extension work, are in an entirely different category and are not under consideration at this point.

Three reasons may be ascribed for the evolution of the trade school. One was the fact that owing to the falling off of skilled immigrants after 1890 there was an appreciable need felt by industry for more people with skilled training. Another reason was the desire to give an opportunity for the American youth to learn the skilled trades, since it was alleged that the trade-unions, formerly composed largely of immigrants from Europe, have kept the American boy out of the skilled trades. A further reason for the advocacy of the trade school was the hope of some employers—a false hope—that perhaps these schools would provide young workers who might be used to break the trade monopoly of the unions. These schools have been established with great enthusiasm, and with large expenditure of money. In many cases they have been privately endowed, but in some cases they depend for support on public funds.

These schools satisfied neither labor nor capital. Here and there boys from trade schools were met by jeers from their fellow workmen; a sort of stigma was attached to the graduate of a trade school. This attitude of labor can be explained. First, the trade-unionists suspected that trade schools, especially those which were privately endowed, were established to furnish strike breakers in some instances to smash the unions. While it is possible that a few employers had advocated and maintained schools with that thought in mind, this consideration could never have had much reality. Second, the trade-school graduates were not sophisticated in the trade practices and thereby afforded the "practical" rivals an opportunity to express their feelings of contempt for the "school mechanic." This fact of course complimented the trade school, for it tacitly admitted that the boys got some good training and for this reason they incited some

unconscious jealousy. Third, a few important trades only were taught in the trade school, so that the workmen who saw growing competition in their particular labor fields naturally were ill-disposed toward an institution which they thought contributed to the oversupply. Employers, on the other hand, did not see the results they had expected. They did not find the panacea for their labor troubles. There was no new crop of trained young men to take the places of those out on strike, or of those discharged by the employer. At all events, the supply of skill to keep industry going efficiently has not been forthcoming from the trade schools. Perhaps few have fully appreciated the reasons.

The full-time trade school proper, as a substitute for apprenticeship, and in that sense only (note the qualification) has not met the need. This circumstance is in no way due to the lack of efficiency or capable administration of the trade schools, but is the result of the dynamic aspects of modern industrial society. The trade school cannot be a satisfactory substitute for apprenticeship because in the very nature of things, apprenticeship cannot have a substitute. Many of the full-time trade schools have themselves recognized this fact, and have consequently become "technical high schools."

There are three causes which mitigate against the success of the full-time trade school as a substitute for apprenticeship training. First, the trade school cannot offer an adequate number and variety of trained mechanics because of economic limitations; second, the trade school technique must inevitably be behind industrial practice; and third, the trade school is obliged to function in an academic atmosphere incompatible with real industrial trade training. Perhaps a brief elaboration of these points would be in order.

The point of inadequacy will be understood when it is realized that there are only a few trades that can be taught in any school. The tendency is to establish departments for some building trades, such as bricklaying, plumbing, steam fitting, and such crafts as the machinists' and pattern making and perhaps printing composition—rarely more than six or seven of the better-known trades. Scarcely any mechanics to supply industry are forthcoming from these schools, and if they were being turned

out of all the trade schools at capacity, they would constitute but a drop in the bucket compared with the number of men of training needed in a variety of industrial crafts. In one of the best-known trades, such as the machinist, one is justified in asking where the trade-school product is. Certainly it is not in the machine shops of industry. Employment managers in every industrial community will testify to this.

Take another trade, such as plumbing. The thought that the plumbers of a certain city could supply their trade from this source caused great interest in the school on the part of the employing plumbers. They gave it cooperation and moral support for years. However, it never met their need, for when these master plumbers tried to discover how many recruits for the trade had been gained through the school in a period of years, they found practically none who had stayed with the trade. As a consequence, these same employing plumbers finally embraced a thoroughgoing system of apprenticeship, which is adequately meeting their needs and causing greater satisfaction to the public whom they serve. This particular trade school was subsequently made a technical high school and as such functions admirably.

It is fitting to recall that no trade school could be adequate which did not satisfy the demands for all the trades in all the industries in the whole industrial district which such a school was supposed to serve. Particularly is this true with reference to schools supported by public funds. The question arises why tailors and iron founders should pay taxes to support a school providing mechanics for plumbers and printers, while they themselves get no contribution to the skill of their own particular industries? The demand for skill and training is as broad as industry itself, and to meet the general demand the trade school would have to be a small replica of industry itself. This is clearly impossible physically, and most assuredly impossible financially. Is it not apparent, then, that the trade school is inadequate to serve industry? What about the pupil? Is the trade school handicapped in teaching the whole trade to the boy? It is apparent that it is. The trade school cannot reproduce the industrial atmosphere. Such a school is not subject to the pressure of competition which causes the manufacturing

concern to keep up-to-date machinery and to throw on the junk pile any obsolete machine. The authorities of the school can ill afford to throw out old machinery, because this would mean a constant drain on public funds; and whatever the merits of the case might be, the fact remains that for the schools to try to keep pace with industry would be a disastrous policy for school administrators.

Another important consideration in this connection is that trade-school boys cannot possibly learn the essential part of the modern trade, which we shall designate as "material handling." This phase of the trade the boys must get where material is handled in quantities and in such a way as fits in with modern production methods. The trade-school boys, although good in many particulars, are hopelessly lost in the real industrial conditions and must, in the very nature of the case—if they are to be useful—serve some apprenticeship when they enter the trade, no matter what their proficiency has been in the school. An interesting example is that of the bricklayer. He may learn to spread mortar, lay bricks, and build a wall well under the trade school's normal conditions. However, commercial building has many different conditions. Bricklaying technique is subject to the changes of the weather. Many a trade-school bricklayer has got along well under fair weather conditions, but when the material is soaked with rain, his situation is changed. He takes up the trowel and finds conditions baffling. The corner which was built plumb previously, now fails to continue perpendicular. He tries to make it plumb, but the more he tries, the more out of plumb becomes the corner. It becomes apparent to the foreman that the man is inexperienced. In other words, there can be no such thing as a competent workman until there has been a period of learning while doing on the actual job. Without a proper apprenticeship, the bricklayer may not understand many of his new situations, and the usual experience follows; that is, he loses his job and discovers that he has yet much to learn.

Inherently the trade school will ever be behind industrial practice. The trade-school technique must, to a large extent, be the technique of yesterday's industry. Industry must point out the way because its life or death depends upon its progress.

The trade school must follow. It takes time to get changes in any public or semi-public institution, and very often the change desired comes too late, and then only after new experience has shown newer and more advanced improvements to be necessary. This is a continuing process, and expresses the dynamic character of American industrial life. Moreover, it is worthy of note that conditions of immigration and other vicissitudes in the labor market tremendously affect industrial mechanization. The school, however, is not in a position to measure the effects soon enough to adapt the trade teachings to the new conditions. These conditions, it has been said, are inherent in the trade school as an institution and are not a reflection on the able and public-spirited staff of any particular school.

As a third general limitation of the trade school as a substitute for apprenticeship, it has been stated that the trade school functions in an atmosphere incompatible with apprenticeship. Boys who attend the trade school are boys from the same stratum of society as are those who attend the high schools. The parents who can afford to send their boys to the full-time trade schools are most likely to be the parents who decide to put their boys through high school. If the high-school training is thought to give social status, then the parent covets that for his child, and the trade school accordingly is disdained. The parents, on the other hand, who, because of economic necessity or personal preference, desire their boys to learn a trade, want them to earn something; hence they do not give the trade school serious consideration. Therefore, it would seem that the trade school, so far as apprenticeship is concerned, is on the horns of a dilemma, one of which is a matter of social status, and the other that of economic necessity. We have to conclude, then, that even though the trade schools were equipped to teach trades adequately—and in most cases they are not—they would still fail to function in the scheme of apprenticeship, as most educators recognize, because of the lack of a sufficient number of students who will follow the trades which they learn.

Questions and Exercises

1. To what extent does education utilize apprenticeship methods and principles?

2. In what way do (a) the graded school and (b) the high school relate to the training of apprentices?

3. Discuss the possibilities and reasons for success of high-school graduates who enter into industrial apprenticeships.

4. What are the limitations of manual-training instruction as a substitute for mechanical apprenticeship? What is the significance of the new term "manual arts"?

5. How are the full-time trade schools being adapted for vocational training? Can the full-time trade school properly be said to make apprenticeship unnecessary?

6. What are the economic handicaps under which the full-time trade school operates? Is this a criticism of the trade school?

CHAPTER VIII

APPRENTICESHIP AND PART-TIME VOCATIONAL SCHOOLS

Vocational education is a relatively new term and suggests a newer adaptation of educational technique suited to the complex industrial age in which we live. It has arisen out of two basic considerations; one is the fact that our industrial and business life is of such a dynamic character that trade apprenticeship alone cannot solve the whole problem of the youth's industrial training; the second consideration which has forced vocational education to the front is the fact that the old type of formal education does not function in a sufficiently adequate way in the up-grading and preparation of young people for direct vocational advancement.

Vocational education is primarily established upon the theory of assisting people who are at work in vocations or those about to enter into vocations. In so far as it is to assist those already in vocations, it must obviously be a part-time scheme.

Vocational education and apprenticeship belong to the same family, and particularly close in this kinship when vocational education is on a part-time basis. Apprenticeship is one aspect of vocational education, but either can scarcely be effective without a combination of work and school.

It is not the purpose at this point to discuss part-time vocational education, except in so far as it relates to apprenticeship. Part-time education is really a child of apprenticeship. The fact is that part-time vocational training involves some very essential principles of apprenticeship, and hence it is not at all strange that the two types of training should flourish together. In the present discussion, since vocational education is so broad a term, attention will be directed toward part-time vocational schools and their relation to apprenticeship.

The vocational schools are related to apprenticeship in three main particulars. In the first place the vocational school may be a preparation ground for apprentices. Second, it affords the facilities, the atmosphere, and the technique necessary for the industrial apprentice's theoretical training, because it is organized on a basis of combining work and study—a part-time system. The third particular in which the vocational school is related to apprenticeship is the fact that this type of school is equipped for and actually accomplishes adult training which supplements the apprentice's training after and beyond the period of his formal apprenticeship. It is the apprentices' graduate school.

Preparation Ground for Apprentices.—The part-time school, which comprises those persons between the ages of fourteen and eighteen years who either are working or are candidates for employment, is in a position to discover the characteristics of the young person's emotional life, his mental traits, and his physical qualifications or limitations. In other words, there is what has been aptly phrased a sort of pedigree of the potential apprentices. This pedigree is available in the part-time school, which in a certain sense is the breeding ground for apprentice material.

The application of science to industrial and business management entails the necessity of applying scientific principles to the selection of apprentices. Employers are not ordinarily equipped to make proper selection according to scientific methods. They must, therefore, take advantage of those agencies of public authority established to select young people for occupations in a manner which is at one and the same time of benefit to both the boy and the employer. The part-time vocational school is the proper agency for the selection of apprentices. Indeed, all vocational schools should make such a program of selection and placement a conscious phase of their activity.

There is still another gain from wise and scientific selection of young people for training in various occupations and that is the advantage to society. Scientific selection means less waste in human effort and, its result, the individual's being properly adjusted to his economic environment, is an enhancement rather than a deadening of the human spirit.

The tendency in the United States today is to discourage the employment of minors under sixteen years of age. If prohibition of juvenile labor up to the sixteenth year becomes universal, and there are reasons for believing that it will, then the vocational school must plan a two-year program to prepare for employment those young people who leave the regular school at from fourteen to sixteen years. In other words, schooling in this period can assist in giving the foundation for successful employment—by preparing them for some useful occupation. Apprenticeship relations involve employment; therefore it is possible for young people in this type of school to be prepared to understand and fully appreciate the possibilities, opportunities, and obligations of apprenticeship. The better schools of this category organize their curricula upon the thesis that the fundamental basis of the system should be adequate and basic vocational guidance. It requires no imagination to see that the vocational school can have a profound effect upon apprenticeship through guidance technique. The character of its influence will depend upon how it impresses the student concerning the desirableness of apprenticeship. Of course, it must be understood that if apprenticeship opportunity does not exist in the locality, then little can be done, unless the school itself endeavors to interest employers in establishing genuine apprenticeship systems. Incidentally, it is quite possible for the school to interest employers in apprenticeship.

Where apprenticeship opportunity does exist, employers should be encouraged to recruit their apprentices at the school. This would afford a more intelligent selection of apprentices on the part of the employer, and would enable the school to learn more adequately about the conditions of employment and the requirements for success. It would afford one way of improving the process of laying a proper foundation for employment whether for apprenticeship or any other forms of employment.

Many people interested in youth have believed that it would be desirable to obtain boys in industrial apprenticeship at an earlier age than sixteen years, because the discipline of work at an earlier age might be of advantage to the boy. It has been the belief that at the more youthful period boys would be more educable and less likely to be conscious of the discipline of the

period of apprenticeship. However, there is no likelihood of the apprenticeship age's being lowered. This is particularly evident when we realize the extent of unemployment due to the mechanization of industrial processes. With the apparent surplus of labor supply of mature men and women evidenced by unemployment, which appears to be so characteristic of our present industrialism, it is not socially desirable to have regular places of employment taken by boys under sixteen years of age. Furthermore, the possibilities for exploitation are too great. If young people cannot become desirable workers starting at sixteen years of age, then, perhaps, there is something for both the school and industry themselves to do to improve matters without stealing away from youth the leisure which legitimately belongs to it.

Trade-finding Courses.—The solution seems to be met in the school by providing something of trade experience in the form of shop work. An adequately equipped school of this type will furnish as much as is practicable in courses of shop work which reflect the industrial opportunities of the community. Naturally these courses will not attempt to teach a trade but merely to give the boy a sufficient contact with the trade or occupation to enable him to satisfy himself that the particular trade is the one which he should follow. Although it is not possible to present adequate experience for all the trades or occupations that may be contemplated, nevertheless it is possible to give sufficient experience and contact with related trades or occupations to afford a basis for a line of choice, for intelligent direction, and for effective vocational guidance. This function is desirable for the individual boys, and at the same time is a contribution to social welfare. Some of the leading states, in vocational education, are accomplishing much in this direction. It goes without saying that this guidance function properly conceived leads to apprenticeship, for it is not wise to have a boy fix on a specialty until he has had a number of different kinds of trade-finding experiences.

It would seem desirable that the "try-out" courses should extend at least to the end of the first year, and that where the facilities and variety of instruction permit, the pupils should be encouraged to continue this kind of work through the second year. Of interest is the statement of the Wisconsin State Board

of Vocational Education in its administrative circular, Series 22, Oct. 1, 1925:

One of the main objectives of the part-time schools in this state in their trade and industrial program is to promote, foster, and develop a true apprenticeship. A true apprenticeship consists in having the young workers of the state indentured under a learning program in the trades of their choice . . . and it further consists in having such apprentices receive part-time instruction in trade extension classes while attending the vocational schools in the day time a part of each week.

Several other states, including New York, Massachusetts, Pennsylvania, and Ohio, have aims similar in substance although there may be a difference in the expression of their objectives.

The early part of part-time training can thus be seen to have a very direct relation to apprenticeship. Exactly what a trade-finding course or courses can mean, in a city school, may be gathered from the suggested program for trade-finding classes made by the Wisconsin State Board of Vocational Education, as follows:

I. General automotive trades

1. Running gear
2. Motor
3. Electrical
 - a. Ignition
 - b. Lighting
 - c. Battery
4. Tires
5. Body

II. General building trades

1. Carpentry
 - a. Lathing
 - b. Shingling
 - c. Trim setting
2. Masonry
 - a. Bricklaying
 - b. Stone work
3. Concrete
4. Plumbing
5. Plastering
6. Sheetmetal
7. Painting and decorating
8. Electrical

III. General commercial work

1. Stenography
2. Filing and indexing
3. Bookkeeping
4. Typewriting
5. Office practice
6. Penmanship
7. Office machine operators
8. Department store systems
9. Salesmanship
10. Advertising

IV. General service work

1. Barbering
2. Beauty parlor
3. Baking
4. Butcher shop
5. Laundry
6. Cleaning establishment
7. House maid service
8. Home nursing
9. Home cooking
10. Waitress

V. Professional (general)

1. Optical work
2. Material testing
3. Industrial chemistry

VI. General trades

1. Power machine
2. Cutting and fitting
3. Pressing
4. Finishing
5. Millinery
6. Dress making
7. Embroidery
8. Costume design
9. Tailoring

VII. General printing trades

1. Composition—hand and machine
2. Press work
3. Color work
4. Bindery
5. Wood cuts and linoleum blocks

VIII. General electrical trades

1. Wiring—inside and outside
2. Machinery—A. C. and D. C.
3. Automotive
4. Radio
5. Central station—switchboard
6. Battery
7. Telephone and telegraph

IX. General metal trades

1. Sheet metal
2. Machine shop
3. Forging
4. Foundry
5. Welding
6. Heat treatment
7. Metal pattern making

X. General drafting trades

1. Blue-print reading
2. Architectural
3. Mechanical
4. Machines
5. Electrical
6. Civil

XI. General wood-working trades

1. Cabinet making
2. Carpentry
3. Pattern making.

Obviously all schools cannot give the complete group of trade experiences suggested above. However, it can be seen that it is possible in most schools to give some experience in each one of these eleven groups. Although specific choices might be difficult in some cases nevertheless a little contact with one of the trades in one group would reveal distinctions of significance from the trades of another group. For example, experience with any one of the enumerated electrical trades would be sufficient to show the essential difference between them and the class of occupations classified as printing trades, provided, of course, experience is had in each group.

Trade Extension.—Since a certain amount of trade theory or science is an essential part of modern apprenticeship, somewhere facilities for this part of apprenticeship training must be fur-

nished. Such training is not a practicable matter for the employer of apprentices. It should be provided by special instructors. Where are such instructors available? What type of school constitutes the most plausible and fitting place for this type of instruction? These are questions easily answered where vocational schools exist.

While it may be said that the chief consideration is that academic instruction be made available to apprentices and not the question of the type of school which is to furnish it, nevertheless the vocational school is the logical place for the apprentices to receive their academic work.

The part-time vocational school is in the main the best place for trade-theory instruction because, first of all, it is in a strategic situation for handling part-time apprenticeship training. As other people in the same school spend part of their time at work in industrial employment, the institution must be organized on a part-time basis, and the obligations of taking care of apprentices furnish no special problem. The apprenticeship organization fits into the functioning of the whole program of such a school. It is becoming more generally the custom to have apprenticeship instruction take place in the part-time school. Apprenticeship instruction is trade extension work, and this work the part-time school is preeminently fitted to give. Although it is not impossible to give apprenticeship instruction in other types of schools, it would be inconvenient and difficult for those schools which are run on a full-time basis to provide adequately for trade extension work, since one day or one half day each week seems to be the time usually allotted for this part of apprenticeship training.

In the discussion of the vocational school one must keep in mind its real essence—and that is schooling for industrial workers, actual or potential. Therefore the schools must be organized on a part-time basis. For apprenticeship, then, these schools offer advantages in training that other types of schools can scarcely give at all, because of the essential part-time character of apprenticeship schooling. However, it is not out of place at this point to suggest that there is nothing sacred about the practice of sending apprentices to the established vocational schools. They might conceivably go to any other school, or even to a school

established by the employers, although the latter would be subject to definite limitations; moreover, the part-time school is in a strategic situation for the handling of part-time apprenticeship training, because these vocational schools are dealing with industrial workers and are more in sympathy with industrial needs and conditions. These schools are in close touch with employers of apprentices, as must necessarily be the case if they are functioning as true vocational schools.

The vocational school, then, it would appear, is the place at which apprentices should get their theoretical or academic instruction, other things being equal. Sometimes, however, there may be individual cases where apprentices can profit at some other type of school—for example, a druggist apprentice might well take his schooling in university extension courses if by that means he can get instruction in theory related to his occupation. In most instances the vocational schools can find facilities for apprentices of the different crafts. In some of the smaller cities, however, adequate trade extension cannot be furnished by the part-time school. In those situations where there are few apprentices in a trade, or where there is a single individual serving an apprenticeship, it becomes necessary to employ itinerant teachers who travel from one city to another. Under similar circumstances, another solution is to hire some competent individual who lives in the locality, equipped for the particular need, to devote part of his time to the instruction of the apprentice. This is usually quite possible, but less practicable than to employ the itinerant teacher, mainly because a skilled artisan equipped to give the trade extension work is needed in the business of his employer, and hence it is difficult to obtain his services for apprenticeship training, even though the cost of such instruction is fittingly paid for out of public funds.

It is now in order to examine the nature of trade extension courses for apprentices. What is the nature of so-called academic work for the apprentice? The answer to this question would appear to be simple. However, when it is recalled that there are three influences which bear upon this question, the solution is not always easy. Since the school hours available to the apprentice are at best very limited, and since the schooling has a powerful influence on the life and work of the individual, it is

not difficult to realize that labor may have one point of view with reference to the efficacy of the school work, the employer another point of view, and public authority still a third.

Where organized labor has a voice there will be the notion that the trade extension education should be of such a character as to prepare the boys to accept more readily the economic ideas of the labor organizations, particularly the value of collective bargaining. The employers on the other hand may be less interested in the subject matter which would be of concern to the trade-unionist, and consequently would favor instruction, perhaps, most directly related to shop experience; furthermore there might be, to say the least, a tendency to favor the philosophy of the open shop. The reconciliation of these differing points of emphasis must come from the state through its educational institutions, but in the last analysis the instruction must be of such a character that the interests of the boy are made the paramount consideration.

Naturally, as we have pointed out elsewhere, both labor and the employer must be consulted so that there may be as broad a consideration as possible of the values at stake. Where this has been done, and where representatives of public authority have had the courage of their convictions there has been little difficulty in reaching satisfactory standards for trade extension work for the apprentice.

It has been generally admitted that there are a few subjects of importance to all trades which can form the basic considerations in apprentice or trade-extension instruction. It has been generally agreed that the industrial employment should furnish as much as possible of instruction pertaining to the trade, but that the school should furnish such other instruction as shall be necessary to establish the reasonable minimum of instruction required for the particular trade or occupation. This principle can apply only, as suggested above, in the establishment of a minimum. The extent of this part of the instruction supplementary to shop work must depend on the good judgment of those responsible for the administration of apprenticeship instruction.

One might now inquire as to what are the subjects which are deemed necessary and which cannot adequately be given in the

shop. Among these would be trade drawing, trade mathematics, trade science, trade history, and materials of the trade. Some instruction in English, and citizenship, and safety is a usual requirement; and finally with this aspect of the instruction would be included some basic elements of industrial economics.

It should be noted that the trade extension classes for apprentices should not give to the apprentices what the employer can give better, but should supplement the shop experience and instruction with subject matter which the ordinary industrial experience does not afford. Moreover, the instruction which the school gives is not merely for the job or the trade, but is in addition something of a social or citizenship asset to the apprentice.

Interrelation of Apprenticeship and Vocational Schools.—It is easy to see that a vocational school system established for part-time instruction for the youth of industry bears a close relation to apprenticeship and shows an attempt to make up to youth what is lost when apprenticeship is not possible. It gives to the industrial worker that educational stimulus and content which give meaning to industrial effort. Since it is impracticable for all young people who enter industry to become attached to apprenticeable trades, it is highly important that such supplementary training be given the ordinary young worker in industry as will make his work approach, so far as possible, the real apprenticeship idea. In other words, the youth of the land, rather than merely becoming a spoke in the wheels of industry, may develop into intelligent citizens with capacity to fit into more places in an ever-changing industrial technique—as Director R. L. Cooley of the Milwaukee Vocational School states, “It is not the dead-end job that must give us the greater concern, but the dead-end boy.” It is more important, then, that the young person shall have powers of adaptability and not be a “dead-end boy” than it is that particular jobs should either be eliminated or made more attractive.

With respect to the curricular phase of the training given in the vocational schools, it may be said that the whole idea of the institution should be to improve the individuals in their industrial capacity as well as in their citizenship obligations.

When vocational schools were first established great emphasis necessarily was placed upon industrial technique, or so-called

“vocational content.” This has led to some misconceptions concerning vocational schools. In Wisconsin, when Dr. Charles McCarthy—sometimes referred to as the father of the continuation schools of that state—advocated public support for these schools, he made a statement to the effect that the state was now doing something *where nothing had been done before*. What are the implications? Previous to the establishment of the vocational schools, people who entered industry were stopped in their educational process. This fact was a great loss to both the individuals concerned and the body politic. The great ideal in the democracy, as has been before stated, is to have an efficient industrial system under which the workmen are not mere automatons, but socially minded, intelligent, and happy people. The vocational schools, then, must not accentuate the now too much developed idea of producing efficient “operators” in the industrial technique, but through apprenticeship arrangements they must provide what industry alone cannot give. The character of the training in the vocational schools should be such as to function in a cultural way—to do something where nothing had been done before, to give some culture to those who have taken their place in industry, which will satisfy not industry merely, but industrial society, the emphasis being placed upon the idea of society. The difference as far as the school is concerned is not always so much in the subjects taught as in the motives and purposes in the minds of the teachers. The difference is in the point of view. The instructors should know industry and should know where the weak spots of industrial life, socially considered, are. They should sympathize with the lack of cultural advantages of the industrial worker, perhaps with emphasis on the personal and subjective phases of life, rather than the objective industrial efforts. There is no need for hair-splitting in the proposition, if the meaning is clear, that it is *the needs of the child, the future citizen in whatever walk of life he may be, that is the important consideration, and not his service to any particular industry*.

Employers of labor today are emphasizing more than ever the element of character among the employees. Only a few employers are demanding efficient workers from the vocational schools; the greater number know that business and society

depend upon the character of citizenship. With character established, economic returns are sure to follow, for the industries themselves can teach efficiency in shop practice.

In conclusion, then, we may state that an apprenticeship system, whether local or state, should go hand in hand with a system of vocational schools. However, it must be remembered that vocational instruction is for industrial workers, not instruction for industrial jobs. Apprenticeship instruction, likewise, given in the school for those engaged to learn a trade or craft, is for the apprentices, and is not, and should not be, merely instruction in the craft. The latter is industry's responsibility. The common idea of both the vocational school and of the apprenticeship school, if the two can be considered apart, is training the individual for the development of individual capacities, and for the sake of citizenship—although obviously it is citizenship in a society which is preeminently industrial.

Graduate School for Apprentices.—After the apprentice has finished his term of apprenticeship he is afforded an opportunity to continue his education in a manner not unlike the college graduate who continues his work in graduate courses. The vocational school thus becomes the worker's university. Night courses leading on to higher and higher attainment beckon the young apprentice graduates to continue their studies and a surprising number of them avail themselves of this opportunity. It is the basis of adult education, which we hear so much about of late. Again, the school makes a further contribution to the life of the former apprentice since it keeps him in touch with another influence than that of the factory and workshop. He is in touch with a public institution preeminently social in its point of view, interested in the individual as a citizen, and extending an influence in his life which enables him the more fully to forward his quest for life, liberty, and the pursuit of happiness.

The Vestibule School.—American genius is prone to discover short-cut methods of accomplishing many things. This propensity of our people is exploited. It finds expression in the effort of many people, old and young, to "get something for nothing." There are many victims—very credulous individuals who follow the suggestion of quacks, whether in matters of health, finance, love, or religion, and more characteristically in matters of educa-

tion. They are quite ready to part with their money to learn how to become proficient in some craft, art, or language "in six lessons," etc. It is often only after bitter experience that individuals learn that there is no royal road to fortune. In the vestibule school, it is the manufacturer, the employer, who seeks the short cut. He wants skilled men produced by the quantity-production method.

Vestibule schools with their corollary—dilution of labor—were advocated for war emergency, and naturally during the war no adverse comment was made upon them. However, in times of peace and normal industrial development, the vestibule school by way of training a minor for industry is an institution which cannot be looked upon except with suspicion by all lovers of democratic education and of opportunity for the young. A vestibule school is not really a school at all. It is a department for beginners established in special rooms or space in a manufacturing establishment to make these beginning workers efficient producers on a particular operation in a minimum of time. If a vestibule school is maintained for adults, people over twenty-one, who wish, at the company's expense, to become competent on some machine, no one has a word to say, but if the youth of our land are put through these schools and made intensive operators, especially if this is done with public assistance, and without developing any sense of social responsibility and industrial opportunity, we should have a great deal to say. As a matter of fact, a vestibule school can be a prosperous institution only when there is a large labor turn-over, or when there is a great influx of new workers, as there was during the war, and we all know that there is a wise tendency in modern industry to eliminate this excessive labor turn-over. If this movement is genuine, as we know it is, it must automatically leave the vestibule school as an educational plan for minors entirely out of the question.¹

Vestibule schools have been advocated as a substitute for apprenticeship because apprenticeship is said to take too long a period. Some other aspects of the situation have not been sufficiently recognized.

If a boy enters an apprenticeship at sixteen and by some ingenious process becomes a full-fledged mechanic at eighteen, should he be expected to turn out the same product as a matured man? Is it expected of him by society, and if it were expected of him, is it socially

¹ SCRIMSHAW, STEWART, *Development of Apprenticeship, Wisconsin Apprentice, Ind. Com. of Wis., Vol. II, No. 2, March, 1919.*

desirable? The answer is obvious. This boy is a youth, and until he reaches the height of his manhood, until his muscular actions and mental processes are the results of mature judgment and cumulative experience, he cannot rank with the adult workman. If, however, he should be able at an early age, to produce the same kind of work as a mature man, could it help but result in making the boy old before his years, and in the end shorten his life? Is it not much better to lengthen an apprenticeship and see that the boy gets more and more education so that at the age of twenty-one—if he is an apprentice up to that age—he may be an all-round intelligent mechanic, with a knowledge of a great many things which could not come to him in any intensive course designed to make him a competent mechanic over night. The length of the apprenticeship is not the serious matter, but of great moment is the question of *what the boys get during the apprenticeship*. The first thing to consider is the development of the man to promote human welfare and happiness; and the second thing to consider is industry, because industry in the last analysis is only a method by which we seek to achieve that human welfare and happiness.¹

There is more in a trade, as any man who has served an apprenticeship well knows, than the mere skill of performing the particular work in hand. It takes real industrial experience to get shop atmosphere; it takes years to learn the ways of shop men, and how to get along with shop men; it takes years to demonstrate dependability, as any man who deals with youth in the shop can tell. Glance over the economic and social conditions in which the boy is placed. He will take his place in industry soon enough and what we should desire to see is that when he is in his ultimate place in industry he will have the maximum amount of education and skill that can be imparted to him in his youth. In other words, again, *it is not a question of seeing how soon we can make him a mechanical operator, but how well we can instruct him and how far we can take him in the fields of knowledge and experience of his occupation before his term of apprenticeship expires*.

The vestibule school is no substitute for apprenticeship. It does not find the solution for the lack of skill in industry, and furthermore, does not enhance the development of the individual as a social asset. The contention that an apprenticeship as

¹ SCRIMSHAW, STEWART, Development of Apprenticeship, *Wisconsin Apprentice*, Ind. Com. of Wis., Vol. II, No. 2, March, 1919.

commonly understood is too long, reminds one of the Japanese who, having been told by a New Yorker that the latter had saved two minutes' time on the underground railway, responded, "What are you going to do with the two minutes saved?" It is important that we do not sacrifice the desired end to the means. After all, apprenticeship does not presuppose any definitely established length of time beyond the obvious requirement of time sufficient to learn the trade or craft or department of a business which can be considered a sufficiently broad field of work for one person to follow with profit.

Evening-school Courses.—Where bona fide apprenticeship is established, day schooling of some kind is usually provided. There are, however, some "old timers" who still think that apprentices should receive their instruction in the evening school.

With young people of apprenticeable age, evening-school work can meet with only limited success. It may be good for some ambitious boys, but for the rank and file, so far as apprenticeship instruction is concerned, it will fall short for the following reasons:

First, the speed of modern production makes mental work arduous and less effective after the close of a working day.

Second, boys in their early teens are growing, and it is nature's demand that they have relaxation and rest. Experience of both the pupil and the teacher in the night school will reveal the character of the fight which must be made against the irresistible propensity to sleep. Many students sleep over their desks in nearly every night school, particularly if they have been working out of doors during the day.

Third, time spent in evening school for trade instruction precludes the opportunity for acquirement of cultural capacities which other night courses, outside of trade instruction, might provide. It is generally believed that if evening study or instruction is a part of the apprenticeship, the apprentice then should be remunerated as he would be at work. This is not usually practicable, not necessarily because of an unwillingness on the part of the employer, but because such procedure is out of line with his business practice and his bookkeeping experiences.

Fourth, the frequency of overtime work in times of business stress mitigates against the effectiveness of night-school instruction. As a matter of fact, in time of business prosperity, the

need for school instruction may be more pronounced, and at such times the pressure of work may preclude the possibility of regular attendance of the apprentice at the evening class.

By way of summary, it may be observed that evening-school work as a phase of apprenticeship training is no substitute for regular trade apprenticeship, but it may in some cases be a desirable substitute for the day academic classes. There seems to be a feeling that since trade instruction is a benefit to apprentices, and to the industry, it is worth while for the employer to allow sufficient time in the day to make possible the necessary related instruction.

Correspondence Courses.—Correspondence courses are of merit for apprentices in places where adequate regular class instruction cannot be offered. Moreover, they may be of merit when the apprentices can meet occasionally to receive instruction and supervision in their correspondence work. On the whole, correspondence work for apprenticeship instruction is inadequate, uncertain, and expensive. Rarely do any students except those with strong determination complete correspondence courses.

Professor Paul H. Douglas has aptly enumerated six reasons which suggest the possible inadequacy and inefficiency of private correspondence schools. They are as follows:

(1) Many of them are fraudulent . . . (2) The degree of efficiency, even among the technically honest firms, is not high . . . (3) The charges for tuition are too high . . . (4) An enormous amount is wasted in competitive advertising and canvassing . . . (5) A further criticism of private correspondence schools is that only a small percentage ever finish the courses that they begin . . . (6) Finally, correspondence-school courses, even at their best, are a decidedly unsatisfactory means of education and should be used only as a last resort . . . ¹

Some correspondence schools are now attempting to take advantage of the need for classroom day instruction, and are therefore offering their courses to be used in that manner. The character of some of these courses are such as immediately to appeal in a large way to those individuals engaged in industrial apprenticeships. This, however, deviates from the usual

¹ See American Apprenticeship and Industrial Education, *Studies in History, Economics and Public Law*, Vol. 45, No. 2, pp. 241-242, New York, Columbia University, 1921.

practice of correspondence schools and courses, and becomes a system of instruction of a special kind rather than what is usually thought of as a correspondence-school course.

Correspondence courses are not adequate to provide instruction for apprentices who desire related trade technique. At all events, it may be said with emphasis that by no possible nomenclature can correspondence courses presume to be substitutes for apprenticeship training. At best they can only supplement apprenticeship work.

Questions and Exercises

1. What is the relationship of apprenticeship to vocational education? Is apprenticeship vocational education? Is vocational education apprenticeship?
2. Discuss the function of the part-time vocational school in the recruiting of boys for apprenticeships.
3. What is meant by trade-finding courses? Exploratory courses?
4. Explain the meaning of trade extension. How is trade extension work related to apprenticeship?
5. What are the arguments for and against apprenticeship trade extension classes in the public school?
6. Explain the possibilities and limitations of the vestibule school. Do these schools have any bearing upon apprenticeship? Elaborate.
7. Show the possible relation of the evening school to the apprentice.

CHAPTER IX

APPRENTICESHIP AND THE BOY

Apprenticeship without the boy is as impossible as a school without a pupil. It is the human aspect of apprenticeship which will always have the paramount interest. From time to time much is heard of apprenticeship relations of one sort and another, and so often is apprenticeship referred to as an "institution" that it is possible to lose sight temporarily of the individual interests of the boy himself. In this chapter, therefore, attention will be given to considerations concerning the individual apprentice—first, to his vocational guidance; second, to the subjective responses or attitudes of the boy himself; third, his favorable attitudes in response to enlightened treatment on the part of his employer; and fourth, his unfavorable attitudes or responses to unenlightened treatment on the part of the employer.

Guidance into Trade.—Modern apprenticeship is at its best when it is correlated with a system of intelligent vocational guidance. It is important that when apprenticeship opportunities are offered in industry there should be an effort to find the right boy for the job. In the chapter on Apprenticeship and Vocational Education reference was made to the trade-finding courses for prospective apprentices, but the problem of properly locating individuals with specific abilities in the occupations where those abilities can be best utilized is a matter which deserves special attention. In another place in this text it was said that the type of employment a boy obtained as an initial job was not so much a matter of concern as the way he handled himself in that job. This observation, however, presupposes that there is available a general source of vocational information to which the boy can bring his experience and where he can profit from counsel with others who can assist him in making determinations for his future which will assure him a satisfactory adjustment to industrial life. At this point our first interest

will be to examine the inabilities of the ordinary boy to make his own choice of a trade.

It is an obvious fact that our modern economic life is very dynamic. Each generation of boys is reared under circumstances different from those of the others. What occupation promises success to one generation of youth may bring disaster to another. What may be an extremely fine thing for one boy may be an unfortunate thing for another. What apprenticeship must a boy pursue? Left alone he will take the opportunity which appears the most attractive at the moment. He may know nothing of the history of the occupation and less of its prospects. He may enter upon an occupation at the suggestion of the parents or some acquaintance, or perhaps take a chance at the employment office for what he can get. The latter circumstance works something as follows: The boy makes application at the employment office for a job. He is told that there are no jobs open except for apprentices and he is asked if he wants to be an apprentice. The boy faces the alternative of accepting an apprenticeship, there and then, or of being without a job. Naturally enough he accepts, with the result that he becomes an apprentice without knowing what it all means. He becomes discontented later, unless the authorities in the shop have won him over to the apprenticeship program. At all events, his success will depend upon the mere chance that he is suited for the particular trade.

The boy, then, after years of schooling of an academic nature, is not, because of his very youth, in a position unaided to make decisions which will commit him to an occupation for his entire future. It is not fair to expect him to shift around and learn everything from his own experience. No employer would expect anyone to run his business in such rule-of-thumb fashion. He rather assumes that those who have responsibilities in particular fields will avail themselves of the accumulated body of knowledge which pertains to the work in hand. Agencies are set up to furnish such information. For example, there are the American Standards Association, the Bulletins of the trade associations, the professional societies, the research bureaus and the great foundations—in short, every opportunity for the employer to make decisions aided by scientific information. The boy alone,

on the other hand, has only "hunches," the prejudices of friends, and the ignorance of parents. This is a scientific age, therefore the boy should have the advantage of scientific information in deciding so important a matter as his own career. A scientific selection of apprentices will necessitate giving the boy adequate preliminary information of different trades, certainly of the one which the boy expects to follow. The fact that the employer uses scientific information in the production side of his business is certainly sufficient reason why he should apply the same procedure in the selection of his workers, especially those who are to become the skilled workmen.

The idea that a boy himself can ordinarily make a satisfactory choice of occupation is a hang-over from the days of more simple industry. When industrial occupations were confined to the small shops and the small towns, it was quite possible for all the boys in the community to know of the good and bad points of the different occupations. Moreover, under those conditions business life, although subject to changes, was relatively stable, and the technical changes came more gradually. At the present time, with the astounding developments of modern science, bringing with them miraculous speed and efficiency in transportation and communication, the whole industrial scheme may metamorphose in a decade.

Under such circumstances what chance has a boy to make the right choice? An actuary might discover that his chances for a favorable experience are about 50 per cent. Fortunately, we are beginning to understand that the matter of getting a boy properly adjusted to his economic environment is a great factor in the upbuilding of citizenship, and that such an important factor must not be left to the law of chance.

Neither must this significant function of guidance be left to well-meaning society women who have commendable sentiments but little knowledge of industrial conditions and no background of experience concerning the work of the world. Vocational guidance is not a private function. While in isolated cases private individuals may do effective vocational guidance, nevertheless, the job of guidance for occupations is a community responsibility and one of the immediate objectives of public education. In the words of Dr. Turner:

At an early date in his school career every child should have his attention directed to that day when he must make his choice and go definitely to work to acquire ability in some one line by which he can make a living. He should have his attention called also to the possible usefulness of every subject he takes in school to possible future occupational and other activities.

All education must be education for choice of actions. As one enters the adolescent period, however, the occupational objective should be given increasing prominence.¹

The vocational schools, especially, should assist in directing the boys into apprenticeship. The job is one which requires the cooperation of all the teachers, and, in addition, necessitates a close relation between the schools and the personnel of industry. The organization of associations of industrial counselors indicates that much progress is being accomplished in that direction. As would be supposed, experience has shown that where apprentices have been placed after proper guidance procedure, a larger proportion of them have made good.

It might be well at this point to inquire as to what is a reasonable guidance program. This query is not out of place since there are still those who think of vocational guidance in terms of the charlatan's technique. There are three main aspects to the guidance program.

First of all, there must be a fact-finding agency. In the ordinary course of events the schools will perform this function. By cooperating with industry they should be able to furnish vocational information. The organization which procures the trade information must have the confidence of the public and of industry. The information must be interpreted, classified, and disseminated.

Second, there are the personal factors, including health conditions, interests, aptitudes, achievements, temperament, and preferences and choice of the individual boy.

Third, there is the industrial or employment side of guidance which means finding the opportunity for the boy, introducing him to employment, and following him in his progress in the job. According to the National Vocational Guidance Association

¹ *Apprentice Education, Fed. Board for Voc. Ed. Bull. 87, p. 39, Washington, D. C.*

“Vocational Guidance is the giving of information, experience and advice in regard to choosing an occupation, preparing for it, entering it, and progressing in it.”¹ It is obvious that the guidance cannot be effective if the employers do not meet the school authorities halfway. If employment managers and apprenticeship supervisors do not avail themselves of the opportunity to make a scientific selection, then they are worse than the boy who fails to take advantage of valuable information. At all events, apprenticeship will be more effective where boys receive proper vocational guidance and counsel and their employers exercise intelligence in selection.

The following information would suggest that there is room for more guidance in apprenticeship work.

ANALYSIS OF APPRENTICESHIP CANCELLATION¹

Reasons	Number of cancellations									
	1919	1920	1921	1922	1923	1924	1925	1926	1927	
Ill health or death.....	11	8	22	16	29	29	30	15	16	
Misfits—not suited for the school.....	48	33	28	15	9	14	10	12	18	
Returned to full time school.....	6	5	4	7	3	9	4	4	7	
Discharged for insubordination, etc.....	15	20	41	58	48	57	69	41	45	
Left with consent of employer.....	10	13	25	28	49	68	81	67	68	
Jumped contract.....	7	19	29	18	14	6	3	3	5	
Left locality.....	11	13	4	9	16	20	19	10	16	
Enlisted in service.....	2	3	4	2	1	4	2	4	3	
Dissatisfied with wages or shop conditions..	10	27	16	17	30	20	16	15	7	
Left during probationary period.....	7	51	54	66	64	43	39	29	33	
Laid off—obtained work elsewhere.....	10	9	9	3	2	1	2	3	0	
Refused to attend school.....			No record kept			5	11	6	3	
Employer unfair.....			No record kept			2	5	6	5	
Miscellaneous reasons.....	26	15	28	41	19	19	35	9	16	
Total.....	163	216	264	280	284	297	326	224	242	

¹ Data furnished by Industrial Commission of Wisconsin.

It will be observed that the column of data enumerating misfits does not tell the whole story. It is more than probable that a large number of those who are reported as dissatisfied were misfits. Moreover, numbers of those included under Miscellaneous Reasons were possibly misfits also. With the passing of time

¹ The National Vocational Guidance Association in Convention Assembled, 1924.

and the improvement of records this classification of reasons is likely to become reasonably accurate. In that connection it is interesting to see that the number of misfits tends to be less in proportion to the whole. On the other hand, some effective guidance work is being done after the boy gets on the job, as an examination of those who left during the probationary period will show. It must be remembered that the probationary period is usually three months. Much of this waste could be obviated by greater attention to the problem of vocational guidance.

Personal Attitudes.—The views of people with respect to the individual responsibilities of the youth for his own success would if given full expression show a wide diversity of opinion. Just how much success can be accredited to heredity, how much to environment, or how much to the will to succeed, etc., will never be determined to the satisfaction of everybody. One thing, however, is certain and that is that youth itself must possess appreciation and responsiveness in order to take advantage of favorable circumstances and to overcome those that are unfavorable.

While no one could present a perfect set of qualities or attributes which would guarantee success, it is nevertheless possible to name a few major considerations which experience with apprentices and with those who have succeeded after their apprenticeship show to be of real importance for the boy who would establish himself on the highway of success. First of all the prospective *apprentice should be willing to listen to advice from his teachers, parents, and other vocational counselors*, so that his mind will not be altogether filled with prejudices which would make it impossible to effect an intelligent choice of a trade or occupation. It is of no avail to obtain information for the boy if he does not make use of it. It appears then that one of the major signs of intelligence is open-mindedness. The boy must realize that age and experience count for something, and that it is more than probable that individuals of the older generation can offer many suggestions of profit and can give advice which he can use, if he will, to great advantage. All of the vocational guidance and counsel in the world is useless so long as the boy is determined not to profit by it. Therefore it is reasonable to propose that the first rung in the ladder of success is a mind

ready to listen to and to take advantage of the testimony of age and experience. In other words, the activities of today are directly founded upon and cannot be divorced from the triumphs and disappointments of yesterday. The past, present, and future are one, and this continuity must be recognized. The boy must fit himself into the processes of the present age; the present age will not adapt itself to the habits of the boy.

The next responsibility of the boy is to *distinguish between the present immediate obvious advantage, and the less obvious but real ultimate advantages which will accrue for the future.* An unskilled job may pay good wages immediately, while apprenticeship wages are very meagre. It must be seen that apprenticeship presupposes that part of the boy's remuneration goes in the form of instruction. On the other hand, an ordinary job carries no obligation on the part of the employer to give instruction to the boy or to show interest in his development. If the boy can do the job he is hired for, which frequently is a job without a future—a so-called "blind alley" job—then that is all that concerns the employer.

A boy of apprentice age applies for employment. Two jobs are open, let us say, one an apprenticeship in the electrical trade paying 25 cents an hour and the other a job driving a laundry wagon at 28 cents. Unless we are successful in pointing out the advantage of an apprenticeship it is an even bet that he will take the laundry-wagon job. He will take it, not because he feels that laundry-wagon drivers are going to be in demand, but because it pays 3 cents more an hour.¹

Such situations as that suggested above are unfortunate for the boy, for the precious months and years of youth may slip away, and the boy may find at the end of a period of years he is even worse off than he was when he commenced employment.

An apprentice boy named Roland, at the age of eighteen years, has completed two years of an apprenticeship in a machine shop. He has an opportunity to work in a steel mill for what appears to him to be big wages. Being a fairly strong young man he finds himself able to do the work and passes up his apprenticeship for the bigger wages in the steel mill. Five years later, at the age of twenty-three years, the same boy

¹ Statement to author by W. F. Simon, Supervisor of Apprenticeship, Industrial Commission of Wisconsin.

comes back to the shop where he was an apprentice and begs for the opportunity to finish up his apprenticeship. He has found that the other work has not brought him the success which he had anticipated. The extra money he had earned has easily slipped away from his fingers. Moreover, he had arrived at the point where he discovered the work in a steel mill was uncongenial and a detriment to his health. Unfortunately, he desired to finish apprenticeship when it is too late. Too many earnest young men of younger years are anxious for an opportunity in apprenticeship, but a boy at twenty-three is beyond the stage when he is satisfied with the wages of an apprentice of nineteen. What is the result? This young man who sacrificed his apprenticeship is now handicapped for life.¹

Such experiences are not uncommon and present a challenge to those who are interested in the welfare of youth. The older a boy without training in an occupation or trade, the greater the handicap with which he must start on a job for adult life. In the meantime it is more than probable that his schooling has been neglected. On the other hand, what a contrast is furnished by the boy who can forego the high wages of the moment in the process of obtaining a foundation upon which he can build in after years!

This leads us to the third attribute of a successful apprentice, which is to the effect that the boy *must appreciate the individual economic and the individual social value of training.*

It is a first principle of economise that in order to obtain wealth one must create wealth. Education enhances the power to create wealth and at the same time gives one the capacity to appreciate it. A system of training which makes an individual a better producer must have an economic value to that individual, and it is necessary that the apprentice appreciate this fact. An enhanced earning power in the future means that the man will be able to maintain a better home and enjoy more of the physical comforts of life—in other words, he can maintain a higher standard of living. This fact brings with it individual social benefits. He is a skilled man, is steadily employed, is a settled member of the community, and can therefore enjoy social intercourse which is denied to the unskilled or semi-skilled worker. In any event he will represent the noncommissioned officer in

¹ A typical case from the author's experience.

the business, and, being one of a select group of men, he is bound to enjoy a certain distinction which can accrue only to the man skilled in his occupation. Moreover, since he has learned to adapt himself to the changing technique of industry, he has the ability to adjust himself quickly to another job when one particular line of employment is not open to him. As a matter of fact, he may even work on beyond the requirements of his trade and find success in higher forms of work, if there can be said to be any forms of work which are higher than others. To express the same idea in another way, the graduate apprentice may be able to follow advanced work which may give him more personal enjoyment. It has been said that Shakespeare was a wool comber, Ben Jonson a bricklayer, and Burns a day laborer. Jeremy Taylor, the poet and preacher, and Turner, the great painter, were both barbers. Cook, the navigator, was a ditch digger, Edison a messenger boy, Fourier, the famous mathematician, a tailor, and Romney the artist was a carpenter.

Without appreciation of his opportunity and his advantages, the apprentice's responses will not be fortunate. He will, in consequence, not be able to reach such high attainments as would be possible if he would fully appreciate the value of training both for its economic advantages and for the individual social advantages that it will bring.

Another attribute for which the boy must assume responsibility is that of *integrity of character*. This necessary attribute is common to both the new apprenticeship and the old, for Lujo Brentano says "No one was admitted to any trade, even to the lowest, or tolerated in it, whose moral conduct and honour were not stainless;¹ no one also, who had not proved himself a proper workman; and, therefore, no one who had not served a regular apprenticeship." Positions of trust and of responsibility can go only to those who are scrupulously honest; as Director R. L. Cooley of the Milwaukee Vocational Schools has so frequently remarked, "What is the value of teaching a boy to be a locksmith if he afterwards uses his knowledge to pick a lock rather than make one?" That is the point. Education and ability, and even

¹ Quoted in SMITH, TOULMIN, "English Guilds," pp. cxxix-cxxx, Trübner, London, 1870.

genius, are socially useless in the hands of a person who is dishonest and unscrupulous.

Another aspect of this integrity of character is fidelity to agreement. As one of the medieval kings said to his people (who became perhaps the greatest world traders and whose word was everywhere as good as a bond) "Keep troth," so fidelity to one's word, a sense of the sacredness of contract, a high ethical standard, and a code of personal honor are necessary to the accomplishment of any high endeavor. The apprentice in his employment relations especially must give a square deal as well as demand one. Much could be said on the subject of character, for character is no less *an object of training* than mechanical and personal efficiency. In fact, it is difficult to imagine personal efficiency without the requisite character qualifications. If individuals could not be depended upon, if men did not have faith in each other's integrity, if agreements were not honored, the whole fabric of business and civilization would fall, and man would descend to the level of the savage. These character aspects must be acquired by the boy himself, and in the last analysis he must be responsible for his own conduct.

A more technical aspect of a boy's attitude in training is the *desire to cooperate*. Modern economic life is the result of men's working together in voluntary and involuntary cooperation. This characteristic is one which differentiates the present age from that of the domestic system of industry, in which only a few people worked together, and even these were bound by kinship. Our vast schemes of production, our far-reaching systems of transportation, our miraculous methods of communication are all contingent upon the cooperation of man with man, and groups of men with other groups of men for a reconciliation of divergent interests. This cooperation in its totality spells civilization. So, in whatever group he finds himself, there must come a realization to the boy that there is no real progress which is not based upon joint endeavor. No man can be effective alone. Specialization of labor necessitates that each man in his speciality will cooperate with other men in their specialities. The apprentice boy must keep in mind that he must work for the ultimate interests of the organization with which he is identified. This will make him interested in the accomplishments of others and

willing to lend a hand. If he acquires some new knowledge he will not act as though he had a monopoly on it, but will share his knowledge with others. He will be ready to assist other individuals from time to time if the interests of the business are served thereby; he will be a safe workman and will be careful so to carry on his work as not to jeopardize the life, limb, or health of a fellow workman. A willingness to cooperate is a prime essential of the industrial worker, and this attribute should be conspicuously present in the apprentice. He should be interested in helping the foreman to make a good showing, and not interested in revealing how much more knowledge of some things he may possess than his superiors. He will be willing to bide his time with the realization that his opportunity will come in due course, and with the positive assurance that his accomplishments are a matter of observation and record with his employer. The young man who is interested in helping others to succeed will find that others are interested in seeing him succeed. His efforts must supplement those of other men if they are to be effective; therefore it may be repeated that every apprentice must accept as his own duty the development of the ability to cooperate.

A sixth consideration which must obtain recognition by the apprentice boy himself is the quality of *agreeableness*—*the ability to get along with other people*. It is possible for an individual to become a good mechanic, although he may be a disagreeable person. But this situation is unnecessary. Agreeableness can be developed. One must think less of oneself and be interested in the feelings of other people. A leader of men does not expect to find a group of perfect individuals nor does he expect to make over those persons who are not according to his liking. He takes them as they are, and learns to get along with them as best he can. If he succeeds in educating them, or exercising a favorable influence over them for mutual benefit, that can be counted to the good, but his success is not contingent upon that fact. In other words, a leader tolerates the peculiarities of his group and tries to understand their ideas and feelings. He puts himself as we say "in the other man's shoes." The apprentice can learn to do the same thing and as a result can reap big dividends. The person who is chosen for a leader is, other things being equal, the one who has been courteous and cheerful to others, never

overbearing, one who is ready to say good things about his fellow men, and who never magnifies the bad things. He is tolerant and understanding and reveals in all his conduct an *abiding human interest*. Perhaps the rarest quality among men in industry is the ability to handle people, and this is a possession that brings substantial economic returns and deep personal satisfaction.

A seventh attitude for which the apprentice alone must be responsible is reasonable *faith in his superiors*. When a boy undertakes an apprenticeship in these days it is usually with an employer who is interested in developing skilled men and who is alive to his obligations to the apprentice. Employers today are apprenticeship-conscious. The necessities of the situation, the educational programs of the great trade associations, the trade-unions, and the interest that the state has taken in the training of young men, have all contributed to the growing interest of the individual employer in apprenticeship training. Moreover, the Federal Board for Vocational Education furnishes another public interest which tends to protect the career of the apprentice. With so many socially minded people interested in preventing the exploitation of the youth, and so many influences brought to bear on apprenticeship, the apprentice should have faith in those who have made his apprenticeship possible. Faith is a powerful attribute. It causes many difficulties to fade into oblivion. It is easier to help an individual who has faith; on the other hand, if the apprentice is suspicious it is difficult to accomplish the best results for him.

Although now and again faith may be misplaced, it will nevertheless be possible to accomplish more than would be attained by suspicion. At all events, an attitude of faith in superiors is a more healthy frame of mind to be in, and it will as a consequence be a personal asset to the boy who possesses it. Faith in superiors means faith in parents, in teachers, in supervisors, and in employers. Faith is a quality that cannot be imparted to the apprentice from the outside. It is an individual matter and must be cultivated by the boy himself, but if maintained will assist the young man in forwarding his career.

It is the intention to convey the impression not that blind loyalty must be given under all circumstances, but that the apprentice should give the intention of his employer the most

favorable interpretation. What this means can be illustrated by the following incident.

A certain boy came into the office with his mind made up to learn industrial electricity. He was asked in which shop he preferred to work. His reply was "I have no preference. I will go anywhere that you say." The next question asked him was "What pay do you expect to receive?" His answer was "I don't know, I am willing to leave that to the boss. You know about these places and I am going to trust to your judgment."

To make a long story short, this boy had a remarkable career in the shop, and now has a responsible position with a large electrical company in a large city. Before he left his apprenticeship the works manager of the firm said the boy could have anything he wanted, and it was because of the fact that they became interested in this young man that they assisted him in obtaining a position which they could not themselves give to him.

An eighth attitude of some importance to the successful apprentice is the desire to *continue studies*. A desire for continual improvement necessitates the pursuit of knowledge, and formal courses of study present the most efficient way to continue education. First of all, the apprentice must give due attention and application to the related trade interests, and finally must pursue learning for its own sake, learning which will enable him as an individual to acquire personal accomplishments and to deepen his appreciation of the better things of life. The boy learns his trade as an economic agency, required in order to make a good living. The trade is a means to the end. But the improvement of the mind makes the ends of life more desirable, for learning aids completeness of living.

As a final necessary characteristic of a successful apprentice *diligence and application* may be considered. In older terminology hard work would be given as an essential, but now hard work is not so important as intelligent or efficient work. With the assistance of modern science it is diligence and application which are required. This means a consistency in purpose, attention to necessary details, and the ability to stick to a job until it is mastered. Of course there is no substitute for work. This work, however, does not have to be drudgery, but implies

constant application so that the results desired will be actually achieved. Once more it may be said that diligence and application are qualities that the apprentice boy must assume to be the *sine qua non* of his training. A prominent executive, L. A. Downs, says:

To be successful in any line of work, a young man must be industrious and energetic. No one can go far in business if he is physically and mentally lazy. A man of my acquaintance who is building a highly successful career once had a job in a section gang. Uneducated though this foreman was, he recognized the worth of a man's diligence and tirelessness and said of him: "Nothing is too high for him to reach or too far for him to go." Ambition is the force that drives one on to greater achievements, but without zeal and perseverance it is of little avail.

Since there is no royal road to fortune, success cannot be enjoyed except as a result of diligent work and intelligent application of effort to the task in hand.

From the preceding discussion it can be seen that the boy himself must be responsible for certain personal attitudes if he is to meet with the success which he naturally covets. First, he must be willing to listen to advice and receive information from his superiors; second, he must distinguish between the immediate and ultimate advantages of an occupation; third, he must appreciate the individual economic and social value of training; fourth, he must have integrity of character; fifth, he must desire to cooperate; sixth, he must cultivate the quality of agreeableness, seventh, he must exercise faith in superiors or elders; eighth, he must plan the continuation of studies; and finally he must evince diligence and application.

Attitudes Engendered by the Employer's Treatment.—As a general consideration apprenticeship is a beneficial thing to the boy himself, or the institution could not have endured through so many ages. Whenever conditions have been such as to make an apprenticeship inimical to the interests of the boy, there has been a decline in the apprenticeship system. This has been strikingly evidenced by the experience of apprenticeship training since the advent of the industrial revolution. Too many times during the changes and readjustments of the last two centuries has youth been exploited in the name of apprenticeship—apprenticeship which was such in name only, where there was merely

an attempt to obtain cheap labor rather than an assumption of the obligation to teach young men trades.

Apprenticeship, like many other relations, is an excellent institution if it is not abused, but, as in other affairs, much evil can ensue if abuses are allowed. In the case of apprenticeship, the boy is the first to suffer if his considerations are not uppermost. The normal boy if treated with fairness and with real intelligence will respond in a satisfactory manner; on the other hand, if he is exploited and manhandled he is likely to be disagreeable and unsatisfactory and probably to become an enemy of society.

It is the intention at this point to examine some of the principal attitudes of the normal boy in his apprenticeship. In considering these attitudes the assumption is that in all cases the boys who evince these various attitudes (favorable and unfavorable) are capable of pursuing a successful apprenticeship, and that their attitudes are, speaking generally, normal responses to their environment, which includes the treatment of them by those who have authority over them during the term of apprenticeship.

The Favorable Attitudes.—The favorable attitudes can be discovered by considering the experiences of successful apprenticeship and following the boy through his experiences. The apprentice should take up his trade as a matter of preference and choice. This comes about when the boy's school experience has properly fitted him to appraise the real meaning of apprenticeship, and where vocational guidance or placement departments have seen to it that the proper information of trade opportunity has been given him so that he can intelligently make his choice. Preference and choice have been exercised when the boy has made his own decision after proper direction and suggestion, and when he has not allowed himself to be placed in an apprenticeship because of too much persuasion or on account of moral coercion. The normal attitude of the boy starting an apprenticeship should be one in which he feels that he himself has preferred his trade and made his own choice. If this attitude can be obtained at the start, the experience, so far as the boy is concerned, promises well.

Now that the boy has accepted the terms of his apprenticeship and embarked upon his work, his first characteristic attitude is

one of *expectancy and hope*. He sees around him men of experience performing what to him seem to be wonderful achievements. Will he ever be able to do what they are doing? Will the boss ever give him a chance to try his hand at this and that? He must have skill and experience to be able to do this job and that one, but how is he ever to be able to do the job unless he first tries it? What will be his experience when he makes his first trial? At the present time he is doing a job which does not require much skill, but how long will he be kept at this unskilled work? Will he fill the place of an unskilled worker for a long period at apprentice's wages? What will be in store for him tomorrow? Will he get a more interesting job, or continue at the same work? Is the work as interesting as he thought it would be? Does it continue to hold as much promise as before? Does the boss take any notice of his endeavors? Does anyone care whether he succeeds? Is he just a number in the shop, or is he an individual? Such questions suggest the boy's psychology. It is indeed one of *expectancy and hope*. If the management is sensible to this psychology there is a great possibility that the boy may become an asset to the industry, but if it is ignored the results will not be so fortunate.

If the boy is fairly treated, if he is not kept too long on unskilled jobs, if he is properly supervised and not left to chance, if interest is taken in what he does and every effort made to encourage his work, then his next characteristic attitude will be one of *interest and endeavor*. These can be engendered quite largely by the apprentice's superiors. Inducements can be offered in the form of rewards and prizes for the proper fulfillment of tasks. Competition can be set up among the boys which will stimulate the interest of the apprentices. Incentives for endeavor can be made by giving recognition to the good work. So long as the boy believes that the boss or the firm is taking notice of his work he will proceed with renewed vigor. An example of what can be done in this connection has been demonstrated by the metal trades shops of a midwest city. This group of manufacturers has made it a practice for several years to hold city-wide contests giving first, second, and third prizes for excellence in the machinist, pattern-making, drafting, iron-molding and steel-molding trades. This practice is now receiving wider

recognition, and the same sort of thing is being carried on in the National Associations of the Metal Industry as the quotation below will show.

Apprentice Contests—1930

Any foundry or group organization having regularly indentured pattern-making or molding apprentices is invited to conduct local contests on its own behalf. The winning pattern and casting in each contest may be sent to participate in the national contest held at the time of the 1930 Convention of the A. F. A.

Copies of rules and regulations governing apprentice contests are now available and can be secured by request from the Secretary of the A. F. A., 222 West Adams Street, Chicago, Ill.¹

Contests among the apprentices if properly handled are aids in encouraging the attitude of interest in work, and an inducement to the boy to work harder, or with more application. Youth is naturally ambitious and anxious to get ahead, and that fact should be capitalized. A boy's inquiries should meet with adequate response. The boy should be encouraged to think, and opportunity should be given him to express himself from time to time in such a manner that what he says will appear to him to be of real interest to the management. (It might incidentally prove to be of actual value to the management.) He must believe that what he does is of sufficient importance to receive the cognizance of his superior officers in the organization. Interest must be taken in his related schooling, and nothing that is worthily tried should escape the attention of the boy's immediate supervisors. Although discussed in the chapter on Apprenticeship and the Employer, it can bear reiteration that management must see that there is interest in training all the way down the line of the organization, so that the boy will not meet with the negative attitudes among the foremen and other skilled men in the plant. These simple precautions and obviously sensible procedures will develop in the apprentice the next characteristic attitude, expressed in the words *achievement and success*.

Apprenticeship is not worth the name if it does not enable the boy to achieve and succeed. If a boy makes headway it is

¹ Bull. of Amer. Foundrymen's Assoc., January, 1930.

because he has had an opportunity. It is the result of intelligent handling and training, and is the normal result of a correct system of training. When the boy well along in his apprenticeship career can take a job and do it as well as or better than the journeyman of longer experience can, then the results of real apprenticeship are in evidence. It is not uncommon to find that in modern apprenticeship schemes it is quite possible to obtain from the apprentice production records and work experience which surpass those of the older men in the shop. There is no reason why this experience should be considered unusual, since the young man is in the business of learning, has the opportunity to improve upon the experience of others, and has direct assistance in doing so. It will often be found that the young apprentice scores higher because he has been able to bring to bear upon the job in hand more scientific knowledge, and to discover better methods, but it does not mean that he can necessarily best the older men by the same process that they employ. It has been well said that nothing succeeds like success. Once a few records of unusual merit are made, the attention of superiors is focused upon the apprentice. He then receives due recognition in one form or another, establishes a reputation in the shop, and is pronounced a success. From this time on the boy can practically take care of himself. He is in demand in the shop. Different foremen try to have him assigned to their respective departments, and the very force of circumstances assures the boy continued success.

Appreciation and pride comprise the fourth and final classification of favorable attitudes of the apprentice. When a young man has been able to accomplish things through the aid of others, and when he can see that by having had a real opportunity to learn, to get ahead, to receive recognition, and to obtain in consequence a larger economic return in the form of wages and better work, he will normally evince a feeling of appreciation. This feeling of appreciation on the part of the youth as he is finishing his training and crossing the threshold of manhood is a matter of great moment for society. A boy with appreciation and pride in his accomplishments is naturally going to have some respect for the conditions and for the institutions that have enabled him to succeed. He is on that account a good citizen,

or to say the least, a potentially good citizen. As a matter of fact his moral conduct, which is important to his citizenship, will be affected favorably by the feeling of appreciation which he has, and will likewise be enhanced by the pride which he has in himself and in his accomplishments. In order to witness this feeling of appreciation and pride, it is only necessary to attend the graduating exercises of groups of boys who have successfully finished their apprenticeship periods, or to receive letters from the boys themselves after they have embarked upon their journeymanhood. Here are a few characteristic statements from graduate apprentices:

During the war it was pretty hard for me to "stick to it." Butchers, bakers, book-keepers, clerks, everybody was a machinist and getting good money, but I'm glad I stuck.

[Draftsman]

Well satisfied. Opportunities for learning splendid. Company always showed an active interest. My one regret is having listened to some of the journeymen who were always telling us what fools we were for learning the trade. This caused me, as well as others many hours of discontent. Overcome this, and you have done much to make the life of an apprentice more pleasant and interesting.

[Machinist]

I am well satisfied with my apprenticeship, and would do the same thing over again.

[Electrician]

I am well satisfied with my trade and advise every young man to learn a trade for it gives one the experience and pleasure that others do not get.

[Template maker]

I am more than satisfied that I learned my trade. It helped me a great deal since I finished my apprenticeship. My four years of apprenticeship and schooling I received in the apprentice department of the Central Continuation School—sure was a great help to me and I appreciate it very much.¹

[Machinist]

These favorable attitudes ensue when and where the apprentice boys have been properly handled. As a contrast, attitudes will now be considered which manifest themselves when and

¹ From the records of the Industrial Commission of Wisconsin.

where the boys do not get intelligent and proper treatment from the employer.

Unfavorable Attitudes.—The first unfavorable attitude that shows itself in the apprentice boy is likely to be an attitude of *suspicion and mistrust*. The boy now being considered had the same start as the other boy, and when he gets to work, he has accordingly all the questions and individual concern that were suggested in the previous case, but he is less fortunate in their solution. He finds himself neglected; he is kept upon work which does not seem to contribute anything to his knowledge or skill in the trade. No one individual appears to have any special interest in him. The foremen are indifferent if not hostile to him, and as a consequence he finds that he is largely shifting for himself. This lack of intelligent procedure on the part of the management does not improve the original attitude of the boy, or the attitude which he had on commencing his apprenticeship, but makes it worse. The boy's suspicions are deepened, he loses all the faith he may have had in the older generation, and develops the feeling of mistrust. He incidentally becomes a good prospect for the radical agitator and is not an asset to the tranquillity of the working force. He gets the idea that it does not matter very much how he proceeds. He thinks that nobody is concerned, and nobody seems to be. Where he might have had his ambition kindled and his interest aroused, he now, instead, reacts to the lack of good faith on the part of his employer, who, it appears, is working him as a special operator but paying him apprentices' wages. This the boy knows is not according to his liking, and where he is unable to make an effective protest or to obtain a satisfactory adjustment he develops an attitude of indifference and inertia.

Indifference and inertia are in marked contrast to the attitude of interest and endeavor. The boy now assumes an attitude which causes his superiors to call him lazy. Perhaps they tell the boy that it is because he is lazy that he has not been given a better chance. These kinds of employers are likely to justify their own failings by blaming the boy for not showing more interest in his work and for not working with a will. These managers expect too much. Their own attitude is unintelligent. They do not understand the heart of the boy. They lose the

chance to make a real mechanic and a good citizen, and through their own lack of understanding and their neglect of the boy's psychology they drive him into a progressively worse state of mind, a feeling of disappointment and failure.

The attitude of *disappointment and failure* probably causes the boy to quit his apprenticeship, and at that point he is regarded as a failure. Management has been responsible here for developing, as a contrast to achievement and success, this attitude of disappointment and failure.

What now will be the boy's attitude to industrial organization, or to our economic system? Why should he be interested in protecting the social arrangements which have spelled failure for him? This desirable aspect of citizenship he is not likely to possess. He may develop into an enemy to society, for now he has developed a feeling of bitterness and regret.

Bitterness and regret characterize the final attitude which comes to the boy who has been the victim of exploitation. Exploitation is a hard word to use against an employer nevertheless exploitation does occur, and when it does it is a tragedy for the boy and an unfortunate thing for society. The boy now will "tell the world" that apprenticeship is "all the bunk"! He is the individual who will impugn the motives of all employers who hire apprentices. He is the type of person who can have no faith in industrial managers; all attempts to straighten him out on his misconceptions will usually be of no avail. Fortunately, because of the vigilance of public authority, and because of the enlightened self-interest of employer groups and the interest of the trade-unions, the experiences just presented are the exception. However, maladjustments in apprenticeship relations have been sufficiently prevalent in years past to lead some people to the unfortunate belief that all apprenticeship is exploitation. One of the mitigating factors has been the collective interests of employers in apprenticeship training as expressed in their trade associations.

Below are a few statements which tell a little of the negative side of apprenticeship, and which illustrate some of the situations suggested above.

After serving four years I think it was too long for what we got in return for it.

[Machinist]

All I can say is, that I am as capable as any other journeyman. Apprentices should be treated or considered more than common laborers. In many cases that is all they are classed as and that is what discourages the apprentices.

[Boilermaker]

I wish to say that I have been disgusted with the Company that I served my time with.

[Pattern maker]¹

It should be remembered, however, that the real examples are to be found with those who have not stayed with their apprenticeship, and who are too impatient and disgusted to make any comment on their experience.

In concluding this subject it may be reiterated that a healthy apprentice program should produce in the boy an attitude of expectancy and hope, rather than suspicion and mistrust; interest and endeavor, rather than indifference and inertia; achievement and success, rather than disappointment and failure; and finally appreciation and pride, rather than bitterness and regret. The boy is entitled to that much consideration, not only for his own sake, but for the welfare of the society of which he is a member. In no little measure does his attitude depend upon the character of the treatment he receives from his employer.

Conservation of Youth through Genuine Apprenticeship.—In concluding the discussion of the subject of the relation of apprenticeship to the boy, it may be said that in a very real sense apprenticeship conserves the youth of the boy. What can be more pathetic than wasted years of youth! In how many thousands of cases are precious years of youth dissipated because there is no program of consecutive and progressive experience in the employment opportunity of the young man or woman. An apprenticeship gives the young man a program in which years of youth will mean in many ways the foundation for a successful life. The need for this happy result is strongly felt by all those who observe the kind of humanity which continually surrounds the employment offices, men without training and men without ability of adjustment. These unemployable men are the victims of the economic and social scheme where industry and business attempted to reap the harvest of industrial man power,

¹ From the records of the Industrial Commission of Wisconsin.

but where they did not sow the seed of training. When a boy has completed an apprenticeship he is equipped for steady employment, for rarely if ever need those who have completed their apprenticeship be out of employment.

It is not necessary to ignore the fact that sometimes the apprenticeship chosen may not be in the line of work which may be followed later in life. While that may be true, nevertheless it is a matter of little importance. The kind of employment or occupation the boy follows in his youth is of less importance for his future success than the manner in which that employment is pursued. If a boy is superior to his trade, the trade apprenticeship will be an aid in his rise. The experience of a program completed, with its disciplinary and character developing aspects, is a sure stepping stone to further progress. Many successful men today, in all walks of life, are of those who served an apprenticeship in their youth, and at a trade which in many cases has no direct relation to their present occupation. On the other hand, there are few men who have achieved success whose years of youth were spent in aimless hit-or-miss experience. A steady educational program of any kind is preferable to work with no aim or organization. In this sense, then, apprenticeship conserves youth by making it a real asset to life rather than a liability.

Questions and Exercises

1. How does the vocational-guidance movement relate to apprenticeship?
2. Why is vocational guidance necessary for prospective apprentices? What should be the process of selection of apprentices on the part of the employer?
3. In the analysis of apprenticeship cancellations shown in the table on page 117 it appears that the number of "misfits" is decreasing, while the number of "discharged" is increasing. What is your explanation?
4. What characteristic attitudes can be expected from the normal apprentice? Does the treatment extended the apprentice by the employer have anything to do with the boy's attitudes?
5. What attitudes must the boy evince in order to make his apprenticeship relation successful?
6. Tell of the advantage of genuine apprenticeship to the boy himself.

CHAPTER X

APPRENTICESHIP AND PUBLIC AUTHORITY

In the consideration of the relation of the state to apprenticeship, it is necessary to understand fully all that the word state conveys. The term public authority is more comprehensive, and its connotation more adequately carries the idea of the complete functioning of politically organized society. By using this concept, it is possible to think of the state as it functions through its various agencies, particularly the public schools. Education, as a public function, is a state problem, and these educational policies represent the state itself, for although in certain localities there may be much autonomy, nevertheless it is autonomy in carrying out the educational program of the state. The organization of present-day society necessitates that education be viewed as a state function, since it is obvious that a democracy cannot be maintained on any other basis. All of the people must receive a definite minimum of education to fit them for duties of citizenship. The untrained and illiterate individual from the territory that neglects education may migrate to other parts and disconcert the locality that gives proper attention to the education of its people.

The equalization plan of supporting schools in the poorer counties of some of our states is justified on the basis that education is a state function.

In this respect apprenticeship has followed the course of many other institutions, in that it has evolved from a private custom to a public institution.

The most important feature in its development is its gradual evolution from an insignificant private custom into a public institution; the engagement of apprentices was left to the discretion of the individual, while the conditions of service were a matter of agreement between father and master. Gradually, however, it became a public or quasi-

public affair, falling under the control of the municipal authority or of the gild.¹

This is in line with the advance of civilization. The state then can be a party to apprenticeship, either through its legislative or administrative bodies, or through the public schools, which it controls. Since apprenticeship is an educational process, it is logical that state interest in apprenticeship would evidence itself in the attitudes and actions of school authorities with reference to it.

The question of the relationship of apprenticeship to public authority is not new. It is centuries old. This is attested by the famous Elizabethan Statute of Apprentices of 1562.

Early in 1562 the Statute of Artificers was passed, and in November of the same year it came into force. Although many of the details of Elizabethan apprenticeship as we know it from 1562 to 1814 are based upon custom and usage, this Act is the foundation as well as the starting-point of the national system of apprenticeship. Hitherto it had been a gild custom voluntarily adopted; the Act transformed it into a national institution by imposing a compulsory servitude of seven years at least upon all who henceforth wished to enter any industrial calling, and by adopting for the whole country the custom of London, local variations being thus, generally speaking, superseded by one universal practice.²

The high watermark of state regulation of apprenticeship was attained during that period of industrial development which is characterized by the term mercantilism. During this period all industry came within the range of minute governmental regulation, and the restrictive policies of the guilds were either taken over by the state or sanctioned as good public policy. Apprenticeship was essentially a part of the guild system, and when that system came under the economic ban, apprenticeship, of course, suffered with it. It is of interest at this point, therefore, to inquire into the reasons for the decline of apprenticeship.

In educational literature there are frequent assertions to the effect that apprenticeship is no more, that it is something to be relegated to the middle ages, along with other institutions of that time. It is a fact, however, that all over the industrial world

¹ DUNLOP and DENMAN, "English Apprenticeship and Child Labor," p. 30, T. Fisher Unwin, London, 1912.

² *Ibid.*, p. 60.

today apprenticeship in some form and for certain trades has never been abandoned. The decline has been relative but not absolute.

Causes for Decline of State Regulation of Apprenticeship.—It is of interest at this point to examine the causes for the decline of public authority in apprenticeship. It is important to know whether the causes were inherent in the institution of apprenticeship or due to other considerations.

The causes for the decline of apprenticeship as an institution of public authority may be classified under three main headings: first, the economic philosophy of *laissez faire*; second, changing industrial technique; and third, inadequate administrative governmental machinery to adapt apprenticeship regulations to changing social and economic conditions.

Economic Philosophy of Laissez Faire.—The doctrine of *laissez faire*, advocated by Adam Smith, was the chief economic philosophy which affected the status of apprenticeship as an institution of public authority. *Laissez faire* philosophers were convinced that business was greatly curbed under governmental regulation. Regulation of industry by the government, particularly when this regulation was augmented by the detailed, monopolistic provisions set up by the craft guilds, became extremely oppressive. This economic system was known as mercantilism, and was strongly opposed by the eighteenth century economists. It was natural, therefore, that Adam Smith, when he saw that the youths of his day spent their years in long periods of apprenticeship under the mercantilistic regime, which a changing industrial system seemed to show to be incompatible with economic progress, should include the institution of apprenticeship in his general condemnation of the economic system (mercantilism) of his time.

Adam Smith was aiming at the abuses of apprenticeship, not the principle. Since so many economists and publicists have taken their cue on apprenticeship either directly or indirectly from Adam Smith, it is well to observe a few passages from his famous work, the "Wealth of Nations," which give credence to the belief that the author found nothing inherently objectionable in apprenticeship. It is obvious that he thought apprenticeship periods were too long for the condition of industry which the

eighteenth century precipitated. He says in one place, "The institution of *long* apprenticeships can give no security that insufficient workmanship shall not frequently be exposed to public sale." In the following paragraph he continues, "The institution of *long* apprenticeship has no tendency to form young people to industry." Still further on is found this passage, "*Long* apprenticeships are altogether unnecessary."¹

Is it not plain to be seen, therefore, that the length of apprenticeship was one of the chief disadvantages which occurred to the mind of Adam Smith? Apprenticeship was an instrument of monopoly in the hands of the guilds, and since he opposed this monopoly, he could not look with favor upon the instrument of monopoly; even less could he favor the government's giving its sanction or support. He thought trade should be free from governmental interference, should be subject to free competition, and he deprecated anything which pointed away from liberty of action.

The philosophy of *laissez faire* was a vital force in accentuating the development of the industrial revolution. It affected apprenticeship in two ways: first, it made an attack on all forms of industrial monopoly, which included the guilds, and as a consequence apprenticeship, which was an institution of the guilds, came under the ban; and second, it sought to discourage all governmental interference in industry, declaring that the individuals in an economic society know their own interests better than does the state.

The philosophy of *laissez faire* has been much discussed since Adam Smith's day. It still has its adherents and its adversaries. In the main, however, the philosophy of *laissez faire* has lost ground since the middle of the nineteenth century. It is not deemed necessary to appraise its merits in this treatise, since the only interest in it is its effect upon the institution of apprenticeship.

Changing Industrial Technique.—Following the economic philosophy of *laissez faire*, the next *main cause* for the decline of apprenticeship was the change in industrial technique. Under this heading the chief considerations are: first, the division of

¹ Italics are the author's.

labor; second, the introduction of mechanical power; and third, mass production with all its necessary concomitants.

Most writers who have dealt with this subject have included the above-named causes which brought about the substitution of machine for hand labor, but A. H. Leake¹ has included the growth of population as a prime cause. However, is it not reasonable to believe that the increase of population has been quite as much conditioned by the technique of industry, as the technique of industry has been determined by growth in population? Let it suffice, then, to allow the term "changing industrial technique" to include growth of population, substitution of machines for hand labor, new attitudes of employers, of journeymen, of boys, and even a change in the length of the apprenticeship period, because these phenomena, whatever their individual natures at particular times and places, are characteristic features of modern industry.

In a word, it appears that the changing technique of industry came so fast and developed so far that the old institution of apprenticeship was not adapted quickly enough to the conditions which arose out of these new developments. Division of labor and the substitution for handicraft of machine work became so overwhelmingly the factors of emphasis that the question of training the man power was not only neglected but quite largely thought unnecessary (so deep was the faith in the omnipotence of mechanical power). This circumstance is still an important consideration.

Lack of Administrative Science.—The third chief factor in the decline of apprenticeship as an institution of public authority is the lack of administrative machinery for adapting apprenticeship to the new changes in industrial technique.

The first step in the breakdown of the apprenticeship system came during the period of 1650–1720; it was the increasing disregard for the Statute of Artificers,

the guilds were now almost alone in their efforts to enforce apprenticeship; the Government no longer took a prominent part in the administration of the Act; the law courts were definitely opposed to it; and the

¹ "Industrial Education," pp. 131–138, Boston, Houghton Mifflin Company, 1913.

municipal authorities were becoming indifferent to apprenticeship, as they found themselves unable to use it to their own advantage.¹

Unwin holds that the Statute of Apprentices

sought to give fixity to the status of the various classes of the working population, to ensure greater regularity to the course of employment, and to bring wages into a steadier and more equitable relation to prices.²

This function was static. This statute failed in another respect because it inadvertently entrenched the monopoly of the guilds.

It did not prevent the system of apprenticeship from being used by the guilds as a bulwark of their monopoly. Indeed, the probability is that, far from being checked, the narrow policy of the guilds was indirectly encouraged by the statute.³

The Civil War in England, at the middle of the seventeenth century, was another factor which made it difficult to carry out the rules and regulations of the Statute of Artificers; but more serious than that was the fact that no adequate administrative machinery, as we now understand it, was in operation to apply the rules of the Statute of Apprentices. In other words, that fourth branch of government in the form of an administrative commission with quasi-judicial powers was the thing that was necessary to make enforcement practicable. To this fact, more than any other, can be ascribed the failure of the early regulation of apprenticeship by public authority.

The Return of Public Interest in Apprenticeship.—In recent years, with the growing emphasis upon man power in industry, thought has again been directed toward the institution of apprenticeship. The good points of the old system are readily acknowledged by most students of industry and education, but many think they cannot be utilized under modern conditions. The possibility of certain general practices embodying the best of the old system with adaptation of the new have resulted in inquiries concerning the possibilities of state participation in this form of industrial education. The factors which cause the renewal of this interest in the relation of the state to apprenticeship may be

¹ DUNLOP and DENMAN, *op. cit.*, p. 132.

² UNWIN, GEORGE, "Industrial Organizations in the Seventeenth and Eighteenth Centuries," p. 119, London, Clarendon Press, 1912.

³ DUNLOP and DENMAN, *op. cit.*, p. 86.

classified as follows; first, the failure of the economic philosophy of *laissez faire*; second, the group activity characteristic of modern industrial society; third, the scientific aspect of industrial technique; and fourth, a greater understanding of the functions of government. It is of interest to note that the first factor is taken from the realm of philosophy, the second from sociological analysis, the third from political economy, and the fourth from the development of political science and psychology. Hence the newer fields of study have contributed much, in this instance, to the process of "putting old wine into new bottles."

Failure of Philosophy of Laissez Faire.—First it must be remembered that *laissez faire* was heralded as the handmaid of human liberty. It was, of course, for a time the way for a nation to achieve its maximum wealth, but its appeal was due to the fact that it stressed individualism, and in that way met a great human need at the time in which it was extolled by the liberal philosophers of the eighteenth century. It was thought then that the youth must be free to follow his bent, that he must not be enslaved by a "long" term of apprenticeship. *Laissez faire* prevailed. Apprenticeship came into relative disuse. All classes were allowed, in theory at least, to follow their inclinations in economic endeavor. But did it bring the results that were confidently expected of it? If it did, it certainly brought something else besides. Karl Marx's manifesto of 1848, in which he called upon the workers of all nations to unite, to join the forces of revolution, informing them that they had everything to gain and nothing to lose but their chains, would suggest that something had gone awry. The whole socialist movement, the force of trade-unionism, and many other "isms," which are well known today bespeak the fact that the "let alone policy" did not stop with achievement of some good, but extended in other less desirable ways that could not be foreseen by Adam Smith and the French Physiocrats.

While Adam Smith saw the abuses of mercantilism and advocated strongly the "let alone policy," some of our modern economists have observed that the system which was presumed to insure human liberty and the pursuit of happiness has, in its fruition, threatened to become the very instrumentality of the enslavement of the people. Thoughtful observers have been

able to see in modern times how strong economic interests, unrestrained, may affect adversely the lives of the people and even the processes of government itself. As a living witness to the truth of this observation is the existence of the Interstate Commerce Commission, the Federal Trade Commission, and the public utility and industrial commissions of the various states, which in their functioning offset some of the evils inherent in overaccentuated economic individualism. It is no longer, then, sufficient to object to any institution because it entails government participation, but on the other hand, the participation of government may be even welcomed because it may afford an opportunity for the expression of the ideals of the common citizen and be the means of affording greater economic justice.

Modern Society Characterized by Group Activity.—The second reason for a renewed interest in public control of apprenticeship is the character of modern industrial society. It has often been pointed out that the predominant feature of modern society is group activity. People are divided in groups for almost every field of economic endeavor; there are classifications and cross classifications. There are employers, organized, and employees, organized. There are trade associations, and professional associations. There are socialists, and trade-unionists. Class-conscious groups of many varieties are to be found. This very fact has made it necessary to enlarge the functions of government to promote the ends of social justice, for no single group or combinations of groups can be safely entrusted with so important a factor as the training and development of the nation's youth. Economic groups are seeking private advantages, and not primarily the good of either the individual or the state. Apprenticeship then must have the support of, and be controlled by, public authority, if it is to function in the interest of the whole society, as subsequent considerations will show.

Scientific Aspect of Industry.—The third reason for public authority in apprenticeship, as it has been stated, is the scientific aspect of industry—an economic consideration, primarily. Industrial practices today are exceedingly complex, highly developed, and require a background of scientific knowledge. All this presupposes, and actually entails, scientific training of industrial workers. This training cannot be given by industry

alone. Industry can give the practical experience, but this must be supplemented by scientific training under state supervision, for there must be available that information, experience, equipment, and teaching personnel that will make it possible for the industrial apprentice to acquire that essential minimum of scientific training which must supplement the manual and mental efforts of his economic production. As we have observed elsewhere, apprenticeship training, to be adequate, must have direct assistance of public authority.

The Science of Administration.—The fourth reason for the renewed interest in state participation in apprenticeship is the contribution of political science. In recent times the study of government has revealed more scientific aspects of state regulation of industry. It is true that a great deal of this regulation is indirect, but, nevertheless, it is effective. It is possible now for the state to effect many things in the interest of all the people without the attendant abuses so common to governments of earlier times. The science of psychology has contributed something here, as it has in industry. It has revealed rational bases of mutual benefit in cooperation. In brief, it is now known that by properly constituted administrative departments, involving investigation and research, the state can not merely regulate in the interests of the whole people, but can do positive good for specific economic groups. The growing popularity of what Professor J. R. Commons named the "fourth branch" of government has made it easy for many students of industrial problems to turn to the states for the solution of any problem which looms large and which requires cooperation of all groups. Especially is this true of an institution such as apprenticeship which holds many possibilities for the enhancement of the youth—the principal of tomorrow's industrial society.

Participation of Public Authority in Apprenticeship.—Since the reason for a renewed interest on the part of public authority in apprenticeship training has been discussed, it is fitting at this point to inquire into the possibilities of public regulation of apprenticeship. Before an examination is made of a program of state supervision, attention will be first directed to the part that the Federal government may perform in apprenticeship work.

Federal Government.—It is apparent at once that there are two principal limitations to the activity of the Federal government in apprenticeship. The first is the constitutional or the theoretical limitation, the second is the practical difficulties which would be involved in administration.

Our government is one of enumerated powers, and its framers fully intended to keep as many powers with the states as possible. The sentiment of the country with reference to the proposed child-labor amendments and also the growing opposition to the increase of Federal control in state matters through appropriations for subsidy, suggest that it is beyond the range of probability that the states would permit a program dealing with such voluntary personal relations as are required by apprenticeship to be superimposed by the Federal government.

The second limitation is more real than the first. The administrative difficulties that suggest themselves, which grow out of the hugeness of the Federal domain, seem practically insurmountable. Since, as has been suggested, apprenticeship relations are eminently personal in their nature, and since the various parts of the United States have different industries, different economic interests, different racial extractions, different religious convictions, and many provincial problems, administrative success would be contingent upon great latitude and local autonomy. If the requisite local autonomy were allowed, the Federal government would in that case be doing really little more than it is doing at the present time without any responsibility for national apprenticeship administration. Its present interest in apprenticeship is in the form of propaganda for its development, and a guarantee of its good faith in the provision of subsidies for the states which carry on that kind of work. This procedure was established under the sanction of the Smith-Hughes Law for vocational education. Various bulletins of general information on apprenticeship have been of most interest to the local committees. An outstanding example is a bulletin issued by the Federal Board for Vocational Education in June, 1923, entitled Apprenticeship Education. The Federal Board has been responsible for uniting industrial groups in the pursuit of apprenticeship programs and has conducted conferences for the appraisal of certain aspects of apprenticeship training.

Examples of this type of activity were the Conference on Apprenticeship in the Construction Industry for the New England states, Boston, Massachusetts, 1924, and the Conference for Vocational Education Staff, Birmingham, Alabama, 1929. In such conferences the Federal Board makes available valuable information and experience for local vocational-education administrators and apprenticeship instructors and supervisors.

There can be no intelligent objection to such participation, but it seems clear that the part the Federal government must continue to play in apprenticeship is merely that of the godfather who helps by moral suasion and by indirect financial aid to carry forward the work.

The character and purpose of the Federal government's part in industrial education in the states are indicated by a statement in the original Senate document prior to the enactment of the statute referred to. It reads as follows:

An act to provide for the promotion of vocational education; to provide for cooperation with the States in the promotion of such education in agriculture and the trades and industries; to provide for cooperation with the States in the preparation of teachers of vocational subjects; and to appropriate money and regulate its expenditure.¹

State Governments.—The main consideration at this juncture then is the character and the effect of state participation in apprenticeship. The *passive form* of state authority we may mention in this review. It is exemplified where the institution of apprenticeship is not prohibited, and by implication receives legal sanction. If, for example, apprenticeship were not in accord with public policy, it would be prohibited just as gambling is prohibited (gambling participants have no standing in court to collect their debts). However, no such attitude toward apprenticeship is anywhere to be found. On the other hand, since it is possible for either party to an apprenticeship agreement to appeal to the court for redress if the other party violates the contract, there is implicit recognition of the institution. Because apprenticeship is so old, reaching back into common law and custom, there is a long line of precedent concerning legal relations. This procedure is governed by the general law of individual

¹ *Public Document 347, Sixty-fourth Congress, Sec. 703.*

contract, but without any specific intent to foster or limit the institution of apprenticeship. So far as this study is concerned this passive support of public authority has little significance. Our interest lies in the forms of *active participation* which may be included under four heads. First, there is the case in which the state has enacted an apprenticeship statute, but leaves it unenforced, so that the law becomes a dead letter on the statute books. This form of state interest has obviously nothing in its favor. It may be worse than no law at all, so far as its moral influence is concerned. Strange as it may seem, this is the part played by nearly all of the American states. The laws now on the statute books of the majority of states are the products of a time when the United States was an agricultural nation. These laws reflect the simplicity as well as the crudity of the times when nearly all of our people were engaged in agriculture. The statutes tell us that children under the ages of twelve and fourteen years could be apprenticed until their majority. Who are these children? Inmates of houses of refuge, of homes for friendless children, children of state orphan asylums, industrial homes, and state reform schools—in general (to quote one of the statutes) “children of drunken, vicious or unfit persons.”¹

The second form of state activity is one in which good statutes are enacted, but the *enforcement rests entirely with private initiative*. That is to say that the law is enforced through the courts, when specific cases involving the statute come before them. This is very little better than the first form in its ultimate effect. Under this head may be placed the English national apprenticeship system of the Elizabethan period,² although in that case certainly, because of the fact that the Statute of Apprentices legalized the guild system, it can be seen that the guilds would not fail to exercise their prerogative. The attitude of the government is revealed by the fact that “Numerous petitions were presented to Parliament by lawful workmen throughout the eighteenth century; but though there was no doubt as to the truth of their complaints that the act was disregarded, the Commons made little effort to apply a remedy.”³

¹ District of Columbia, Code of 1911, Sec. 173, 402-411, “Labor Laws of the United States,” *U. S. Bur. Labor Statistics Bull.*, Whole No. 48, p. 12.

² English Statutes, 5th Elizabeth, chap. 4.

³ DUNLOP and DENMAN, *op. cit.*, p. 237.

The third form of state control is that *indirect influence over apprenticeship training* exercised by the state vocational-educational department through the vocational school system. This is the character of state participation which is at present the most general. It is certainly better than the preceding types of public interest in apprenticeship.

The fourth form of state activity is seen where the state has *enacted statutes governing apprenticeship* and has set up administrative machinery with powers of investigation and research, for the enforcement of the intent and purposes of these statutes. At this juncture will be considered the phases of apprenticeship with which the statute must deal, and then the method by which the principles laid down in the statute will be carried into effect.

The remaining considerations in this chapter will have to do with the fourth type of state supervision, in other words, with the examination of a state apprenticeship law and its enforcement.

What a State Law Must Provide.—Having examined the basis of the state interest in apprenticeship, it is now in order to ask "What are the considerations which make a state law necessary and desirable?" At the outset it must be assumed that apprenticeship training is a desirable form of industrial training. We may at this point inquire concerning the essential principles in the institution of apprenticeship which an effective law cannot ignore.

First, the state must determine who shall be allowed to be apprenticed. Apprentices are usually minors—this fact being one of the chief justifications for state participation. The statute must determine the minimum age at which a youth may enter an apprenticeship. Just what this age shall be—whether, for example, it shall be fourteen years of age or sixteen years—will depend upon what any state regards as good public policy. In order to preclude exploitation of child labor some minimum must be determined.

The second consideration for state determination is the nature of the indenture or instrument of agreement. The state must lay down certain principles with reference to what the agreement must cover. Here would be considered the length of apprenticeship, the remuneration, trade to be taught, and special considerations.

The third element with which the statutes must deal is the technique, or the method of making practical application of the principles set forth in the substance of the apprenticeship agreements.

It is unthinkable that any modern state would, or could, make apprenticeship compulsory either with the apprentice or the employer, but this much it can do: It can provide conditions under which apprenticeship must be pursued, or deny the privilege altogether.

How the State Functions in Apprenticeship Administration.—What now is the function of state administration of apprenticeship laws? In other words, what is it that the state can or should accomplish in administering apprenticeship supervision? Can it do for apprenticeship what private enterprise is unable to accomplish, or can it do better than industry alone in certain essential features? The answer to this inquiry is manifold. First, the state represents all the people, and it can lay before all classes of people the need for and the efficacy of apprenticeship, for its employer and for the public, and, better than any other influence, it can point out to boys and girls who enter industry the advisability of choosing this form of industrial opportunity. In brief, it can perform the important function of guiding the youth, through apprenticeship, in choosing his economic opportunity, and that in the best sense of the word, because it can put before the youth, and the parents, the essential objective facts that young people should know about occupations and their own probability of success in them. This prevents much disillusionment later in life and lessens the possibilities of exploitation of boys. Much of this work is done through vocational or industrial schools, which it must not be forgotten are institutions of the state. Many of these part-time schools function as vocational-guidance institutions—giving preparation for entering industrial employment, rather than job training.

Second, the state can prevent the institution of apprenticeship from becoming an instrument for exploitation; that is, it can see that boys are not, under the caption of apprentice, lured into industrial employment where no actual apprenticeship training is given. In most states it is quite a common experience to see cards in the windows of business establishments asking for

apprentices, and likewise to see advertisements in newspapers for apprentices, when the individuals so advertising, may not, in some cases, be able to tell the meaning of apprenticeship. These employers know through experience that some youths are attracted by the word apprentice. Considerable value is no doubt imputed to the word because of apprenticeship tradition which is handed down from many of our forebears who received their early training in European countries, where apprenticeship is more general than in the United States. Especially is this true in those sections of the United States which have been subject to relatively recent North European immigration.

Third, the state can maintain good will between employers and labor, where either is concerned with apprenticeship training. Apprenticeship cannot succeed unless employers and employing groups maintain good relations—unless, in other words, each has confidence in the other in all matters which pertain to the training of apprentices. Any other condition would mean that the apprentice would either not exist, or be crushed between the millstones of suspicion and lack of faith. The state is able to call together interested parties and to conciliate differences whenever they become serious or jeopardize mutual understanding. It is obvious that apprentices cannot be adequately trained without the good will of the workmen themselves. Workmen, notwithstanding the efforts of the employer, may make the working atmosphere desirable or undesirable to the apprentice. After all, is it not the workmen's sons and daughters who are recruited for apprentice training?

Fourth, the state can establish and maintain apprenticeship standards. It can take measures to cause modification of the institution of apprenticeship to conform to the ever changing technique of industry, and, at the same time, see that it is maintained with due regard for public policy and that it measures up to ethical and social standards. It is here where the finesse of apprenticeship administration comes, because no matter how carefully standards may be written into the statute, it is the enforcement, the application of these standards that will spell success or failure for the whole enterprise. It is here that common sense, tolerance, and perhaps all the other human virtues are necessary, for all elements in the community are affected

directly or indirectly by the character of these apprenticeship standards.

Fifth, the state can determine what are apprenticeable trades. Since there is so much skepticism about the possibilities for apprenticeship among some educators, it would appear particularly fitting that the private opinion of economic groups should give way to, or at least only assist, the state in determining what are the trades or occupations to which young people should be apprenticed. It is neither a fair nor a sensible thing to put a young person on a long-term contract to work or learn some specific specialized task. To what extent an employer shall go in affording a variety of experience to the young worker can be determined not by his immediate interests but by the objective and impartial effort of the state. The state can see the possibilities of the situation as affecting the lives of future apprentices and may be able to see the ultimate social consequences, and this in a manner equaled by neither the employees nor employers as a class, no matter how far-sighted or public-spirited they may be. This function of apprenticeship administration is certainly one which must be met and answered.

Sixth, there is the question of the length of apprenticeship terms. This the state can determine because of its access to wide information and broad experience. As a rule, the local industry is not able to appraise the value of this time element beyond the experience of its own particular establishment. The state, on the other hand, considers this term of training as an investment which the youth is to make and is solicitous for a permanent return to accrue to the boy who makes such an investment. It is a matter of concern, therefore, as to how far the experience gained in any one particular business will be of advantage in other places.

Seventh, there is the determination of the related trade technique that shall be required as a part of the apprenticeship training, otherwise termed the "theory of the trade." This is usually established through those agencies of public authority known as the schools. Just where this instruction may be given, and what it shall contain, is again a matter which the state, through its administrative machinery, is alone capacitated to determine.

It is this phase of apprenticeship which constitutes the kernel of the contribution of our time to the apprenticeship concept. It is essential because modern industry is scientific, and no industrial trade or occupation is mastered until the scientific elements are taken into account. It is the basis of the merit of all part-time or cooperative schemes of education. It is the *sine qua non* of both industry and education. It is the result, if you please, of specialization. In other words, it is that essential part of industrial training or apprenticeship which the school only—and the public school generally—can adequately give.

Apprenticeship schemes can have no meaning without this related technical or theoretical instruction, and any apprenticeship plan which attempts to train youth in industrial practices without it is a pure, unadulterated fake.

The eighth important function of the state in apprenticeship administration is the adjustment of the differences that may arise between parties to the agreement. What are a few of the problems which, safe to assert, can be solved only by the omnipotence of the state? Here are some examples: First there is the question of the apprentice's conduct in the situation of a strike. All who have had experience with education in industry know, only too well, of the manifold problems that may arise from this one lone contingency. Second is the historic problem of the proportion of apprentices to journeymen. Just what the number in any particular situation shall be is a matter which the state alone, through its machinery and its ability to call together the different elements in an industrial enterprise, can determine. Third is the matter of the cancellation or the annulment of the apprenticeship agreement, in other words, the termination of apprenticeship relations. Who shall determine what is good cause for cancellation? Who shall see that justice prevails? Surely no agency is more competent to determine this than the state. In the disputes which arise in the terms of fulfillment of the agreement, who is to discover the facts in the case and who is it that shall give the impartial judgment? The answer, it would appear, is obvious. It is the state. Fourth, what shall be done with reference to the young man, who violates his agreement and "jumps" his contract without cause? This indeed, is a serious problem. It has always been a serious

problem, but perhaps more difficult to handle today than at any time in the past, owing to our modern democratic conceptions and the achievement of the great idea of human freedom. Since, however, these apprentices are minors, and therefore, under the doctrine of *in loco parentis*, the doctrine which underlies all child-labor legislation, the state must do something to minimize these violations of agreements in the interests, not only of the apprentice himself, but of society. One of the chief benefits of the apprenticeship indenture is the lesson of the significance of agreement. Professor T. N. Carver has properly given some emphasis to agreements and their fulfillment in relation to national prosperity. He says: "One of the greatest discoveries of the human intellect is that large enterprises can be carried out by voluntary agreement among free citizens."¹ And he goes on to show how necessary is the fulfillment of voluntary agreement, if a free society is to be maintained. Contract pervades our whole social and economic life. Business is based upon it and so also are most of our human relations. "Very closely related to the question of intelligence as an economizer of human energy is the factor of mutual confidence. One of the greatest factors in the economy of effort, otherwise called the saving of labor, is confidence."² It would appear, then, that social and economic welfare demand the enforcement of or fidelity to agreement. This function of duress belongs only to the sovereign state.

The ninth consideration for state administration of apprenticeship is the fact that the state can maintain adequate and uniform records of the experience of apprentices. These records are necessary to show where apprenticeship experience is leading, what achievements have been made, and what improvements in the interests of public policy shall be attempted. Good records, clear analyses of definite developments or lack of developments, an impartial point of view, all are necessary to adapt apprenticeship to modern changing economic society. This is clearly an obligation of the state for no other agency could perform this task adequately, if indeed at all.

¹ "Principles of National Economy," p. 102, Boston, Ginn & Company, 1921.

² ELY, HESS, LEITH, and CARVER, "The Foundation of National Prosperity," p. 320, New York, The Macmillan Company, 1923.

Tenth, as a corollary to adequate records, is apprenticeship certification. This also is eminently a function of the state. Certificates or diplomas are great incentives for successful completion of apprenticeship. They indicate a recognition by organized society of the importance of acquiring skill and make the individual graduate apprentice feel that he and his work are not without some importance in the life of his time. In fact, it would appear that diplomas were originally given for craft mastery before our modern school diplomas were known. It is quite fitting, therefore, that skill should receive some of its ancient recognition.

At all events certificates of apprenticeship are a convenience for both the apprentices and the employers, and they not only give satisfaction to the boy, but prevent successful misrepresentation of individual accomplishments to prospective employers. In addition they result in some protection to the public who are, of course, the ultimate consumers of skilled training, through the commodities they buy, or the personal services for which they pay. Of interest here are the words of Adam Smith:

Seven years seem anciently to have been, all over Europe, the usual term established for the duration of apprenticeships in the greater part of incorporated trades. All such incorporations were anciently called universities; which indeed is the proper Latin name for any incorporation whatever. The university of smiths, the university of tailors, etc., are expressions which we commonly meet with in the old charters of ancient towns. When those particular incorporations which are not peculiarly called universities were first established, the term of years which it was necessary to study, in order to obtain the degree of Master of Arts, appears evidently to have been copied from the term of apprenticeship in common trades, of which the incorporation was much more ancient. As to have wrought seven years under a master properly qualified, was necessary in order to entitle any person to become a master, and to have himself apprenticed in a common trade; so to have studied seven years under a master properly qualified, was necessary to entitle him to become a master, teacher, or doctor, (words anciently synonymous) in the liberal arts, and to have scholars or apprentices (words likewise originally synonymous) to study under him.¹

¹ SMITH, ADAM, "Wealth of Nations," Chap. X, Part II, p. 126, London, Clarendon Press, 1867.

In including these observations on the function of the state in apprenticeship administration, an eleventh consideration should be pointed out—that, since the apprentice is an individual without full legal powers to protect himself, the prime function of public control in apprenticeship is the *protection of the individual apprentice*. In the apprenticeship relation the state takes the place of the parent, and all the activities referred to in the last analysis are in the interest of the youth who is the apprentice. If we believe that industry was made for man—and we must—then we must likewise believe that the state was made for the individual; therefore, the state must save as much individuality as possible, with due regard to group forces and desirable economic competition. Adequate training of young people in industrial life will lead not only to their further economic advancement, but to the more important realization of greater individual happiness. This will mean enhanced social welfare and hence a greater state.

Questions and Exercises

1. How do you account for the fact that public authority has always been interested in apprenticeship training?
2. Explain the causes for the decline of state control of apprenticeship.
3. Give the reasons for the renewed interest in state control of apprenticeship.
4. Why did Adam Smith object to apprenticeship?
5. What kinds of participation of public authority in apprenticeship are to be found?
6. Discuss the possibilities and limitations of state control of apprenticeship training.
7. To what extent does the Federal government participate in apprenticeship endeavors?

CHAPTER XI

PRINCIPLES OF COOPERATIVE VOCATIONAL EDUCATION

In recent years there has been a significant development of what is known as cooperative education. This term connotes not every kind of combination of school and shop, for in that case all vocational education would be cooperative education, but a special form of training which is designed to coordinate working experience with schooling. It is not ordinarily a coordination of specific jobs with school work, but an attempt to make work and school complement each other. The work is expected to vitalize the academic studies, and the schooling, on the other hand, is intended to enable the individual to pursue his work with greater understanding and efficiency.

Definition of Cooperative Education.—Cooperative education is that plan of education wherein the school takes the employer into partnership, and recognizes the educational value of work. It is a plan of half-time school and half-time work, with students engaging in alternating periods of school and shop. The school and the employers cooperate in the plan, which is administered by the educational institution. It implies progression in shop work and gives the cooperative student a fairly broad industrial training, and at the same time, permits him to continue academic studies.

As might be expected, there are many elements about cooperative courses which suggest the trade apprenticeship. However, there is a distinction which makes the two in reality different forms of vocational training. Apprenticeship is a scheme of trade or occupational training wherein the schooling that goes with it is intended definitely to supplement shop experience. Cooperative training, on the other hand, is designed to make schooling more effective, the shop work being entered into with the idea of vitalizing academic studies and broadening the

industrial horizon of the student. Of course, there may be an exception here and there, but the fact that the initiative for cooperative education usually comes from the educational institution would seem to confirm that thesis.

Types of Cooperative Education.—The first type of cooperative course is that offered by the higher institutions, that is, the college cooperative course. This type is now well known; its virtues have been much extolled during recent years, especially since the Great War. The University of Cincinnati gets the credit in the United States for initiating this type of education in 1906, and the father of the movement was Professor Herman Schneider, now president at that university. An interesting account of the development of the cooperative system of education is contained in *The United States Bureau of Education Bulletin*, No. 37, 1916, written by Clyde William Park. A number of other institutions including the following have followed the lead of Cincinnati, with variations:

- Northeastern College, Boston, Mass.
- Georgia School of Technology, Atlanta, Ga.
- Municipal, University of Akron, Akron, Ohio
- Massachusetts Institute of Technology, Cambridge
- Marquette University College of Engineering, Milwaukee, Wis.
- School of Engineering, Milwaukee, Wis.
- Drexel Institute, Philadelphia, Pa.
- Ohio Mechanics Institute, Cincinnati, Ohio
- Harvard Engineering School, Cambridge, Mass.
- Newark Technical School, Newark, N. J.
- Antioch College, Yellow Springs, Ohio.

The second type of cooperative education is that of less than college grade, or the courses in secondary institutions. These schemes represent departmental enterprises of the respective schools. In other words, there are cooperative classes of selected students. Few schools can be devoted exclusively to the cooperative plan unless the student body is especially selected. Below is given a list of cooperative schools in secondary institutions, taken from page 194 of *Bulletin No. 87*, issued by the Federal Board for Vocational Education.

- Delaware, Wilmington Vocational School
- Georgia, Rossville School, textiles
- Maine, Rumford High School, pulp and paper

Massachusetts:

Beverly Industrial School
Boston High School
Fitchburg High School
Southbridge Vocational School
New Jersey, Paterson, Boys' High School
New York, The Haaren and Newton High Schools

Ohio:

Cincinnati High Schools
Dayton, Stivers High School
Marion High School
Warren High School

Pennsylvania:

Abington High School
Chester High School
Lock Haven, Industrial High School
Pittsburgh, Ralston Industrial High School
Williamsport High School
York High School
Rhode Island, Providence, Technical High School, Providence Trade School, South Carolina, Spartanburg, Textile Industrial Institute, Vermont, Springfield, High School

The evolution of these cooperative courses shows clearly how the expanding development of industrial technique has called for new avenues of training, and at the same time gives evidence of the fact that there is growing up a more tolerant view on the part of the so-called practical man toward academic education. This has been particularly noticeable since the War. The demand for the educated and trained man in all walks of life gives real significance to the cooperative type of training. The same forces which make apprenticeship training necessary demand the cooperative courses. It is quite possible for cooperative relations to be established upon a real apprenticeship basis. In other words, it is quite possible to organize apprenticeship on a half-time basis.

This type of training is broader than trade apprenticeship, but comes nearer than any other type of vocational education to the real apprenticeship relation. Fortunately, apprenticeship and cooperative training can prosper side by side. In fact, in a particular establishment, one system aids the other in many ways. If the employer enters into a contractual relationship

with a cooperative student, there is then what can be called cooperative apprenticeship. Specific contractual relations are not very practicable in the cooperative plan, as will be evident as the discussion proceeds; therefore, it is in the interests of clarity not to confuse cooperative training with bona fide apprenticeship.

Advantages of Cooperative Education.—Cooperative training, then, has two obvious but important phases which are not peculiar to any particular calling. One phase pertains to the obtaining or imparting of a thorough knowledge of scientific principles, the other to the obtaining or imparting of a first-hand knowledge of the world of practical things where the principles are applied. In other words, there must be experience in what is perhaps tritely termed the "school of hard knocks." The increasing adaptation of scientific knowledge and mechanical power to the service of mankind makes this necessity ever greater.

Training in scientific principles has been amply provided for in our technical schools, but on the other side there have been many aspersions cast upon the merely academic young man with his narrow outlook and lack of ability to meet the real needs of the industrial and business world. Such a person seems to the veteran to be impractical and out of place. Hence the quest for the solution, which would mean a real combination of theory and practice—a cooperative arrangement.

At this point, certain questions present themselves. How shall this practical training be obtained? How shall the student acquire a knowledge of the laws of physics, of chemistry, of mechanics, of mathematics, or of psychology, and at the same time learn of their applications in economic enterprise? In other words, how shall high-grade technical and academic instruction be correlated with practical experience? The cooperative scheme of training is the best answer, since it synthesizes the two complementary phases of training, school and shop. Surely there can be no more nearly ideal solution.

Cooperative education can be the basis of a real apprenticeship system. It approaches the ideal, in direct relation to the correctness of the division of time devoted to theory and of the time devoted to practice. The best mutual adjustment of these two factors can be accomplished better through qualitative considerations than through quantitative. That is to say, if experience

shows that too much time is devoted to practical work, and it is impracticable to change the length of the practice period, the true balance can be established by an improvement in the quality or content of the working experience.

Cooperative education requires the joint participation of the teaching faculty of the technical school and the industrial organization in the training of the students. It usually means half time devoted to theoretical work and half time devoted to industrial or shop work. These are carried on by two sections of students, one replacing the other in alternate periods. Furthermore, these educational aspects are coordinated by the cooperative educational institution which assumes the initiative in promoting and maintaining this educational program. This scheme is a characteristic of the combined efforts of educators and employers to develop man power that can better cope with the industrial problems of today.

Since the training in scientific principles is of long standing, it is fitting here to examine more particularly the contribution to training that the cooperative system makes.

It has already been implied that the success of the young industrialist depends upon both his theoretical knowledge and his ability to select the most efficient means for the economic solution of his problems or the accomplishment of his task. This involves not only the proper selection of material and efficient use of machinery, but also the ability to take advantage of the assistance of other individuals who are needed, in greater or smaller numbers, to carry out any project. In order to accomplish this to the satisfaction of the employer, or the needs of the job, the student must be familiar with the manners, customs, habits, and feelings of the workmen with whom he associates. His ability to gain the confidence of others is enhanced when he is familiar with the work they are expected to perform. Cooperative training makes this familiarity possible. For it is only by associating with the workmen and by sharing their problems and points of view that the student can hope to take his proper place among them. There is no short cut to this kind of knowledge. The strong advantage that cooperative training has, in making effective this contact, is the fact that the earlier and more gradual start in industrial life as a student, affords him a better

means of contact and appreciation than could be obtained in an attempt to pick up this experience all at once.

Anyone versed in industrial practice knows how much more readily a mistake made by a student in industry would be overlooked than would the same mistake if made by a full-fledged employee. This is a distinct advantage in favor of the cooperative student and at the same time a hardship on the technical graduate or the young man starting in on full time. It is more than probable that the latter individual may have many things to unlearn, which years of academic theory unleavened by industrial contact may have inculcated in him. In point are the words of Charles Ginrich:¹

The cooperative system tends to build character by giving the student responsibilities that employment always carries. It broadens the student's outlook upon life and drives home to his attention the importance of the human element . . . Moreover, the system is selective since men who are unfitted for practical work soon discontinue it.

One of the criticisms of the purely academic system is that many students spend years acquiring an education only to learn upon entering the practical field that they have not chosen the right profession.

While the advantages that the cooperative student may have in the shop are very evident, it is well to point out at the same time that such a student may cause an enhancement of his scholastic work because he may bring to the class ideas and problems suggested by his practical work, which will illuminate the discussion in the classroom and lead him to deeper powers of perception. In other words, it gives him a keener interest in his studies and enables him better to grasp the principles expounded in his academic pursuits. The result may enable the maintenance of higher scholastic standards.

Since the purposes underlying cooperative education have been set forth, and some of the advantages stated, it is now of interest to analyze the administrative features of this phase of education. It will be the purpose of this part of the discussion, therefore,

¹ Fifteenth Annual Meeting of the Society for the Promotion of Engineering Education, July 3, 1907.

to set forth some of the aspects which are paramount in the cooperative activity, and to examine some of the problems which must be encountered in the administration of the scheme.

Administration Principles of Cooperative Education.—One of the problems which must be met early in the consideration of a cooperative plan is the question as to what types of training shall be offered. *Types of cooperative training must be determined by the locality in which the school is established and upon the opportunity for cooperation which might be afforded.* Some institutions, because of peculiar advantages, might specialize in certain types of cooperative training, and other schools in different phases. In a machine-industry center such as Milwaukee, Cincinnati, or Detroit, it is possible to offer courses in the engineering lines such as have been already suggested. These courses may or may not be of college grade. In some instances, perhaps, it is desirable to establish cooperative courses in architecture, accounting, business practice, or any other field, depending upon the opportunities and the potential demand for any specific class of students. It is worthy of observation that this specialization of training may very easily be carried too far, for the principles governing all kinds of industrial training are substantially the same, and subsequent practice and experience in particular lines, after a general training, may afford all of the practical specialization necessary or advisable. At all events, one of the problems in promoting and maintaining the cooperative program is to decide, according to all the available evidence, upon the more serviceable types of training that can be offered.

The tendency is to favor the plan which gives more attention to general industrial training, with perhaps a strong leaning to the idea of training the workers on a functional basis; that is, to train them, not merely to be skillful operators, but to function properly in whatever type of work they may get, trusting the industry to teach the routine or technique necessary. Cooperative training should not aim at producing mere specialists.

For an institution devoted exclusively to the cooperative scheme, there will, unquestionably, be a limitation upon the courses that may be offered. However, the opportunity for the individual to develop for industrial and business employment can in itself be regarded as a worthy aim of a cooperative plan.

The next matter to be considered is how long the courses of training shall be. This, obviously, must be determined by the character of the student product it is desired to turn out, and the length of time required to give the requisite amount of instruction or study in the given case. The character of the desired curriculum will govern, in most cases, what the length of the course shall be. Expediency, custom and the institution's fidelity to high-grade scholarship, will be factors in giving the solution. It may be set forth as a general proposition that the theoretical training found to be necessary in any course should not be curtailed for the sake of practical experience. A cooperative course should provide supplementary training in the form of special industrial or commercial work that will add to and enrich the academic studies, but should not, by any means, be a substitute for sound training in scientific principles.

Among the cooperative schemes in vogue, there have been arrangements to suit local exigencies. In considering the administration of cooperative work, the most outstanding feature appears to be the question of the supervision or coordination of the student's work while in the shop—the problem of the student's industrial relations. From the school standpoint there are two principles of supervision. One distributes responsibility for the students in various departments of the school among the heads of the several departments. The other principle makes one individual in the institution entirely responsible for the conduct and placement of all of the cooperative students in the school, without regard to the department in which they may classify. The first, which we may term "multiple supervision," has some advantages. The closer relationship of the head of the department to the students in his particular field enables him to see that the work in the shop may be better correlated with instruction. This advantage, however, is more apparent than real. The benefit derived in such a relation is largely a matter of theory, particularly when the earlier years of the course are devoted to general studies. This is partly due to the fact that there are so many other variables.

It is poor administrative policy to have several people responsible for the same activities, especially when several individuals may enter the same shops to deal with the same employees,

where the different students are at work on their jobs. Any expert in administration, upon reflection, will see what difficulties would arise. The dictates of common sense should obviate the practice which engenders petty jealousies and interferences and "wire crossing" which would be inevitable where students of different departments are cooperating in the same industrial establishment, for it is only human for a department head to work for the benefit of his group of students. This scheme of administration would destroy the spirit of solidarity among students at the school. Moreover, it would not conform to correct administrative principles, and would be in direct opposition to the practice in the industrial establishments with which the students must gain their experience. As a matter of fact, it would "kill the goose that lays the golden egg." It would cause irritation and finally disgust in the plant, and would result in the decision of the shop administrators to terminate any relationship with a plan so administered.

Even in such a highly organized plan as the engineering cooperative scheme, Professor Roe says with regard to administrative principles:

The cooperative plan has not been uniformly successful. Its success has hinged largely on the quality of the coordination between the work done in the college and that in the industries. Where this has been well handled the plan has worked well; where it has been slighted failure has resulted. At Cincinnati, Dean Schneider at first acted as coordinator himself, a fact which in no small way accounts for the success of the system there. Later, when the work had grown beyond the capacity of one man, the heads of the various engineering departments acted as coordinators, each caring for his own men. This led to lack of uniformity in policy, confusion, and an occasional crossing of wires. The solution was the creation of a department of coordination with an experienced head and a corps of assistants.

A coordinator should be a man of high caliber, a good executive, a keen judge of men, thoroughly familiar with both college and industrial conditions. In setting up the work he secures not only the consent, but the active interest and cooperation of the owner or manager . . . ¹

On the other hand, the second method, which places the responsibility for the cooperative work of the students in the

¹ *University of Cincinnati Studies*, Series II, Vol. 11, Part 3, p. 29.

hands of one executive, who may be assisted by others, results in a more efficient method of supervision, affords more impartial treatment to the students at large, and makes for harmony and good will in the relations which exist between the school and the industrial establishment. In fact, no cooperative scheme can be successful which does not fix the responsibility in a definite place, thus providing a single contact which obviates the dodging of responsibility. Such a plan can be carried out by establishing a *department of coordination* or what might be termed a department of industrial relations through which all the cooperative relations with all the industrial plants may be considered. This department should be the connecting link, not only for cooperative students and the plants, but for other interests which the school may have with the industries. It is not to be inferred that the interests of the faculty of the college in the industrial relations must be relayed through the department of coordination, but merely that the contacts should be harmoniously executed and the unity of the college made evident. It can be seen that this principle of administration of cooperation is the most desirable from the point of view of the school.

This centralized system itself, however, may involve two methods. In the one case, the department of coordination will deal directly with the students in the various shops; in the other case, the contact will be made with the students in the shops through a functionary of the management in the factory. In other words, the question may arise, shall the coordinator expect to walk freely through a shop and interview the student concerning any particular phase of his experience, with a view to making suggestions to the factory official for the student's handling, or shall these contacts be made through an individual in the plant who is held directly responsible for the conduct and experience of the students in the shop? The experience of the cooperative system in a large city of the Middle West demonstrates that the latter plan is the most practicable method for all concerned, and is particularly satisfactory to the industries which hold the key to the success of the cooperative plan.

It has been found desirable to encourage interest on the part of the cooperating firms by inducing them or encouraging them to assume responsibility for the character of training of the

young men, since some of the latter may subsequently become associated permanently with their establishments. Certainly more can be accomplished for the cooperative student by the officers of the firm, who are interested in his supervision, than would be done for him by an outsider who would periodically appear with suggestions dealing with the relation of the student to his employment. This plan permitting outside supervision might lead the industrial executive, if he countenanced it at all, to be more or less indifferent to the student until the coordinator came around, and then to forget the student as soon as the coordinator had left the plant. It would seem evident that it is far better for the school, as well as for the students, to have a number of agents with the proper point of view (participants in the industrial plants) to look after the students, than it would be to neglect this important opportunity and expect the welfare of a student to be sufficiently maintained by the intermittent appearances of an administrative officer from the school. Experience at one cooperative school in particular¹ has shown that when the responsibility for the welfare and training of these students is committed to some person in charge of personnel or educational work in the industry, much can be accomplished for the student in his training which would otherwise be impossible. This is eminently true where apprenticeship organizations are already established in the industries.

Under this plan the coordinator from the college must work in close cooperation with the responsible person in the plant. This results in preventing exploitation of the cooperative student, which is to be preferred to attempting to eliminate abuses of the cooperative relations after they have appeared. As a rule it means the possibility of accomplishing more for the student than even the school will dare to ask. This comes about because the element of pride is engendered among the functionaries in the plant, which often results in causing them to try to outdo other plants in promoting an educational scheme of much merit. If the responsibility for the success of students in the plant depends upon someone's coming in from the outside, the direct interest in the students on the part of management will be missing. The shop supervisors with whom the students work will act only at

¹ Marquette University.

the suggestion of the college instead of themselves being the cause of the promotion and growth of the student in experience. It will be seen, then, that such a principle makes the need for many assistants in the office of the department of coordination of the cooperative school unnecessary, for under proper management, with good will and cooperation, the school can have what is virtually a coordinator in every plant where the student works.

It goes almost without saying that it takes a high-grade person to make a coordinator who can without question see that the plan is thoroughly "sold" to the heads of the industries participating. Under this system it has been possible for a cooperative school to have its entire number of cooperative students supervised by one coordinator, without requiring him to devote all his time to this particular task, and it may be said that this has been accomplished with a roll of over three hundred students in the cooperative work. Perhaps something better could have been done in this case by keeping more adequate records of the students' achievements, and by closer follow-up, but very little more could have been accomplished in the way of affording students a greater variety of experience.

The main principle in this connection is to induce the cooperating firms, through proper foresight and realization of service rendered, to give these future adult industrial workers as good a training as the practical conditions of their businesses warrant. It would seem that any other method or principle of conducting cooperative training would be beset with manifold limitations. In the last analysis it is the leaders of business and industry who must assume the responsibility for the character of training which students may obtain while in the shops. It becomes important, therefore, that the coordinator of the school see that the paramount questions which are involved in a cooperative scheme of education are adequately appreciated by those responsible for the conduct of the business establishment.

Of much interest in this connection are the observations of Assistant Dean Burns, of the University of Cincinnati, made on the strength of that institution's twelve years of cooperative experience, that the principal points of agreement between the cooperative firms and the coordinator are as follows:

First, that the Superintendent and the Coordinator arrange a schedule of sequential shop training for the time that the student is in the plant.

Second, that *the supervision of cooperative students be entrusted to an executive in the firm, who is in sympathy with the cooperative system of education, who has a good knowledge of men, and who is a man of some force in the organization.*

Third, that a satisfactory wage scale be adopted.

Fourth, that the firm each year take on a minimum number of students.¹

These principles are fundamental. The second one mentioned, it will be gathered from these pages, is of the utmost importance. With reference to the first, it would be even better if some officer of higher rank than the superintendent were also committed to the plan.

Cooperative training involves three main elements: the industry, the school (which includes the faculty), and the students. The different views of these elements must be reconciled and coordinated. A common interest must be established. Industrialists who look upon cooperative students as a means of acquiring intelligent labor cheaply may in the end lose more than they gain. Likewise, if the school is narrow in its point of view, and if it endeavors to project its academic notions too strongly upon the managers of industry, then its scheme of cooperation will soon pass into oblivion. Again, the student must realize that employers are not offering them opportunity because of a feeling of philanthropy toward them (although this may appear in exceptional cases) nor because of any obligation they may feel toward the educational institution, but, in the last analysis, because they see in it a matter of mutual interest and profit. The student must not view cooperative work as a means of earning something to go through school, neither must he view it as a necessary evil which must be endured in order that he may graduate from the school; rather must the student look upon it as an opportunity which is afforded him to observe the management of industry, the actions of industrial men, the atmosphere of modern production, the

¹ *University of Cincinnati Studies, Series II, Vol. 2, Part 1, p. 75.* Italics are the author's.

vicissitudes of business, and the variable factors which bring the perennial problems that are characteristic of a complex and dynamic industrial order.

The successful administration of cooperative training, then, must reconcile the different views of the participants. The common interest must be emphasized. Good will among the parties must be fostered and jealously guarded. The cooperative enterprise as a whole must be taken into account rather than the idiosyncrasies and peculiar preconceptions of particular individuals, be they in industry, faculty, or student body.

Questions and Exercises

1. Give a satisfactory definition or explanation of cooperative education.
2. Explain the two important aspects of cooperative training.
3. How does cooperative training differ from apprenticeship? Is it possible to make apprenticeship and cooperative training identical?
4. What is the coordinator's function in the cooperative scheme? Explain your idea of coordination.
5. Can you relate any experiences of cooperative training? If so, state what principles suggested in this chapter applied to the case.
6. Cooperative training involves three main elements, the industry, the school, and the students. Explain the part that each must play in a cooperative plan.

CHAPTER XII

PROBLEMS IN ADMINISTRATION OF COOPERATIVE VOCATIONAL EDUCATION

In cooperative courses the problem of administration is the crux of the success or failure of the scheme. Industry is not yet accustomed to the training of students as a part of its regular activity (although it is fast approaching this ideal); hence many individual problems of cooperation must be met and mutual adjustments made. Some of these individual problems that make the smooth administration of cooperative work difficult will now be considered.

TYPES OF ADMINISTRATIVE PROBLEMS

In the main there are three general groups: first, problems which arise from the points of view, desires, or experiences of the individual students; second, the problems of employment, or the objective considerations over which there can be little control; third, those problems of the educational institution which involve the necessity for harmonizing the academic or school requirements with the demands of industry.

Among the first group may be enumerated the following: the student's preference for certain types of work; the rate of wages; the length of the working day; the question of overtime; preference for placement in a particular division of the school (that is, first or second section); the distance of the job from the home or living quarters; the opportunity afforded to work on other than the "co-op" job (that is, work on the side); the attitude toward the change of job; the attitude toward apprenticeship agreement; and the question of credit for work done outside of the surveillance of the cooperative school.

The second group would include the problem of specialization in the field of work; the matter of keeping the two alternating

sections of the school balanced; the question of maintaining equilibrium between the sections, such as the grouping as nearly as possible of students of the same age class; the question of holidays, of the student's health, of incompetence in school work, of vacations in shop work, and the question of allowing credit for work done elsewhere.

The *third* group, which more particularly confronts the school itself, includes the following: questions of satisfying the desires of the faculty; the adjustment of a man in his job when his school work is below standard; the problem of discipline when the student fails in his shop work whether for incompetence or for violations of shop discipline; the matter of adequate records; proper certification; the placing of the incoming class in cooperative jobs; and the question of students' activities.

Problems Pertaining to Students.—If it were possible to divide the class of cooperative students according to some scientific test, and definitely to determine their status and their placement, the situation would be ideal. Such a possibility, needless to say, is out of the question. One of the first problems which a coordinator will encounter is the varying preferences which students have for different kinds of work. Some care little what work they do as long as they get the contact and experience with industry. Others seem to think that experience in mechanical processes is the *summum bonum* of their school training, while still others with more faith in the value of human contact, place more importance upon the relations they may have with industrial people. Again some students will desire certain types of jobs which they believe to be in line with the type of work they expect to follow. Many students undertake cooperative training with prejudices either for or against some particular phase of industrial work, and one of the first tasks of the school is to point out to these students the common principles involved in all types of employment, especially for the beginner, and to point out the necessity for a broader foundation and outlook than can be afforded by constant attention to the mere operation or pursuit in some narrow field. In other words, it is desirable to emphasize the value of the functioning of a job, rather than the manual performance. The degree to which the school can be successful in correcting the erroneous views which students show in their

preferences for certain types of shop work will determine, to a large extent, the degree of satisfaction that students will have in their work, and in no small measure, it will determine the character of the future adult worker.

Much difficulty is experienced in placing students on out-of-door jobs, such as work in the building trades, surveying, etc., because these jobs are ordinarily good only for a portion of the year, and students so placed usually turn up around the administration offices of the school in the winter months for steady cooperative work, at which time perhaps it is impossible to obtain. It is necessary, therefore, at the outset, to find cooperative relations which can be maintained throughout the four seasons of the year.

Another problem of importance is the question of the wages which the cooperative student is to receive. There is ample opportunity for "passing the buck" from industry to school, perhaps owing to a lack of complete understanding of the position which the cooperative school must maintain. Cooperative institutions whose chief objective is to afford a better education for their students cannot assume responsibility for the amount of wages which the student shall receive. However, they can insist on a minimum to be agreed upon by the cooperative firms, with the understanding that reasonable advances will be made as the student progresses. The cooperating firms should pay wages which will not be so high as to preclude them from varying the experiences of the students. It is common experience to find students working competently on some job for which other workmen are paid twice as much. Under such conditions the student is inclined to consider this unfair discrimination. It is necessary for him to see, however, that the good student should earn more than he is paid, and in this way help to carry the overhead expense involved in frequent changes, but more particularly is it necessary for him to demonstrate that he is worthy of being given greater opportunity in training. If the students can soon earn more than they are paid, then the cooperating employer is clearly under obligation to change these students from one department to another as fast as is consistent with the developing experience of the student and the practical exigencies of the business.

It would be folly for the school to enter into the question of determination of wages for the students. It may be desirable, however, that the school should try to standardize students' pay to some extent, in order that the element of competition between the plants for desirable students may be based upon the consideration of the amount of educational opportunity afforded in the cooperative work—the quality of the shop training rather than the amount of money earned. In short, the school must set forth with increasing emphasis that the primary consideration in cooperative opportunity is not the amount of money to be earned but the educational opportunity involved. Cooperative relationship structures which are built upon the proposition of affording an opportunity for boys to earn their way through a school course are resting upon a foundation of sand. If, however, the scheme is undertaken for mutual advantage and is based on inherent merit, it will have a permanent footing. Other things being equal, it is a correct principle that the educational content of industrial experience should be emphasized in preference to the amount of remuneration. It can be said from experience, that those establishments which pay the highest wages to cooperative students are invariably those which give the students the least educational opportunity. Perhaps the lowest-paying plant may not afford all the opportunity that it should, but, at all events, there is a moral basis upon which the firm can be urged to give more work-opportunity of greater educational value. On the other hand, where the students are highly paid, there is no opportunity to promote the educational idea, without, at the same time, inferring the possibility of a reduction in the amount of pay.

Cooperative relationships would be quite simplified if the students were not so human as they are. If these students could be arbitrarily assigned as mere numbers for certain sections and certain places, naturally the administration might be simplified, but, as a matter of fact, we find that students like to be placed in certain sections because of the desire to be with friends, to see that the vacations come at the right time to suit them, and for many other such individual reasons.

It is understood that one of the important features of the cooperative plan is the proper sectioning of the school, in other

words, the dividing of the student body into two alternating groups, usually designated Section *A* and Section *B*. The placing of students in any particular section cannot always be arbitrary. Experience has revealed this division to be fraught with some difficulty, and it is a problem which must be reckoned with. Here, again, experience has demonstrated that after the original division, the correct principle in making changes is to allow upper-class men to maintain their old sections, or to have preference when changes are involved. The lower-class men consequently must accept whatever their sectional assignment may be.

When a student receives a shop assignment he may be disappointed to find that it is a long way from his home or his living quarters. He may have to rise too early in the morning to make the desirable transportation connections. Perhaps this is not so bad in itself, but sometimes there are other interests with which this long journey each day will conflict. One of the peculiar experiences of cooperative placement is that when other considerations seem to be ideal, this one variable may be sufficient to ruin the possibility of success in any particular arrangement. Let it suffice to suggest that whether the student is living at home or whether he is boarding, the distance to and from work is a matter of no little importance.

Another problem of students who are working their way through school arises out of their desire to engage in other jobs, outside of their cooperative work, such as operating a lantern at a movie theatre, running an elevator after hours, or attending a night telephone. Of course, this problem would be obviated to some extent in a scheme where legal working permits are required up to the age of eighteen years. The placing of a student in a cooperative job which will not allow him to engage in another side job may mean that he must forego the cooperative course altogether. On the other hand, the extra job must be discouraged with a view to having students give more time to their scholastic work. The question arises whether it is not better advice to tell the student to stay out of school and work on a regular full-time job for a year rather than to try to work extra hours, thereby jeopardizing his chance of doing well in his school work.

One theoretical advantage of the cooperative arrangement in the shop is that the student is moved from one job or department to another in order to vary his experience. This fact may not always be appreciated by the student, even though the employer is willing to grant it. The cooperative student may get on a particular job or in a certain department which he likes, and consequently he may think it desirable to stay there permanently. To remove such a one is like performing a major operation. It is obviously unnecessary to point out that such individuals, if allowed their own way, would ruin the opportunity for other students and limit the advantages in training which cooperative work offers.

The most persistent objection which students make to cooperative work is the fact that they are not with sufficient frequency moved from one department to another in the plant—even though during a good deal of the time they have not availed themselves fully of the opportunities which have been extended to them while in any particular job. This is the old story of apprenticeship experience. In this category come most of the difficult complaints and misunderstandings. This, of course, is the chief point of attack upon all apprenticeship schemes.

It is quite reasonable to suppose that some firms have a higher sense of obligation to students and apprentices than other firms have, at least in so far as this sense is reflected in the actions of responsible parties within the plants. Equitable practice with regard to changing jobs can be obtained by holding the cooperative employment to the foreground as a *problem of education*, rather than one of mere employment. This change of emphasis will make it possible to give the student the kind of experience that he ought to have. However, in scarcely any case is the practical technique as important as the psychological and scientific training which the student should get in his workshop laboratory.

Employment Problems.—Drawing our attention to some of the more objective phases of cooperative problems, we find that the *length of the working day* is a matter of some concern. It affects the cooperative student in two ways: first, in his daily earnings; second, in the total amount of the experience in his school course. If an industry is working on short time it is hard

for the student to get the standard requirements for the working periods. It has been found better in many cases to base the full course requirements on the matter of number of hours rather than on weeks or months, a principle which conforms to the practice with regular trade apprenticeship. The assumption is that a certain amount of experience in time is necessary. Therefore, the requirements cannot be met until the actual time at work has been fulfilled. This period is usually determined upon the basis of an eight-hour day, allowing, of course, for legal holidays and other customary free periods, such as Saturday afternoons. If the students work longer than eight hours they are able to finish the required time ahead of schedule. Such individuals, however, should be required to continue with the cooperative firm until the close of the school session for that term. Otherwise, new problems will be introduced.

The question of *overtime* is a difficult one. During periods of prosperity and business stress, workmen are practically required to work overtime. When the students are in the shop they are always subject to the same rules as other workmen, hence are called upon for overtime work. This is objected to by many, because they feel that for a growing person, a day, which may usually extend to ten hours, is sufficient. Overtime interferes with certain social engagements which are presumed to occupy the thought and attention of young people. Notwithstanding individual views, cooperative students must work the necessary overtime when required. Those who see the value in cultivating the good will of the employer will offer no objection, but the few who do object may be sufficient to bring about a diminution of good will between the students and the manufacturing concern. This may cause the employer to take the attitude that since the student is not interested enough in his business to work overtime, then there is no advantage for the employer in keeping such a student on his pay roll. In any event, it is one of those problems which must be taken into consideration in the ordinary course of placing and maintaining students on cooperative jobs.

Another problem is the relation between the working experience which a student may get in the particular cooperative plant, and what he thinks is his professional field of work. For instance, the student who is interested in highway work may be assigned

to a large manufacturing plant such as one making steam shovels, or another making ditch diggers, or even one making concrete mixers. The individual who thinks he has a right to follow surveying in coordination with his academic work will perhaps fail to see the connection between his studies and the building of these important implements used in engineering undertakings. He is likely to regard it as work good for other types of students, but something which does not pertain to his chosen profession. It may be said here that this constitutes one of the most difficult questions to handle satisfactorily. Industry does not show any great concern over the particular academic course which a person has pursued in school, providing this person is willing to apply his training or ability in the particular establishment where he may for the time be engaged; but there is a real difficulty which arises from the atmosphere which students create in leading the employer to believe that they are not interested in his particular line of business. The result, then, is that the employer does not care to have such students in his employ. It can be seen, therefore, that if there are not possibilities open for such students in other jobs, more in line with what is presumed to be their choice, the problem of placement may become serious for the school. The fact that the coordinator may insist on putting certain students in certain places does not do away with the question of dissatisfaction on the student's part, nor does it prevent critical members of the faculty from finding fault with the work of coordination and the kind of apparent opportunity or lack of opportunity which is meted out to certain students.

Since the student body must, for purposes of alternation, be divided into two classes which may be termed Section *A* and Section *B*, the matter of balancing these two sections becomes one of significance. It is worthy of note, however, that all other factors may not coincide with a proper balancing of the sections. In other words, this matter of keeping equilibrium is one of a *series of variables which must ever be considered in every move that is made with cooperative students*. The adjustment must be made in such a way as to avoid the least amount of inconvenience to all parties concerned, and certainly so far as the industries are concerned. The good will and intelligent

participation of industry is the first essential and the greatest asset in the cooperative plan. Since this cooperative relationship is tied up with the realities of life, there is no chance whatever of giving universal satisfaction. This fact must be anticipated in the beginning.

Not only must the sections be kept in correct relation so that the jobs may be properly taken care of from month to month, but it is desirable that on general principles sophomore students alternate with sophomores, junior students alternate with juniors, and senior groups alternate with seniors. In other words, alternates should be as nearly as possible from the same class. If this can be achieved, it will make the arrangement smoother, because there is a greater likelihood of getting the cooperative students more evenly matched. Moreover, it will be at the same time easier for the pay-roll master, who naturally prefers to have one price on the same job. This matter of making the classes even is another variable which is hard to control. This difficulty is due to the fact that changes must be made on account of sickness, failure on the part of some students to make good, and other sufficient reasons. In order, therefore, to minimize these difficulties it is necessary to establish the principle that the *first consideration must be the fitting of students into the cooperative situation*. In short, it may mean, so far as a particular class in the school is concerned, that there will be such a division in the number of students as to minimize materially the number which may be grouped for a specific academic course. This may lead the faculty members interested to try to persuade the coordination department to place all the members of a particular class in one section, ostensibly to bring about a saving in teaching personnel. A compliance with this natural desire, however, would violate one of the principal rules of cooperation.

With reference to holidays, it is very easily understood that all of the students cannot be holidaying at the same time. Customary school recesses have to be modified under the cooperative plan. Vacations and school holidays must occur during the time which is scheduled for school work in order not to interfere with shop activity by leaving a job vacant. This fact suggests that the more successful cooperative schemes must operate on a whole-year basis. Vacations must come out of

school time. In this way the employment relations are not disturbed. The mid-winter vacations provide the Christmas week for one section as a holiday week and the New Year week for the next section. Of course, it would be impossible to arrange these recesses to suit all students. Consequently, we sometimes find students preferring certain sections in the school, with a motive no other than the desire to get the advantage of the Christmas-week vacation, rather than that of New Year week, or perhaps a few days of the Easter recess, which the workers in the shop cannot obtain.

The matter of *student health* cannot be ignored in cooperative work, particularly since workmen's compensation is a matter of importance. It is a good plan to require, as most schools do, that the students shall submit to a physical examination, in order to discover defects, or potential defects, in health or physique. In cases where disability of a particular kind may lay the student open to accident or other industrial hazards the cooperating firm should be notified of the condition. This precaution has the effect of inspiring confidence in the school, and reveals the schools desire to treat with the industrial firm in a manner which is fair. An examination of the student's health will result, in most cases, in having the disability removed, and a more wholesome relationship with the industry established.

The question often arises as to the relationship between a cooperative job and a student's health. There are cases where students can be adjusted, with this point in view, to the most fitting kind of work. However, there is a minimum health requirement in cooperative work of an industrial nature. In case the student cannot reach this minimum, then, manifestly, there must be precaution exercised because modern industry, with few exceptions, involves the liability to intermittent strain through physical exertion, a liability due either to long hours or to intensity of effort in emergencies. Speaking generally, the cooperative students with poor health, by the very nature of ordinary cooperative work, sooner or later are eliminated. These students should be encouraged to take up other lines of work which do not require physical exertion.

Many students *fall down in school work* after being placed on the cooperative job. It will be seen that this may mean one of

two things. It may mean, if the students fall below established standards, that they will be eliminated from class work, which will automatically drop them from the course entirely, thereby creating a vacancy in the cooperative work; or it may mean that it will be necessary for the student to repeat courses to make up delinquencies in class work, which will, likewise, result in the student's being taken out of shop work. As far as possible, students whose academic standing is not likely to fall below the minimum standards must be chosen for cooperative work; for whenever cooperative students fall down in their school work, it automatically creates a problem for the shop.

A matter which complicates cooperative administration is the desire on the part of the students to acquire additional vacation by prevailing upon the shop executives to grant them *leaves of absence*. The experience works out usually as follows: If the student is valuable the plant executives are loath to let him go, but will do so in order to be agreeable. If the student is unsatisfactory, the shop is glad to let him off. In either case, it hurts the standing of the school, and it is not an unusual occurrence to find that after a favor has been granted to one student in the shop, it becomes necessary to grant the same favor to other students; and finally, many students may be out of the plant when they are really most needed. This causes criticism of the cooperative course, of the cooperative students, and of the cooperative school. Employers should be induced, therefore, to stick strictly to the schedule, and, for disciplinary effect, to require that no vacations be granted except those which would be given to any employee in cases of emergency such as sickness, or death in the family. Shop foremen usually like to be agreeable. They will let one student go, and then another, and another. Later, embarrassed by a lack of adequate assistance because of these favors granted, the foremen will be bitter in their denunciation of the cooperative students who have the temerity to ask for vacation favors.

It is inevitable that in any such enterprise as the cooperative course there should be a certain number of individuals seeking to enter with *advanced standing*. They present experiences acquired elsewhere, and desire that credit be given for their work. This is a matter for individual consideration, depending, of

course, on the kind of work and how well the work was performed. At all events, there must be an established limit on outside work that will be credited. The rule should specify that the boys who are "natives" of the school shall be given preference on cooperative jobs.

Sometimes there is a desire on the part of some students to receive *cooperative credit for outside work* done in school time. To allow such credit is a wrong principle, because it is presumed that a student's school hours are adequately taken up with his academic studies, and it is not a good thing to encourage students to put themselves under undue strain. Such credit, then, is given only in extreme circumstances where perhaps a few additional hours are needed to complete the requirements for graduation or in cases where students are exceptional in their school work.

Problems of the Cooperating School.—In considering the third group of problems previously mentioned, there will be encountered the difficulties which arise in satisfying the desires of the faculty. This is mentioned as a problem because in every department of a school the faculty members feel particularly interested in their own students, and in many cases express the desire that certain things should be done with certain students. To satisfy the faculty on cooperative work is well-nigh impossible. Perhaps this is as it should be, because the members of the academic faculty do not have sufficient knowledge of the details of cooperative work to draw the right conclusions. If all faculty members were of the kind to be interested in the cooperative enterprise as a whole, the situation would be ideal. But since this ideal is not within reach, all that the coordination department can do is to consult with the faculty as much as possible, that is, providing they get constructive assistance, and then actually do what is in the interest of the whole cooperative relationship.

Keeping academic work up to the standard is a matter of importance to the school. This requires a different type of teaching from what is prevalent in most schools. There must be an attempt to tie up the instruction with the student's needs and experience. He must be shown where the knowledge he acquired can be utilized, and certainly should not be allowed to look upon the

school work as a minor part of the course. This problem is of some importance because many students who find practical shop work of interest will minimize the value of fundamental theoretical training. Insistence on high scholarship likewise produces a higher grade of shop work. In the main, good school work and good shop work go hand in hand. In some cases a man may be good in shop work, although at the same time weak in school work, but if a student is a poor workman in the shop he is almost invariably a poor scholar.

There should be little reluctance in *enforcing discipline when students fail in shop work*. Foreman and superintendents in industrial plants are always willing to give a man a "fair show." A man may fail with one foreman and make good with another, but scarcely ever will he make good in shop work if he fails with a number of different foremen. Experience has shown that although possible it is not the usual thing for a student who has failed in one shop to make good in another of like industry. This fact, of course, makes it necessary to use considerable skill in adjusting difficulties that may arise in shop work. On the assumption that every effort has been properly made to adjust the student in his work, and on the basis that fair consideration has been given all sides of a particular situation, a student should be dismissed from the cooperative course when he has become undesirable in shop work. This, of course, would apply particularly to the failures due to violation of shop discipline. Since all cooperative students are properly instructed in the nature of their obligations to the plant and since they are presumed to be young men with a sense of responsibility, violation of shop rules should lead to dismissal; in cases of such action of discipline the school administration should not temporize. Strict discipline in cooperative work is absolutely essential for the good of all concerned. It is not to be inferred that students should not get fair treatment, but weakness on the part of the administration will corrupt the best cooperative relations that can be established.

Recording of Experiences.—Good records are essential for the fair and smooth running of any scheme which deals with any considerable number of people, and in the cooperative school they are especially necessary. In the first place, it is imperative that the employer keep a record of the achievements of the

students. These records are largely made up from the statements of foremen under whom the students work.

In the second place, the record of the students' achievements must be maintained by the cooperative school. These records should be kept in the coordination department and, as far as possible, contained on one record form.

The individual records of the students should be kept in an accessible file, and should contain the complete information of work and school activities. Such a record can be utilized later as a form of certification of the work done by the cooperative student in his course.

Introduction of the Student to the Cooperative Course.—It is a good plan at the end of the year or term to assemble the class which is expecting to enter cooperative work the following term or year. The procedure may be something as follows: At the first general meeting the meaning of cooperative work is fully explained to the group and application forms for information presented to them to be filled out. Two or three successive meetings are called, where men in charge of cooperative students in the industrial plants, if available, are asked to come and talk to the students and to present some of the shop problems. The aim of these three or four meetings is to clear up in the students' minds any question that may arise with reference to this new and unique experience into which they are about to enter.

Placement.—Next comes the question of placement. Before this can be done, it is necessary to interview each student personally with the idea of classifying him as far as possible in the scheme of things, and to find out the kind of work for which he is best adapted. It is then that it is necessary to go out among the industrial establishments to see what likelihood there is of satisfying the apparent needs of the incoming class. This, of course, is no easy task, for in no case can all the students be fully satisfied. The fact that students cannot all be perfectly satisfied is a condition which grows out of the inevitable variables that have been spoken of in this discussion under the head of problems in administration. Every factor which has been named is a consideration which modifies every potential move.

Some of the more direct problems of administration have been considered. It now remains to examine the question of the

relation of the cooperative course to what is known as *school activities*, or what might perhaps be better termed outside activities. It has been claimed by many educators that a large part of the value of a technical or cultural course of study accrues from the extra-curricular activities in which students engage. These are of the character suggested by the mention of athletics, dramatics, journalism, and activities of the social and technical societies.

When cooperative work was first undertaken it was believed by many instructors that it would preclude the possibility of students' engaging in these extra-curricular activities. It is a fact that activities which involve extensive trips are an embarrassment to cooperative relations, but most other events can be participated in without much inconvenience to the scheme. Whatever may be the value of these extra activities and contacts, it is safe to say that under the cooperative plan there is little lost if they cannot be indulged in because the same values attach to many activities connected with the shop or business. It is worth while to point out that in an institution where the student body is organized into two sections there is certain to be ample opportunity for contests in athletic events or scholastic affairs. The cooperative student body can be organized into an association which meets at regular intervals. This association, of course, would be divided into two parts, and the meetings would take place for each section when that section was in school. Two or three times a term, however, there might be held a joint evening meeting in which the whole cooperative student body from both sections would meet together. The cooperative group is usually pretty much alive. Perhaps it is the development of responsibility obtained through employment which enhances their enthusiasm and causes them to appreciate the value of such activities. It may be that the period of shop work gives them an opportunity to view in proper perspective the work in school, and to receive the correct impression of the value of all these things which help to develop the personality of the individual and the varied powers of expressing individual ability. The cooperative students can be allowed to participate in the shop activities with the regular apprentices. They can enter the industrial athletic events or sporting events such as contests at

industrial picnics, bowling parties, baseball, basketball, and various stunts which usually go with the social and athletic events of the shop. In this way the students come in direct contact with the efforts of educators and industrialists in the whole industrial training program. The good in these activities is reflected in the understanding, in the interest, in the initiative, and in the capacities of these men to cooperate in all phases of school and industrial enterprise.

Questions and Exercises

1. What classes of problems are involved in all cooperative vocational-education schemes?
2. Explain the problems of employment. Should the cooperative student be permitted to work overtime?
3. Explain the factors that must be encountered by the school administration or the coordinator.
4. How should a student be introduced to his cooperative job?
5. Write an article of a thousand words on some particular cooperative educational scheme.
6. Prepare a brief report on the present status of cooperative part-time education in the United States.

CHAPTER XIII

WISCONSIN—A CASE STUDY IN STATE CONTROL OF APPRENTICESHIP

In 1911 Wisconsin placed upon its statute books a law dealing with the subject of apprenticeship. For this country it was a new step in government participation in industry and an innovation in the development of industrial education. In 1915 a new statute of apprenticeship was enacted, which, in some respects, was considered less ideal than the first law, but which, nevertheless, was deemed to be more desirable because of the fact that there were indications of its greater enforceability. Furthermore, administrative machinery was more adequately provided in the 1915 statute.

Apprenticeship requires the cooperation of members of labor organizations, of employers, of parents, and certainly of the apprentices themselves. It is also necessary to acquaint educators, who are in a capacity to advise young people in their life work, with the nature and opportunity of a state-supervised apprenticeship system.

At the outset then, the apprenticeship plan should be universally known and its provisions explained. The industrial commission at an early date established an apprenticeship department and appointed a state supervisor of apprenticeship, who is employed under civil service regulations. This seems to be a rather desirable feature where there are so many conflicting views and interests as there are likely to be in the promotion and administration of an apprenticeship plan.

Interpretation of the Plan.—It is natural that at the outset there should be considerable misapprehension with reference to the meaning of the statute, and one of the first functions of the state apprenticeship department was to explain the plan or the law and its import to the people of the state. This necessary procedure was accomplished by talks before all kinds of groups,

from among both employers and employees; at the same time, every opportunity was embraced to acquaint the educators of the state with the possibilities of the system. This function was made easier because of the development of part-time vocational schools.

In an examination of the statute it is well to know something of what the law does *not* do. It does not compel employers to have apprentices. It provides, merely, that those employers who do have apprentices must have them under specified conditions. Furthermore, it does not establish apprenticeship wages. It merely gives the administrative commission power to annul or disapprove any individual agreement if that agreement is deemed to be inimical to the interests of the apprentice.

The first principle of the law establishes the injunction that all learners of any trade, craft, or business who are minors sixteen years of age or over shall be indentured. That means, of course, that they shall be placed under a written apprenticeship agreement.

At first the law required that all apprentices under eighteen years should attend school five hours per week. An amendment in 1919 required the school period to extend throughout the first two years of the apprenticeship. In 1923, this clause was again revised to provide for a minimum of four hundred hours of school instruction. This minimum of four hundred hours for the total apprenticeship is to be devoted to related academic instruction and the apprentice to be paid for this time at the same rate and in the same manner as for ordinary work in the shop. It was the intention of the promoters of this apprenticeship that the school instruction prescribed should be a minimum. Unfortunately, it has too often been made the maximum.

Overtime is not permitted until after the eighteenth year, at which time the apprentice may work thirty hours per month in addition to regular hours, which in no case must exceed fifty-five hours per week. (The labor organizations are interested in reducing this maximum of weekly hours.) The customary rate of time and a half is allowed for overtime.

The statute places authority with the Industrial Commission of Wisconsin to see that the agreements are equitable, and gives it the power to annul any indenture upon the application of

either party and good cause shown. For violation of the contract by either party there is provided in the statute the liability of a fine from one to one hundred dollars. Needless to say, that since compliance with the spirit of the law is predicated upon good-will, this penalty has never been applied. The Industrial Commission is charged with the administration of the law and is given "power, jurisdiction and authority to investigate, ascertain, determine and fix such reasonable classifications and issue rules and regulations, and general and special orders as shall be necessary to carry out the intent and purposes . . . of the statutes." This statement is the heart of the law. It is this feature which gives the modern scientific character to the administration of the apprenticeship program.

It can be seen that these duties involved much pioneering; and it was upon the character of this pioneering work that the success of the law and of apprenticeship was contingent.

The problem of administration is in the main sixfold: *first*, to induce the employers to have apprentices in their employ, in other words, to show the necessity for apprenticeship; *second*, to show the parents and the public the value of apprenticeship; *third*, to obtain the cooperation of employees (fellow workmen); *fourth*, to obtain the personal interest of the individual apprentices; *fifth*, to see that such apprentices learn their trades in a *bona fide* way under the conditions demanded by the apprenticeship statute; *sixth*, to see that there shall be proper related academic instruction for the apprentices.

Obviously, it would not be much of a problem to persuade employers to take apprentices if they were allowed to have them upon their own terms. However, under such circumstances the apprenticeship might easily degenerate into a system of exploitation of youth. The important thing to bear in mind is the character or quality of apprenticeship. In other words, it is the achievement of *genuine* apprenticeship that is the interest of the state.

At the outset, therefore, it is necessary to emphasize the fact that if a sound system of apprenticeship is to be developed, great care must be exercised to see that the quality and the character of apprenticeship are upheld, rather than that apprenticeship be exploited, for the mere effect of numbers. With a law

of this character, of principles so broadly laid down, it is necessary quite early in the work to establish certain requirements and orders which will simplify and at the same time make more practical and effective the administration of apprenticeship. Although there must be uniformity in the system so far as practicable, nevertheless specific requirements and classifications must be worked out for the various individual trades. For example, the content of school instruction which the law requires to supplement trade instruction must fit the particular situation. A bricklayer apprentice, for example, does not need the same instruction all the way through as the printing compositor.

The law contemplates that while the theoretical trade instruction shall fit the occupation, it shall, at the same time, be interwoven with other subjects such as are necessary to promote the quality of education and general intelligence that public policy requires. It is clear, then, that rather than have a statute which shall determine the details of this instruction, it is better policy to have the practical rules established upon the principles laid down in the statute. This affords an opportunity to work out elements of practical application determined by consulting experts in the particular trades.

The State Advisory Apprenticeship Board.—In order to carry out the principle of the statute and at the same time to make the application of these principles practical, the Industrial Commission arranged for the appointment of a State Advisory Apprenticeship Board. This board was made up of three employer members, three representatives of labor, and a representative of the new continuation schools. The Supervisor of Apprentices acted as secretary. The first problem which came before this board was the determination of the kind of apprenticeship agreement form for universal use. On this matter there was an early determination of four important considerations: *First*, it was determined that the minimum provisions stated in the law must be indicated on the agreement. *Second*, it was provided that apprentices and employers all should be able to read the provisions of the law on each contract form. *Third*, an opportunity should be given in each contract for individual trade specifications, although the agreement form should be uniform for the entire state and all the trades. (The present indenture form

which has been given wide publication and has received modified adoption outside of the state, was the result. It has worked well, and to date¹ it has not been necessary to change its form.) *Fourth*, it was decided that the state should furnish the blank forms to the manufacturers, so that there could be more ready and general cooperation in complying with the law.

As the work progressed some of the disadvantages of an advisory board appeared. Some matters which were referred to the board by the Industrial Commission were considered by the board as administrative rather than advisory. This situation made possible some "buck passing." In other words, this board was not an executive body; it was merely an advisory board on matters of policy affecting the industry, and not a body to determine specific regulations and make final decisions. Naturally enough, the board being interested in the development of the work, made commendable recommendations to the Commission, but it became evident that with such a board there must be a realization of the difference between advisory and administrative functions.

Since apprenticeship must obviously deal with many varieties of trades and occupations, one state advisory committee could not adequately consider the peculiar requirements and conditions of individual trades. This state committee could advise on general matters of policy in which the point of view or the interests of either labor or management might be concerned, but not the technical conditions of any particular craft.

Functioning of Trade Advisory Committees.—The next step, therefore, was the organization of advisory committees in the different trades and occupations in which it was desired to establish apprenticeship training.

Metal Trades.—One example of this kind of a committee was that of the metal trades which was called in to work out schedules pertaining to machine shop, foundry, and pattern-making trades. Since at the time, more of the work had been accomplished in the metal trades than in any of the others, this phase progressed very swiftly and completely. It was determined in such a committee, to the satisfaction of both labor and employer, that it would be impossible to specify in an agreement the exact number

¹ See Appendix.

of hours that an apprentice should spend with each particular department or process. Therefore the schedule of processes to be taught, which the law required to be stipulated in the agreement, was an elastic one, as may be seen in referring to the bulletins of the Industrial Commission, on Apprenticeship, which were first set forth in the third annual report on apprenticeship, in 1919. Two examples are given as follows:

Machinist (a)

The period of apprenticeship shall be for four years, each year to consist of 2,440 working hours, including, however, the time provided herein to be devoted to study.

Drill press	1 to 3 months
Milling machine	6 to 12 months
Engine lathe, turret lathe and boring mill	12 to 16 months
Planer and grinder	6 to 12 months
Assembling and erecting	6 to 12 months

Machine (b)

Screw machine department: Cleveland automatic and J. & L. making small screws, form work and shafting	4 to 7 months
Chucking department: turret lathe, Kempsmith turret lathe, Davis & Gisholt, box tool forming, boring and turning	4 to 7 months
Milling department: Several grades of commercial milling and tool room milling, cutters and jigs	6 to 10 months
Tool room grinding department: Grinding milling cutters, reamers, taps and lathe and planer tools	6 to 10 months
Commercial grinding department: Grinding shafting, internal grinding and disk grinding, Landis & Norton and Heald machines	2 to 5 months
Lathe department: Turning, boring and thread cutting in thread miller	6 to 12 months
Vise work, either assembling millers, or head department dividing heads, tool room, laying out jigs or larger jig work including drill press work	6 to 9 months

It is a matter of record that seven schedules were set up to meet varying conditions in the metal-trades shops.

Printing Trade.—Another example is that of the printing compositor. The advisory committee from the printing trades included six representatives; among those representing employers, a job-office proprietor, the manager of a newspaper, and one

other employer from a general printing establishment; and representing labor, the president of the typographical union, the business representative of the typographical union, and a newspaper-office superintendent. Naturally, since the National Typographical Union had for many years worked with apprenticeship, and since so much of the printing industry was organized, the results of the schedule which was agreed to by all, including the two non-union employer representatives on the board, was substantially the schedule as developed by the experiences of the National Typographical Union. This, then, became the official schedule for the compositors in the printing trade. An example follows:

COMPOSITOR

The term of apprenticeship shall be five years, the first six months of which shall constitute a probationary period.

During the first year of his term, the apprentice shall be employed at the usual work of proofing galleys, straightening leads and slugs, or at such other work as he may be assigned by the foreman.

During the second year, he shall be employed at least fifty per cent of the time at the case.

During the third, fourth and fifth years he shall be employed at the case, at composition and at all intricate handiwork of the craft, except that the last six months of his apprenticeship may be devoted to work on linotype or other typesetting devices.

Wages are determined by local conditions, and where a typographical union is established the wage for apprentices is determined by collective bargaining.

This schedule, then, had the advantage of being supported by the printers' union and, at the same time, by the open-shop printers who had followed the lead of the state when they would not consent to the dictates of the union.

The Plumbing Trade.—While the plan pursued for the various trades is generally the same, one of the best examples of procedure can be shown in the plumbing trade. The experiences in establishing this schedule can be more completely understood by referring to a special bulletin on Apprenticeship in the Plumbing Trade in Wisconsin, 1919. This bulletin, by the present author, is here quoted at length with minor modifications.

The Industrial Commission realized that to obtain the best results for the trade with reference to the making of skilled mechanics it is necessary to consult the trade freely and to make the apprenticeship, so far as possible, a trade autonomy. The commission, therefore, requested the State Association of Master Plumbers to nominate three men to serve on a board to be known as the Wisconsin Plumbers' Apprenticeship Board. It also appealed to the State Association of Journeymen Plumbers to nominate three persons from their ranks to serve on this board, under the auspices of the Industrial Commission. The State Board of Health was invited to place upon that board its sanitary engineer, inasmuch as the supervision of plumbing installations and licensing of plumbers is under the jurisdiction of the State Board of Health.

The apprenticeship matter was presented to the State Association of Master Plumbers by the Industrial Commission at its annual convention under date of January 15, 1918. At that convention the Association passed the following resolution:

“Resolved: That we, the Wisconsin Master Plumbers' Association, assembled in Milwaukee, this 15th day of January, 1918, do pledge our cooperation in the enforcement of the apprenticeship law, Chapter 133, Laws of Wisconsin, 1915, and we will conform to any orders and rules governing apprenticeship in the plumbing trade which are the result of the deliberations of the Wisconsin Plumbers' Apprenticeship Board, and that we will furthermore, take any other step necessary for the improvement of skill in the plumbing trade.”

The apprenticeship scheme was presented in like manner to the State Association of Journeymen Plumbers at their convention in Janesville, and as a result the following resolution was carried:

“Resolved: That we, the Wisconsin Association of Journeymen Plumbers, Steam, Gas and Sprinkler Fitters, assembled in annual convention at the city of Janesville, Wisconsin, July 6, and 7th, 1918, do concur in the plumbers' apprentice indenture plan as formulated by the members of the Wisconsin Plumbers' Apprenticeship Board, and that we extend such assistance as will promote the best interests of all concerned.”

. . . many difficulties will arise from time to time in the administration of this work, but by carrying out the broad general principles which are outlined and by the exercise of good-will on both sides, with full confidence in the good faith of the Commission, all difficulties can be adjusted.

The apprenticeship system involves fundamentally three things: The contract, that is the formal agreement; the trade schedule, that is Exhibit A of the apprentice indenture; and the general rules for adminis-

tration. The form of contract is determined by law. The schedule is determined by the Wisconsin Plumbers' Apprenticeship Board and is designed to meet the requirements of the law. The rules of administration are more flexible and are intended primarily to carry into effect the schedule, or Exhibit A.

Extent of period of Apprenticeship:

The term of apprenticeship shall be five years to consist of at least 275 working days, the first three months of which shall constitute a probationary period.

Schedule of processes to be worked:

During the first three years of his apprenticeship the apprentice shall receive instructions and experience in all branches of plumbing necessary to develop a thorough, practical, and skilled mechanic versed in theory and practice of installing hot and cold water supply, drainage and venting and plumbing appurtenances, in accordance with the State Plumbing Code and local ordinances. The apprentice shall perform such other duties as are customary in connection with plumbing apprenticeship. Where vocational schools are established he shall attend school five hours per week, or its equivalent, to receive such instruction as may be determined in accordance with Section 2377 of the Statutes.

During the fourth and fifth years the apprentice shall be given in addition to experience and instruction as provided for the first three years, opportunity to make plumbing installations under the supervision of a journeyman or master plumber such as may enable him to qualify at the end of his apprenticeship as a skilled mechanic in the art of plumbing.

Compensation to be paid—the apprentice shall receive in wages:

Minimum rate of wages:

First six months.....	\$_____	per week
Second six months.....	\$_____	per week
Third six months.....	\$_____	per week
Fourth six months.....	\$_____	per week
Fifth six months.....	\$_____	per week
Sixth six months.....	\$_____	per week
Seventh six months.....	\$_____	per week
Eighth six months.....	\$_____	per week
Ninth six months.....	\$_____	per week
Tenth six months.....	\$_____	per week

Suggestions: Upon receipt of his state license the apprentice shall be given a kit of plumber's tools by the employer.

Special Provisions:

Both parties to this indenture agree to cooperate with each other, the apprenticeship school and the Industrial Commission of Wisconsin in carrying into effect the intent and purposes of this indenture. At the satisfactory completion of the apprenticeship the apprentice shall receive a diploma issued under the seal of the Industrial Commission and the Board of Health of the State of Wisconsin.

The Industrial Commission is granted, by mutual agreement of the parties to this contract, the right to change any rules of this indenture if such changes are deemed by the Commission to be in the public interest.

The working administrative rules for the trade established by the aforementioned board are as set forth:

1. Forms of contract which shall contain the content Exhibit "A" shall be furnished by the Industrial Commission.

2. Contracts should be received in the office of the Industrial Commission at Madison, during the first thirty days of the employment of the apprentice, it being understood that the contract is not binding until after the expiration of three months from date beginning apprenticeship.

3. Apprentices shall be informed by the school authorities on advice from the Industrial Commission as to when and where they shall attend school for academic instruction as agreed under Exhibit "A" of the contract.

4. Apprentices while attending school are still employed and paid by the employer, and they must show the same application to work as if in the shop.

5. Employers shall report immediately any apprentice whom they shall know to have unlawfully left his employer.

6. Employers shall not discharge a boy without good cause and not then until such matter has been considered by the commission or a deputy thereof, and both sides of the case recorded, but may suspend an apprentice for sufficient cause pending a hearing. Cases in controversy to be adjusted by the Industrial Commission through advice of the Wisconsin Plumbers' Apprenticeship Board.

7. At the end of three years the apprentice may make application for an examination for a license according to law and rules and regulations presented by the State Board of Health, but this shall in no sense affect the terms of the apprenticeship indenture.

8. Under the law apprentices already employed are required to execute the apprenticeship indenture but shall be duly accredited for all time they have been employed as such.

9. Under the law apprenticeship indentures already accepted by the Industrial Commission shall not be affected by the adoption of Exhibit "A" of the Plumbers' apprenticeship contract.

10. Present arrangements which have not been legally executed shall be changed so as to comply with the law and the apprenticeship rules.

It is not the purpose of the apprenticeship plan herein outlined to prevent an apprentice from terminating his contract in favor of a technical education outside the shop. When a young man under indenture desires to pursue a technical course in a trade or technical school, he may make arrangements with the Industrial Commission. In such case his contract with the employer is legally terminated. Or he may desire to enter a school of higher education, in which event he may apply to the Industrial Commission for advice, and suitable arrangements will be made.

In concluding this statement for the plumbing trade it is worth while to observe that this Board set forth requirements for journeymanhood so that the apprentices would have some idea of what is expected of them. The considerations enumerated are under the following heads:

- I. Materials and Tools of the Trade, and Principal Essentials to Be Learned.
- II. Trade Terms.
- III. Tools of the Trade.
- IV. Design of Installation.
- V. Drawing.
- VI. Arithmetic.
- VII. Physics.
- VIII. Chemistry.
- IX. Practical Tests of Workmanship.
- X. Business Principles.
- XI. Related Trade Information.

It should be said that the fact that plumbers are licensed by the state makes the task of organizing apprenticeship in the plumbers' trade easier than in some other trades. However, substantially the same proceedings would apply for other organized trades.

Diversification of Apprenticeship.—The records of the Industrial Commission reveal that there are in existence at the present time (1932) the following advisory committees: State Committee on Apprenticeship, Machinists', Printers', Bricklayers', Plasterers', Barbers', Tailors', Electricians', Plumbers', Sheet Metal Workers', and Carpenters' Committees. In other trades much work has been done by consulting the leading individuals in the various organizations, committee work not being promoted because of the lack of organization in the particular trades, especially on the labor side. This diversification of trade and the distribution of the apprentices in which agreements have been executed according to the law are suggested by the list of January, 1930, published in the industrial commission's reports

Trade or occupation	Number of apprentices
Auto mechanic	22
Baker	44
Blacksmith	14
Boilermaker	36
Bookkeeper	10
Bricklayer—mason	170
Cabinetmaker	28
Carman (railroad)	87
Carpenter	72
Commercial artist	9
Cooperative student apprentices (engineering)	119
Core makers	7
Draftsman	106
Druggist	22
Electrician (house)	34
Electrician (industrial)	26
Electrician (railroad)	11
Engraver	6
Glove industry	15
Grocer	15
Jeweler	10
Junior engineer	35
Knitting machine adjustor	17
Lithographer	15
Machinist	673
Machinist (railroad)	134
Milliner	16
Molder	125

Trade or occupation	Number of apprentices
Mechanical dentist.....	6
Meat cutter.....	46
Painter—decorator.....	42
Painter (railroad).....	7
Plumber.....	450
Pressman.....	9
Patternmaker (wood).....	210
Patternmaker (metal).....	8
Photo engraver.....	16
Printer—compositor.....	69
Plasterer.....	27
Shoe cutter.....	10
Shoe maker.....	11
Sheet metal worker.....	69
Stone cutter.....	4
Tile setter.....	10
Tool maker.....	182
Upholsterer.....	8
Watchmaker.....	14
Wire weaver.....	8
Welder.....	21
Woodworkers.....	12
Miscellaneous trades.....	200

Related School Instruction.—The problem of school instruction has been a matter of much importance, as has been stated elsewhere in this treatise. Apprenticeship without educational instruction is a misnomer. The content of this instruction has had to be determined through processes of experience.

It was obvious that experience in the shop could not alone provide the information which the scientific character of the trades demands. It is necessary, therefore, for a modern apprenticeship to establish the opportunity to acquire this information by proper organized instruction. Some employers are fully convinced that this instruction can be given in the factory by special arrangement. To some extent, this fact may be admitted. There are two points for consideration, however, which cannot be ignored. One is the fact that in small shops a special class for schooling is practically out of the question. Where there are small shops, a common school for all the shops, in which the larger shops may be included, would make facilities available

that would adequately provide for all. On the other hand, without the inclusion of the larger shop, it would in many cases prove impracticable to give the apprentices of the smaller shops the proper kind of opportunity. Therefore, a centralized training school is, in practice, the desirable thing.

Another consideration is the inability of a shop school to present the subjects under consideration as objectively as they should be presented. This is particularly true of such subjects as involve social and economic relations.

In the early stages of this apprenticeship development, there was much thought of independent shop schools. One was attempted in a well-known threshing-machine company in Racine, and another in the railroad shops at North Fond du Lac. In the case of the railroad shops it may be said that the officials were prevailed upon to forego the shop school to help the smaller shops of the city by uniting with the vocational classes of the city of Fond du Lac. In Racine, for reasons not necessary to give here, the corporation's school was continued for some time. It was not, however, a real success, and while it was regarded by some as an ideal scheme, it gradually gave way to the city central school.

The exact content of instruction has not been always satisfactorily determined. The first law of 1911 specified instructions as follows:

(a) In English, in Citizenship, Business Practice, Physiology, Hygiene, and the use of safety devices. (b) Such other branches as may be approved by the State Board of Industrial Education.

Under this specification, the employers grew suspicious of the encroachment of academic considerations on apprenticeship training, and many objections were made to these provisions, because, in many places, it was not practicable or possible to give such instruction. Some objected, on principle, to the specific enumeration of studies in the statute, since it would have a tendency to tie the hands of those who might deem a more elastic provision with regard to instruction better for the development in the future. Moreover, employers, as well as labor leaders, were not altogether in accord with the idea of having a group of "school men," as they termed them, decide what branches should be taught to industrial apprentices. Under the law of 1915, there-

fore, the following paragraph was substituted for the one given above.

It shall be the duty of all school officers and public school teachers to cooperate with the Industrial Commission of Wisconsin and employers of apprentices to furnish, in a public school or any school supported in whole or in part by public moneys, such instruction as may be required to be given apprentices.

This provision made the law with reference to instruction more elastic. The employers, in advocating the change of the statute, had in mind to give the Industrial Commission and the employers the primary right to specify the kind of instruction which should be given. The Industrial Commission being presumed to represent sufficiently the state's point of view, it was clearly the intent of the framers of the statute to require the school officers and public-school teachers to cooperate with the Commission and employers of apprentices, the understanding being that as one of the employer promoters said "It was done with malice aforethought" in order to prevent apprenticeship instruction from becoming too academic. It was presumed that employers and the Commission were closer to industry and could determine the needs for school instruction better than school men. Since the development of vocational educators who have been compelled to keep their ears to the ground, and who now understand more completely the needs of industry, the danger is not quite so great. It may be said that there has been no difficulty under this provision of the statutes because these vocational men have been wide awake to the needs of the situation and have been only too glad to receive suggestions from either the Industrial Commission or the employers. However, the danger may be greater as vocational education becomes more standardized, when its educators are less likely to keep pace with a changing industrial technique. In defense of the school men it should be noted that, strange as it may seem, the employers have been slow to make their wishes known and have in many cases been more inclined to find fault with the efforts of others than to come forward with constructive assistance in determining the kind of instruction necessary. As industrial technique changes, the character of apprenticeship instruction in the schools must change. If, however, school

instruction should in time become too stereotyped, such a provision in the statute provides the easy solution.

Apprenticeship and the Strike.—One of the arguments which was presented by some of the employers against centralized schooling was the fact that boys from non-union shops would associate with boys from union shops, and therefore become contaminated with radical ideas. This point, of course, could not receive serious cognizance. Nevertheless, the question of apprenticeship in its relation to labor disputes was a live issue in Milwaukee in 1916. A general machinists' strike of the metal-trades shops was called in the summer of that year when the apprenticeship work had proceeded scarcely a year under the new arrangement. The question in everybody's mind was what to do in the situation. The journeymen desired to have apprentices "walk out" with them. The employers insisted that an apprenticeship agreement was an individual contract and should be honored. The burden of the situation fell upon the Industrial Commission. If the apprentices were persuaded to leave the shops, employers would lose their faith in apprenticeship and its administration by the state. On the other hand, if apprenticeship could be used in a way inimical to strikers, then the workmen themselves would oppose apprenticeship and prevent its development. The status of the apprentices had to be squarely met. The apprentices had an individual contract with the employer, and the state expected this contract to be honored, not only by the apprentices but by the employers. This meant, of course, that the apprentices could not legitimately be used as strike breakers, although they could pursue their trade. Union leaders considered that the individual contracts which the apprentices had should be fulfilled, and they saw, furthermore, that labor could not ask the employer for trade agreements on the one hand, and ask apprentices to violate their individual agreements on the other. The unions agreed to induce the apprentices (those whom they controlled) to remain in the shops, providing the Commission would guarantee that the employers would not use the apprentices as strike breakers, or instructors for strike breakers. The employers agreed not to use apprentices in the capacity of strike breakers, that is to say, not to use them to instruct new men who were brought into the plant during the

strike. The Supervisor of Apprentices was to visit the plants freely during the strike and see that a square deal was given the boys. This agreement was honored to the end of the strike; therefore, the apprenticeship situation was kept intact.

Under the circumstances related, it was natural that certain principles should be evolved which would be of value in adjusting matters pertaining to a strike. In the first place, it was determined that it was the proper procedure for the state to refuse any new apprenticeship agreements that would be entered into in the shops where the strike prevailed. This provision, of course, later led the commission to refuse labor permits in similar situations.

The second principle is that apprentices should remain at their work as long as the conditions are such that they can, in reality, follow their trade advantageously. In other words, if there are a sufficient number of men left in the shop, or if only the foremen stay on the job and instruct the apprentices in carrying on their legitimate work, these boys should be permitted to stay at work. If, however, conditions are such that the boys cannot pursue their trade profitably and cannot follow their ordinary occupation, then they should be withdrawn until the strike is over or until such time as would warrant a change in the situation.

As a third proposition, it was believed that the boys who, through no direct fault of their own, are prevented from being in the shop, should not be penalized. For example, a legitimate cause for absence might be intimidation by picketers, or the fact that the father of an apprentice was himself a striker.

Fourth, it was well established that apprentices should not be used to instruct newcomers to the industry with a view to preparing them to take the place of those on strike. Apprentices are on the job to receive instruction, and not for the purpose of imparting it to others.

Finally, it was apparent that the ultimate decision in these situations must rest not with a trade group but with the state, which should be the arbiter as to the facts in the case. In short, if the apprentice can pursue his training with profit, he should be expected to continue. If, however, the process of learning the trade is interfered with by the lack of adequate instruction or opportunity, then the state may determine the apprenticeship relation to be void.

Determination of Apprenticable Trades.—One of the peculiar problems in apprenticeship administration is to determine what are apprenticesable trades. It is quite easy, among some older and well-organized trades, to understand how readily apprenticeship may be adopted. On the other hand, it is well to remember that some of the better-known trades today are of relatively recent development. For example, those of the machinist, the toolmaker, the plumber, the printer, and the electrician are a few of many trades which came in with the machine era, arising out of the circumstances suggested by the term industrial revolution. It is apparent that modern apprenticeship is not to be confined to those medieval trades which characterized the craft-guild period, but will apply to many well-known crafts of today which have arisen out of the conditions of modern industrial technique. To answer our inquiry in a practical way, it can be said that any trade or occupation which lends itself to a series of progressive steps, or in other words, *any employment which necessitates a grouping of operations or jobs or experiences within the range of the ordinary individual in that employment, could be an apprenticesable trade or occupation.* For example, a man could be apprenticed to the grocery business or to office occupations just as well as he could be to the plumbing trade. The handicap exists in the minds of the employers or the public, and not in the nature of the occupation. The main consideration, then, is that any trade or occupation which gives a diversified series of specific jobs that can be coordinated would make an apprenticeship trade. Just what these occupations may be, numerically considered, for any particular time, will depend upon the character of contemporary trade and industry. An enumeration of them could never be made complete. Nevertheless, when once the principles are understood it is easy to know when apprenticeship can be established.

Limitation of Numbers.—In Chapter III this subject was considered in its relation to trade-unions; here it is a problem for state administration. All through industrial history, the problem of the limitation of apprentices has been paramount. The craft guilds limited apprentices and justified their limitation. Trade-unions have limited apprentices and have likewise justified their actions. As a matter of fact this limitation extends not

only into the trades but also into the professions. Limiting of apprenticeship in reality means a limitation in the number of individuals who can follow the particular trade as journeymen. This principle follows a natural tendency of the craftsman to seek self-protection. The doctors have a long apprenticeship and a state medical examination. The bar associations provide for a definite period of study with a usual provision that in order to practice law the candidate must pass the state bar examination. In the technical and learned societies, individuals must in many cases acquire a professional degree as a result of a long period of special study—all of which involves the same principle that the trade-unions argue for when they try to limit the numbers in the craft through apprenticeship. There are two principles which motivate this holding down of numbers. One is to limit the number of individuals who go into the trade or occupation with a view to curtailing the supply with a conscious desire to increase the bargaining power of the members of the group; the other principle is to enhance the quality of training or preparation which the individual member of the calling may have. Within certain definite limits experience shows these principles to be sound. Those employers who argue for unlimited apprentices are not the employers, as a rule, who desire to see men properly trained. They are usually those who are expecting to obtain cheap labor. On the other hand, those who desire to limit apprentices are not always moved by a desire for increased skill; more often their purpose is to cause a limitation of the supply of marketable skill in the occupation, which results in a higher rate of wages for individuals in the particular occupations. There are two ways to meet this problem. One is artificially to set up limitations after a study seems to show any particular trade or occupation is being overloaded. The other and more effective method is for the state and industry to see to it that the opportunities for apprenticeship training are as broad as industry itself. In such case the young people of any industrial community will be naturally absorbed by the demands of economic life in a form which will maintain a true balance. In other words, if each of all the industries and occupations provides its proper apprenticeship opportunity, the question of individuals being funneled into certain trades and occupations in unwarranted

numbers will be obviated. The contribution of vocational guidance may be significant in this connection.

Where exploitation of apprenticeship occurs in individual cases it can be adequately corrected. In point is the following example: The owner of a certain jobbing pattern shop discovers that with four or five boys as apprentices he can do work below the price of his competitor. Therefore, he proceeds to conduct his shop on the basis of apprentice labor. Experience shows that in such a shop the boys will be kept for long periods on certain specified jobs. For instance, the apprentice will be kept for six or nine months, say, shellacking patterns, clearly a process which does not enhance the skill of the boy as a pattern maker. It becomes evident, finally, that the apprentices who are graduated from such a shop are not real mechanics. It is incumbent upon the state, therefore, to point out this fact, and when an application is made for another apprentice, the procedure should be to refuse the employer the right to take on more apprentices under the same conditions. The idea, then, is to insist that there must be ample opportunity for the boy to learn, and in cases where there might be four or five boys to one skilled journeyman the state must take the position that mechanics cannot be trained in that manner. The question finally becomes one of the proportion of apprentices to journeymen. What this proportion should be cannot be determined until there is adequate information on the particular trade. This the state must gather. For example, there are such considerations as the following: (a) numbers in the trade, (b) proportion of apprentices, (c) ratio of growth in numbers, (d) turnover in trade due to transfer and deaths, (e) prospect of the trade.

At the present stage of modern apprenticeship development, it is perhaps too early to set up an artificial limitation for the training of mechanics in any line, except to see that the boys who are apprenticed shall actually have the opportunity to receive proper training. However, of interest in this connection is the *Falk Formula* which is a practical guide for any individual establishment in determining the proper quota of apprentices for the needs of the particular business or industry.

$$H = \frac{L - R}{T \times S}$$

in which:

- H = number of apprentices to be engaged every year
- L = average number of mechanics who leave the department every year
- R = average number of apprentice graduates who return to the department every year after an absence
- r = percentage of apprentices who remain after graduation, expressed as a decimal¹
- s = percentage of those who start apprentice training and finally graduate, expressed as a decimal.¹

Supervision in the Shop.—The question of supervision of apprentices is one of some magnitude. It is certainly impossible for the state directly to send out supervisors in numbers adequate to see personally all the apprentice boys in the shops of the state, as often as they should be seen. This fact was recognized early, and the tendency has been to use local agencies to carry forward the policy of the state. Very early in the administration of apprenticeship it was determined that the directors of vocational schools in the various cities of the state should be made the local agents who could represent the Industrial Commission in the apprenticeship relations in the particular city. This cooperation is improved wherever the directors of vocational schools are made agents of the Industrial Commission with reference to the granting of labor permits or matters of school attendance, and particularly when the directors are designated by law as participants with the commission in the handling of the problem of child labor. This joint effort in child labor makes it more satisfactory for these same individuals to cooperate with the commission in the matter of apprenticeship supervision. The ideal method is to make the office of the director of the local vocational school the clearing house in each city for apprenticeship affairs. These directors' offices should be the agencies through which the commission should work. At the outset, therefore, the Industrial Commission, in dealing with individual employers or trade-unions, deemed it advisable to keep the directors of vocational schools informed on the apprentice relations as

¹ See FALK, H. S., How Many Apprentices Should You Train? *Factory and Industrial Management*, Vol. 82, No. 3, pp. 346 ff.

they existed from time to time in the locality, even to the point of submitting copies of letters which would throw light upon local situations. This enabled the directors to know the situation in their city, and showed the desire of the commission to do nothing to prevent the proper development of the vocational-school enterprise in the community. At the present time, most of these vocational schools have a "coordinator." Through the coordinator the school has an opportunity, because of the personal contact of one of the faculty members with employment situations and school procedure, to coordinate the school work with the needs of industry, and the fitting of the boy for general industrial life and work. A large part of the coordinator's job is the maintenance of good will in apprenticeship relations. In many cases very good work has been accomplished by these coordinators in developing and clarifying apprenticeship relations in the state. The coordinator, however, functions adequately only where the director is a broad-gauged administrator, one who is not likely to be jealous of the coordinator as he acquires the confidence of the local leaders of industry.

The real solution of the supervision problem, in the last analysis, is the same as that set forth in the chapter dealing with cooperative vocational education. In short, it is well to have men in the industry or in the occupations who are employed directly by the industrial establishments to give close supervision to the apprentices in the shops involved, whether these business establishments be individual corporations, trade associations, or groups of employers in any particular trades or industries. In the year 1917, the Bucyrus Company, of South Milwaukee, followed the lead of some of the manufacturing plants in the East, and appointed an instructor of apprentices to spend *full time* to develop apprenticeship in the plant. This was not a new phenomenon, but it was quite a forward step in Wisconsin. Since then many other firms have followed suit. Moreover in many other plants instructors are appointed to follow the boys on the machines or on shop processes; and apprenticeship, in a large number of concerns, has become a well-developed part of the industrial-relations department. In such cases, naturally, the state can deal directly with these full-time personnel directors, and the results are unusually happy. This system does not harm

or impair the cooperation existing in school administrative relationships, but really intensifies cooperation. Ideally, the state should have a check on each apprentice approximately once each month. This policy, by anticipating troubles before they happen, has a tendency to prevent difficulties from arising.

At this point attention is directed to the progress of apprenticeship in the state since the establishment of the present law.

The important considerations would naturally center around the number of apprentices who have completed their terms under the agreements as set up according to the statute. It is this feature which gives the acid test. The record is as follows:

TOTAL NUMBER COMPLETING APPRENTICESHIP

1913	0
1914	0
1915	0
1916	2
1917	8
1918	75
1919	155
1920	333
1921	485
1922	640
1923	803
1924	1,013
1925	1,208
1926	1,448
1927	1,750
1928	2,063
1929	2,391
1930	2,762
1931	3,268

Administrative Rules.—Experience in the administration of the apprenticeship law has revealed the fact that those directly concerned in industry demand specific statements as to what the law intends or what the commission expects. This potentiality was anticipated by Section 9 of the law which reads as follows:

It shall be the duty of the Industrial Commission of Wisconsin, and it shall have power, jurisdiction and authority, to investigate, ascertain, determine and fix such reasonable classifications and to issue rules and regulations and general or specific orders as shall be necessary to carry out the intent and purposes of Section 2377 of the Statutes.

The first rule which was adopted reads as follows: "Apprenticeship agreements made pursuant to section 2377 of the Statutes shall be approved by the Industrial Commission of Wisconsin." This rule was intended to convey the understanding that in any particular trade or occupation the arrangement should be undertaken in such a manner as to meet the purposes of the law, and to make it clear that the responsibility of seeing that these agreements comply with the law rests with the Industrial Commission. As has been stated above in reference to apprenticeship schedules, it was not intended that no executed agreement could be a *bona fide* apprenticeship agreement until it was specifically acknowledged and filed by the commission. This should be evident in view of the fact that the commission set out early to tell the employers how they should make out agreements to conform to the statute.

The second rule states that all apprenticeship contracts shall be made upon a blank issued by the Industrial Commission of Wisconsin. This provision was to avoid inequities which might creep into individually constructed agreements. Moreover, it becomes a matter of convenience in the examination of the agreements. This uniform blank affords an aspect of state wide significance which has a good moral effect upon the institution of apprenticeship. There is a great feeling of satisfaction among the apprentices when they contemplate that their agreements are substantially the same as those of all others in the state.

The third rule requires: "In all apprenticeships of three years or over, unless otherwise stated in the contract, the probationary period shall be three months, and shall constitute part of the apprenticeship period. During the probationary period apprenticeship agreements are voidable by either party upon written notice to the Industrial Commission." The common law has always allowed a probationary period of apprenticeship which has extended anywhere from three to six months. A specific statement, as given, does away with any possibility of misunderstanding and affords an easy opportunity for either party to the agreement to withdraw in case conditions are not satisfactory.

Since state recognition of the apprenticeship product, which it fosters, becomes a matter of general interest, a *fourth rule* was established that "Diplomas shall be granted to all graduating

apprentices, who, in the judgment of the Commission, satisfactorily complete their apprenticeship." The value of this provision must be patent to all. It has formed the basis around which many meetings of apprentices have been held. It has also given dignified opportunity for the state to make a direct contact with the graduating apprentices. The moral effect of this sort of thing is very great, and the possibility of graduating exercises among apprentices is continually increasing.

A *fifth rule* reads: "All apprenticeship contracts shall be filed with the Industrial Commission within thirty days following the commencement of the term of apprenticeship." This rule tacitly implies that there are difficulties involved in executing agreements and in having them duly filed with the commission. This limitation of thirty days is an arbitrary time limit established for the sake of administrative efficiency and for adequacy of record. It is particularly desirable that this time limit should not be exceeded because the commission must notify the continuation schools or apprenticeship schools as early as possible of the new apprenticeship relation, in order to diminish the lapse of time which may occur between the beginning of the apprenticeship and the proper connection with school instruction. The delays before some of these agreements reach the commission result in many boys not being immediately placed in the apprenticeship class in school.

The *sixth rule* stipulates that: "Minors between the ages of 16 and 17 years may be employed upon apprenticeship indentures in lieu of child labor permits if executed on or prior to the first day of employment." What has been stated above with reference to child labor is further supported by this rule which allows the agreement to stand in lieu of the child-labor permit. If, however, the apprenticeship agreement is not executed on the first day of employment, the minor is illegally employed, unless he is supplied by a child-labor permit issued by the Industrial Commission. This rule was made to clarify misunderstanding on this situation, and while implied in the statute itself, was not thoroughly appreciated until the Commission made this specific stipulation.

Rule seven requires employers to notify the commission on the termination of any apprenticeship agreement stating the reasons

for termination. This is largely to clarify the records and to remove dead contracts from the files, and to make the Industrial Commission the potential arbiter in all cases of termination. In other words, it is a provision which assists in giving parties to the agreement full consideration.

Rule eight specifically refers to apprenticeship trade agreements which are entered into between groups of employees upon one hand and employers on the other. In most cases, it would cover the agreements usually understood as products of collective bargaining. Examples of such would be the Bricklayers', Masons', and Plasterers' International Unions' apprenticeship regulations or those of the National Typographical Union, and any other like agreements.

Rule nine is designed to cover those cases for apprentices which have not been considered through trade organizations or through trade committees. These might cover particular occupations in small shops or in smaller communities. The implication of this rule is that those trade agreements which have been drawn up with the consent and cooperation of the commission, are, by that fact, tacitly approved, and since the schedule is the only variable feature of the contract, it is clear that when this schedule is drawn up with the Industrial Commission's consent, it is automatically approved. This rule, then, provides for those individual trades and occupations which do not lend themselves to trade organizations.

Rule ten states that: "No minor can be legally apprenticed who is not placed under a written agreement pursuant to Section 2377 of the Statutes." This negative statement is made to eliminate the exploitation of the institution of apprenticeship, and to make the word apprenticeship mean a definite thing in Wisconsin. The state, therefore, can recognize no other form of apprenticeship except that which is entered into in a manner prescribed by this rule.

Special orders with respect to regulations involved in the Child-labor Law will be discussed in the succeeding chapter which deals with special problems in the administration of apprenticeship.

The success of apprenticeship under the plan described above can be seen from the records of the Industrial Commission of

PROGRESS OF APPRENTICESHIP¹

Showing Number of Indentures Entered into, Canceled, and Completed

"New" means indentures approved }
 "Com." means indentures completed } given in quarterly periods
 "Can." means indentures canceled }
 "Live" means indentures remaining in force after deducting those completed and canceled

	1915				1916				1917				1918			
	New	Com.	Can.	Live	New	Com.	Can.	Live	New	Com.	Can.	Live	New	Com.	Can.	Live
1st quarter.....	39	0	0	.....	111	0	17	.....	148	0	39	.....	86	10	37	
2d quarter.....	41	0	1	.....	97	0	26	.....	158	0	44	.....	76	10	40	
3d quarter.....	77	0	6	.....	107	2	13	.....	122	4	40	.....	74	15	51	
4th quarter.....	65	0	8	.....	104	0	22	.....	82	2	49	.....	98	32	38	
Total for year.....	222	0	15	.....	419	2	78	.....	510	6	172	.....	334	67	166	
Last year's total.....					222	0	15	.....	641	2	93	.....	1,151	8	265	
Total to date.....				207	641	2	93	546	1,151	8	265	878	1,485	75	431	979
	1919				1920				1921				1922			
	New	Com.	Can.	Live	New	Com.	Can.	Live	New	Com.	Can.	Live	New	Com.	Can.	Live
1st quarter.....	135	20	33	.....	110	40	38	.....	116	41	52	.....	121	37	37	
2d quarter.....	72	17	37	.....	77	41	56	.....	95	43	28	.....	156	48	53	
3d quarter.....	69	21	61	.....	144	55	46	.....	114	38	51	.....	165	36	65	
4th quarter.....	96	22	19	.....	156	42	54	.....	101	31	40	.....	167	33	61	
Total for year.....	372	80	150	.....	487	178	194	.....	426	153	171	.....	609	154	216	
Last year's total.....	1,485	75	431	.....	1,857	155	581	.....	2,344	333	775	.....	2,770	486	946	
Total to date.....	1,857	155	581	1,121	2,344	333	775	1,236	2,770	486	946	1,338	3,379	640	1,162	1,577

PROGRESS OF APPRENTICESHIP.—(Continued)

	1923				1924				1925				1926			
	New	Com.	Can.	Live	New	Com.	Can.	Live	New	Com.	Can.	Live	New	Com.	Can.	Live
1st quarter.....	167	37	52	.....	198	54	76	.....	225	51	66	.....	205	64	79	
2d quarter.....	213	44	62	.....	181	54	61	.....	224	65	72	.....	210	69	71	
3d quarter.....	180	32	89	.....	170	38	78	.....	200	38	77	.....	200	50	90	
4th quarter.....	227	50	61	.....	210	64	66	.....	246	41	69	.....	226	57	57	
Total for year.....	787	163	264	.....	759	210	281	.....	895	195	284	.....	841	240	297	
Last year's total.....	3,379	640	1,162	.....	4,166	803	1,426	.....	4,925	1,013	1,707	.....	5,820	1,208	1,991	
Total to date.....	4,166	803	1,426	1,937	4,925	1,013	1,707	2,205	5,820	1,208	1,991	2,621	6,661	1,448	2,288	2,925
	1927				1928				1929				1930			
	New	Com.	Can.	Live	New	Com.	Can.	Live	New	Com.	Can.	Live	New	Com.	Can.	Live
1st quarter.....	139	105	107	.....	158	86	50	.....	181	80	60	.....	182	77	55	
2d quarter.....	193	83	72	.....	189	77	56	.....	209	80	60	.....	137	99	55	
3d quarter.....	156	63	76	.....	153	74	65	.....	206	71	54	.....	82	98	32	
4th quarter.....	191	51	71	.....	178	76	53	.....	174	97	68	.....	94	98	42	
Total per year.....	679	302	326	.....	678	313	224	.....	770	328	242	.....	595	372	184	
Last year's total.....	6,661	1,448	2,288	.....	7,340	1,750	2,614	.....	8,018	2,063	2,614	.....	8,788	2,391	3,080	
Total to date.....	7,340	1,750	2,614	2,976	8,018	2,063	2,838	3,117	8,788	2,391	3,080	3,317	9,107	2,567	3,190	3,356

¹ Issued by the Industrial Commission of Wisconsin, apprenticeship department.

Wisconsin given under the title "Progress of Apprenticeship" shown in the table on pages 212 and 213.

Questions and Exercises

1. Give a brief description of the Wisconsin apprenticeship plan.
2. What should be the function of a state advisory apprenticeship board? Illustrate.
3. How does a trade advisory committee function?
4. Explain how apprenticeship can be organized in any particular trade?
5. What is meant by "related school instruction"? Where should it be given? By whom?
6. In what manner can the state deal with apprenticeship in a shop in which a strike prevails? Should apprentices be permitted in such a situation? Discuss.
7. What should be the criteria for determining apprenticeable trades?
8. Explain the bases of successful state administration of apprenticeship which you are able to gather from the Wisconsin experience.

CHAPTER XIV

SPECIAL PROBLEMS IN STATE ADMINISTRATION

In this chapter will be considered some of the special problems that arise in a state-administered scheme of apprenticeship—problems which find no logical inclusion elsewhere but which are too significant to be ignored. Three main aspects will be discussed. The first problem to be considered will be the relation of apprenticeship to the administration of workmen's compensation; the second, the relation of apprenticeship to child labor; and the third, the problem of determining where to place the responsibility for state administration of apprenticeship work.

Relation to Workmen's Compensation.—The apprentice by virtue of the very nature of his undertaking must work in the same environment as other workmen. He must be subject to the same accident hazards. Need this fact be a deterrent to apprenticeship development? Does the apprentice himself get the proper consideration in compensation awards which affect him? On what basis shall the apprentice be awarded adequate compensation for accidents arising out of his work? Such questions have many times been asked. It is hoped that the answers may be gathered from the ensuing discussion.

The basis of a special consideration of the relation of apprenticeship to workmen's compensation is suggested by the prevalence in our industrial states of prohibited employments for minors of certain ages. These prohibitions have been established for the protection of youth but have not been made in contemplation of apprenticeship relations. A further ground for a special consideration of workmen's compensation in relation to apprenticeship grows out of the fact that the wage of the apprentice is not adequately measured by the monetary return expressed in wages. Hence compensation for accident based upon his monetary wage alone may not always prove equitable.

To illustrate one of the problems which give rise to this discussion: Suppose that the state statutes prohibited boys under

eighteen years of age in machine shops from working on grinders and emery wheels; what would be the situation if a youth under the specified age should be injured on such an operation which would then constitute a violation of law entailing a special penalty upon the employer? Clearly it would appear to be dangerous for an employer to allow an apprentice to sharpen his own tools used in his trade, since this requires the boy to work on grinders and emery wheels. Yet skilled journeymen claim that a boy should begin to learn to sharpen his own tools in the earlier period of his apprenticeship. Most of the apprentices are younger than eighteen years; many as young as sixteen. It is apparent that special consideration must be afforded the apprentice; and the penalty such as treble compensation in case of accident should not apply in such a case.

It is obvious that the compensation law and the prohibited employment provisions must receive special interpretation or adaptation for such contingencies as have been indicated. How can this be done? First of all, it is evident that a violation of the law will not furnish a solution. However, a way out is furnished through the possibilities of special administrative discretion on the part of the enforcing agency. This administrative discretion should result in the enforcement of the spirit of the enactments which can be effected by a frank recognition of the fact that a boy in order to learn a trade must emulate the skilled craftsmen. This he obviously cannot do unless he is given the opportunity to perform the same kind of work as the journeyman. The anomaly of a statutory prohibition of work necessary for a boy to learn his trade can be solved through the establishment of special administration orders, which must be based on a full recognition of the particular facts in each individual case. The general legislative prohibition may be modified, in a legal way, to give acknowledgment of the fact that apprentices are under educational supervision and that they are taught scientific and safe methods of work; and moreover to recognize that apprentices are usually boys who possess more than the average intelligence.

Exactly what such special considerations may entail can be gathered from Wisconsin's experience in this particular. Early in the administration of apprenticeship it was apparent that its

success necessitated special rules as authorized in the apprenticeship statute, part of which reads:

It shall be the duty of the Industrial Commission of Wisconsin and it shall have power, jurisdiction and authority to investigate, ascertain, determine and fix such reasonable classification and general and *special orders*¹ as shall be necessary to carry out the intent and purposes of the Statute.

Under the obligation imposed by this statute the commission held hearings on particular applications of the child-labor law which affected the situation, as provided above, and after a full determination of the facts, set forth the following modifications of the law to make apprenticeship practicable:

Special order No. 1.

Order No. 1, Item (4) in subdivision (b) in the schedule of employment or places of employment prohibited to minors under eighteen years of age, contained in subsection 2 of section 1728a is modified to read as follows:

"Dusts; operating or using any emery, tripoli, rouge, carborundum, stone carborundum, and abrasive or emery polishing or buffing wheel, where articles of the baser materials, as of iridium, are manufactured, but *apprentices indentured under section 2377 of the statutes may, under supervision, grind their own tools for their own purpose on grinding wheels of these materials, if all general orders of the Industrial Commission relating to such work are observed.*"¹ [General orders issued pursuant to Subsection 2 of Section 1728a of the Statutes.]

Special order No. 2.

Order No. 2, Item (6) in sub-division (b) in the schedule of employment or places of employment prohibited to minors under eighteen years of age, contained in subsection 2 of section 1728a, is modified to read as follows:

"(6) Elevators; in the running or management of any elevators, lifts, or hoisting machines; but *apprentices indentured under section 2377 of the statutes may use hand hoists or pneumatic hoists in bringing material from machinery at which they are employed as a part of their training under the terms of their indenture.*"¹ [General Orders issued pursuant to Subsection 2 of Section 1728a of the Statutes.]

¹ Italics are the author's.

These problems of special orders have been considered in this connection because they directly involve the possibilities of industrial accidents. They give evidence that the hazard of accident is less for the apprentice than for the youth *not* apprenticed. At the same time, they take away the excuse given by some employers that apprenticeship is not practicable since apprentices must at times work on processes or apparatus not permitted to those of apprenticeship years. Furthermore, the fear of the employer of the strong penalty imposed for accidents to minors on prohibited employment becomes groundless in so far as it is a reason advanced for not having apprentices.

It has been said that equitable awards to apprentices injured while at work cannot be based upon the mere monetary wage. Suppose, for example, a boy loses through accident the use of a finger. The law may provide a compensation equivalent to a specific multiple of his weekly earnings. However, his wages do not measure all his loss, because according to the very conception of apprenticeship, part of his remuneration is given in the form of instruction. In the computation of compensation, therefore, a valuation must be given this phase of the apprentice's accident award. That this principle has been recognized can be seen again from the action of the Industrial Commission of Wisconsin:

Where board, lodging, or apprenticeship instruction is furnished the employee as part of the consideration, the fair value of these benefits should be added to the money wage in computing the compensation due.¹

Apprenticeship and Child Labor.—Child labor is a very old phenomenon, but, strange as it may seem, it is during the evolution of industrial society in the last hundred and fifty years that its worst aspects have been apparent. Modern states have enacted statutes to prevent the exploitation of youth, and, moreover, have provided for the education of youth with the full knowledge that the boys and girls of today are the men and women of tomorrow. Child-labor regulations have been so designed as on the one hand to discourage the employment of youth of tender years, and on the other hand to give inducements for them to pursue education. This is no mere coincidence but

¹ *Bulletin of Industrial Commission*, 1929, footnote 56, p. 29. (Workmen's Compensation Act.)

a recognition of a necessity for our civilization, born of the experience of the ages.

Economic literature links apprenticeship with child labor. Although the fact has been inevitable, nevertheless it has been an unfortunate thing for apprenticeship and accounts in some measure for the disdain with which apprenticeship is sometimes held. Child labor has occurred many times in the name of apprenticeship, it is true, and in many times and places the distinction between these two types of employment has not been sufficiently appreciated.

It is a serious mistake to regard apprenticeship as child labor. Apprenticeship may be child "work," but it does not come under the connotation of "child labor." The latter readily suggests a form of labor, which if tolerated at all, should be permitted only under certain specific limitations which will protect the rights of the youth and society and discourage such employment in the mind of the employer; and even though protection is afforded, it would appear more desirable socially to eliminate it entirely.

There is need for a clearer line of demarcation between child labor and apprenticeship. Apprenticeship is a form of education, a fact which has been stressed in other places in this book.

Success in apprenticeship administration in any particular cannot be assured if apprentices are regarded as victims of child labor, rather than beneficiaries of a training opportunity. It is the educational aspect which must characterize apprenticeship, particularly in these modern times when scientific methods have lessened the physical burdens in all occupations.

The state looks askance at child labor, but encourages apprenticeship. A proof of this can be seen in the fact that the legislature of Wisconsin in 1919 deliberately exempted apprentices from the requirements of the child-labor law. In effect this means that apprentices are governed by an entirely different statute.

Child labor is discouraged by the prohibition of specified occupations to minors up to certain age limits. And again it is discouraged through the means of requiring the issuance of state labor permits for those young people who come under the age classification, permits which are given only under many restrictions. Apprenticeship on the other hand is definitely promoted, and, in Wisconsin, it is promoted by the same commission that

enforces the child-labor law. These facts would appear to give conclusive evidence that apprenticeship is desirable although child labor is not. In practice, however, the tendency for an industrial commission is to use child-labor psychology rather than educational psychology in dealing with apprenticeship problems. As an indication of this tendency, the matter of proof of age for apprentices is an example. Some persons who believe that no obstacle should be placed in the way of developing a genuine apprenticeship system think that the apprentice should be thought of more nearly as a boy entering a secondary school. A boy entering the high school is asked for his age. A statement from the parents or the boy is deemed sufficient. If apprenticeship is the kind of institution to be encouraged by the state, it scarcely seems advisable to insist on disregarding the statements in a written indenture which would obviously be given in good faith since it would be subject to the surveillance of the state administrative department.

The apprenticeship law of Wisconsin gives specific conditions for an apprenticeship agreement. It states that *every indenture* shall contain: (1) the names of the parties; (2) the date of the birth of the minor, etc.

It does not specify how the date of birth of the minor is to be obtained. It is reasonable to suppose that the legislators saw no serious problem in this matter. The difficulty concerning the proper certification of age seems to have arisen with the commission through the apparent confusion of apprenticeship and child labor.

The commission may have good reason for its position, and it may be said that there has been no court decision which would show the commission to be wrong. However, it does appear that apprenticeship administration, instead of standing on its own feet and interpreting liberally the legal requirements, has permitted itself to be influenced in its technique by the close proximity and strength of the child-labor department of the commission. For example, the Industrial Commission with its broad powers could just as readily decree that the age given on the apprenticeship indenture shall be deemed *bona fide*; particularly inasmuch as the apprenticeship agreement is reviewed by the commission and is subject to cancellation. Be that as it may,

it is the tendency that is important to notice. Red tape is a corollary of state administration, and difficult to obviate. Red tape is likely to grow out of petty issues; therefore it would seem that when a state desires to encourage apprenticeship it should avoid as much as possible needless procedure which, in fact, does disconcert an ordinary employer very much, and tends to discourage the development of apprenticeship.

Another instance which has a suggestion of child-labor psychology is the technique employed in the state approval of individual apprenticeship agreements. A little explanation is required at this point. It will be recalled that in the previous chapter it was set forth that the method of determining *bona fide* apprenticeship agreements is determined by the state commission through trade committees. As a consequence, the committees meet, deliberate, advise on, and approve the trade schedule. The commission sanctions and publishes the trade schedules so that the employers of apprentices may be supplied with forms furnished by the state. Since, then, the trade schedules have all been previously sanctioned, the execution of an indenture would appear to be a simple matter of compliance with the rules laid down. In other words, signing up of an agreement between the interested parties would effect a legal contract. The commission, however, does not recognize the question of fact as to whether on a given date an apprenticeship contract exists, but merely decrees that an agreement has no status until approved by the commission, even though it may be similar to scores written before and in every significant fact comply with the rulings previously sanctioned by the state. The point of this situation is that although acting under an apprenticeship agreement which in fact conforms to all the stipulations of the statute, a boy would, nevertheless, be considered illegally employed during the time the agreement was being sent through the mail to the state office and the acknowledgment made. This procedure, then, makes it necessary for the employer to have even for the apprentice a "working permit" and accordingly adds to the red tape for both the boy and the employer.

As opposed to this procedure it would seem that the apprenticeship indenture issued according to the statutes should be equivalent to a working permit, and that it is a mistake for the

apprenticeship administration to be too much involved in the complications of child-labor procedure.

Responsibility for the Administration of the Apprenticeship Statute.—Widespread interest in apprenticeship throughout the country leads naturally to inquiry concerning the character of administration. In Wisconsin the administration of apprenticeship is lodged with the industrial commission which is in fact the labor department of the state government. Even in this state there are two schools of opinion concerning the desirability of apprenticeship administration being placed with the labor department rather than with that of vocational education. It will be the purpose at this juncture to discuss this particular aspect of the state supervision of apprenticeship.

Elsewhere have been stated the advantages of a state-administered plan. Therefore in the present circumstances our inquiry is directed only to the question concerning which department of the state government should have the responsibility for the direction of a state apprenticeship program.

Before the United States entered the World War there was relatively little organized effort in the field of vocational education. There was almost no independent vocational personnel. The movement for vocational education has been but recently sponsored. It began among those educators whose point of view and experience enabled them to see the necessities of the times together with other persons from the ordinary walks of life who were able to see the possibilities of industrial training when linked up in a systematic way with a program of school training. It was a natural circumstance, therefore, that at the time when Wisconsin established an apprenticeship scheme it should place its administration with an established department of the state government rather than with a new board which had not then established public confidence.

The considerations which point with favor to apprenticeship being administered by the industrial commission or the labor department may be given as follows:

Arguments in Favor of the Administration of Apprenticeship by the Labor Department.—First, the labor department of the state government is a department of long standing. It has been a necessary growth to cope with the human problems which are

inevitable to industrial development. This department of the modern state has become established in the minds of all factions in our economic life. This alone would appear to give a tremendous advantage in making effective a new legislative policy such as an apprenticeship program, and to provide an argument favoring the administration by the labor department.

Second, the industrial commission is in close contact with industry itself. In fact, its exclusive business is to administer the statutes which pertain to matters of industrial employment and the physical conditions which are incident thereto. Its relationship with industry is one of continuity with both the employers and the employees. This fact would suggest that administration of apprenticeship could be very easily and fittingly adapted to the work of the commission, because apprenticeship actually takes place in industrial establishments. The law has already opened a way for this department of state to inspect and follow up the employment and working condition in the places of employment, a fact which suggests the next consideration.

Third, the industrial commission regulates conditions of work. It is obliged to check on hours of labor, safety devices, sanitation, and other conditions of work of all employees. Therefore it would seem to be an easy matter for the commission to add the burden of following up the apprentices to its other responsibilities.

Fourth, another reason which favors administration by the commission is the indirect power which the commission can wield over the enforcement of apprenticeship regulations. This power, though somewhat unconsciously held, is nevertheless a very effective weapon. It has already been pointed out that the industrial commission seeks compliance with the general labor statutes, apprenticeship being one. Should the commission discover that the apprenticeship law is being violated, it might fittingly presume that other laws were being violated. This presumption would invite closer inspection and the more detailed check on the plant practices and condition. The result would be, of course, that the employer would find it to his advantage to comply with the law rather than invite too close inspection. This strategic position of the commission as an enforcing body unconsciously compels the employer to observe

a more uniform compliance with the statutes. That is to say that the power which is inherent in the commission to bring pressure to bear on the principals of industry is sufficiently potent to convince those interested in apprenticeship that the law can be reasonably well enforced by the commission.

Fifth, the commission is in the situation where it must adjust relationships between employer and employee. The administration of workmen's compensation brings together the employer, employee, and the commission. There is also the question of adjusting other employee and employer relationships where disputes arise between management and labor. The commission, however, in the administration of these phases of labor law has built up, as any labor department of any state can build up, a spirit of good will between it and industry which can be turned to account in the administration of a statute such as the apprenticeship law, which being operative on the employer only through his own volition depends entirely on good-will relationships.

Sixth, the industrial commission is charged with the enforcement of child-labor legislation and is responsible for the issuance of child-labor permits. Child-labor legislation, of course, is closely allied to apprenticeship. A proper understanding of child-labor problems should result in a greater appreciation of the possibilities of apprenticeship. It should be possible for the child-labor enforcement machinery or personnel to facilitate apprenticeship relations and procedure by virtue of its experience with people of apprenticeable age.

Seventh, the labor department is in the strategic position for apprenticeship administration inasmuch as this department usually is the statistical organization for the collection of experience and facts concerning trades, industries, employment, and the like within the state. This fact makes it possible for the commission to advise properly with regard to the relative importance of various occupations, and the tendencies to obsolescence of particular occupations. The economic aspect of apprenticeship is more clearly comprehended by an administrative department which is able to view all the other economic aspects of employment or lack of employment.

Eighth, a final consideration which would favor enforcement by the industrial commission would be the fact that factory

inspectors in other fields could contribute to the experience of the apprenticeship department and bring to bear points of interest with respect to the character of the work being done, the hazards involved, the hours of labor, and like aspects.

Arguments in Favor of Administration of Apprenticeship by Departments of Vocational Education.—In recent years state boards of vocational education have been established in most of the states of the union. The Smith-Hughes law of 1917, providing Federal funds to supplement state moneys for the department of vocational education, brought in its wake vocational-education organizations or administrative bodies in these states. Apprenticeship, as has already been pointed out, having such a large educational or academic feature in conjunction with it, has challenged the interest of vocational educators. This fact, of course, is a very natural thing because apprenticeship, after all, is a very vital form of vocational training. We shall suggest then at this point some of the considerations which have led some people to believe that the interests of apprenticeship would be furthered by having the state scheme administered by the boards for vocational education rather than by labor departments of the state government. There will be given below some of these considerations.

First, vocational-training educators are giving more specific educational attention to the apprenticeship department. The necessity for giving a certain amount of academic instruction to apprenticeship calls for the full cooperation of vocational educators. It would seem logical, therefore, that the whole responsibility for supervision of apprenticeship should rest with that body whose full time and attention are given to educational problems. It is implied that the labor department on the other hand undertakes apprenticeship as only a minor aspect of its total industrial relations program.

Second, apprenticeship has for many centuries been directly associated with what is known as child labor. It would be preferable for the development of apprenticeship in these days that it be given the educational rather than the employment emphasis or that a distinction be made between the idea of apprenticeship for employment, or child labor, and the concept of an educational program, which real apprenticeship should typify.

Granted that this emphasis is a desirable achievement, it would be accomplished more effectively by the vocational-education administration than by the administration by the labor department.

Third, it would have a tendency to take apprenticeship out of the child-labor classification and would cause the vocational-education people established in all of the industrial communities to be directly interested in apprenticeship training. It would mean that there could be developed a well coordinated legal follow-up for apprentices which cannot be so universally effective with a department of state which has no regular local legally constituted officers functioning full time for that department.

Fourth, the vocational educators understand the nature of the academic training required of these apprentices. They have to make direct contacts with the apprentices in their hours of academic schooling. It would be logical therefore for these educators to follow the apprentices into the workshop and to effect a supervisory interest in all the phases of the apprentices' experience.

Fifth, the development of the coordinator in vocational educational centers is another reason for administration by the vocational-education department. Where vocational schools have been established it has become customary to have an individual in the community who, as a coordinator, goes between the industry and the school, and follows the boys in their daily work in their places of employment. The coordinator should bring to the school such information and understanding of the economic aspects of the young person as will vitalize the curriculum in the vocational schools. It seems to be a logical consideration that where coordinators are established for other forms of juvenile labor, it would be fitting to have them assume responsibility for the apprenticeship relations in like manner, reporting ultimately, of course, to the state administrative machinery. Incidentally, if apprenticeship were supervised by these educators, the odium of child labor in connection with apprenticeship could be largely obviated because the apprenticed boys would then begin to consider themselves as a part of an educational program. This would help to eliminate the inferiority complex which a manual job gives to many young people starting in

industry, and which has an unfortunate effect on the social standing of those who receive training in industry rather than in school.

Sixth, an educational administrative board would have a larger personnel directed specifically to vocational-education problems. This has been inferred before. A larger personnel would be a boon to the apprentices and perhaps to the employers in the development and maintenance of this form of training. It would partly grow out of the fact that a more generous support of public funds could be obtained for apprenticeship work through vocational education than could be obtained through the labor department. In the labor department one phase of the budget takes care of apprentices, but this is a minor phase of the whole department. Apprenticeship training is in a sense the whole of the effort of vocational educators, and hence what funds were obtained would be specifically turned toward the main proposition of industrial training with a correspondingly greater effectiveness. Finally, it should be remembered that educational training organizations have developed very considerably in recent years, and are not now so limited in dealing intelligently and sympathetically with industrial establishments as they were before the war. They have made apprenticeship a part of a great scheme of vocational training and have evinced great interest in seeing this form of training advanced and vigorously maintained.

In concluding these observations with respect to state administration of apprenticeship, it should be stated that there are certain basic principles which must not be ignored. At the outset it may be said that whichever department is charged with the responsibility of the administration of the apprenticeship scheme, cooperation between both departments is absolutely essential. No scheme, no matter how perfectly it may be conceived, notwithstanding the greatest exquisiteness of design, can be more effective than it is skillful in its administration or execution. It is important to observe that the substance in administration, as in other things, is more important than the form, the spirit is more important than the letter, and the end is more important than the means. In other words, it is almost axiomatic that the circumstances of particular times and places will call forth

different schemes or facilities for carrying out certain established principles. In one state one form will bring results, while in another state another form will bring equally good results. One plan may be successful in one state and unsuccessful in another. The fundamental question to consider is how the job can be done to the best advantage. In other words, it is not so important to argue concerning the merits of particular plans, which are merely means to an end, but it is important to see that the results desired are achieved and maintained, and that the public purpose is enhanced. This will be easily attainable if the interests of the boys are made paramount.

Questions and Exercises

1. What inequity appears in the plan of compensating the injury to an apprentice on the basis of a percentage of his earnings?
2. Does workmen's-compensation legislation make apprenticeship more difficult? Can the difficulty be obviated?
3. How does the state of Wisconsin reconcile apprenticeship statutory provisions with those of workmen's compensation?
4. How would you differentiate between apprenticeship and child labor?
5. Should a state apprenticeship plan be administered by the department of labor or by the department of vocational education?
6. What do you consider the best arguments in favor of the administration of apprenticeship legislation by the labor department?
7. What are the arguments in favor of the administration of apprenticeship by the vocational educational departments?
8. What is the important consideration in the success of any apprenticeship plan?

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APPENDIX A

WISCONSIN EXHIBITS

I. THE TEXT OF THE LAW UNDER WHICH APPRENTICES SHALL BE INDENTURED

Section 106 of the statutes, as amended by the Laws of 1919 and 1923

Apprentice Defined

Section 106. 1. The term "apprentice" shall mean any minor, 16 years of age or over, who shall enter into any contract of service, expressed or implied, whereby he is to receive from or through his employer, in consideration for his services in whole or in part, instruction in any trade, craft or business.

Indenture Defined

2. Every contract or agreement entered into by an apprentice with his employer shall be known as an indenture: such indenture shall be in writing and shall be executed in triplicate, one copy of which shall be delivered to the apprentice, one to be retained by the employer and one to be filed with the Industrial Commission of Wisconsin at Madison.

Who May Be Indentured

3. Any minor, 16 years of age or over, may, by the execution of an indenture, bind himself as hereinafter provided for a term of service not less than one year.

Who Must Sign Indenture

4. Every indenture shall be signed:

- (1) By the minor.
- (2) By the father; and if the father be dead or legally incapable of giving consent or has abandoned his family, then
- (3) By the mother; and if both the father and mother be dead or legally incapable of giving consent, then
- (4) By the guardian of the minor, if any.
- (5) If there be no parent or guardian with authority to sign, then by two justices of the peace of the county of the residence of the minor, or by a member of the Industrial Commission of Wisconsin or a deputy thereof.
- (6) By the employer.

Contents of Indenture

5. Every indenture shall contain:

- (1) The names of the parties.
- (2) The date of the birth of the minor.
- (3) A statement of the trade, craft or business which the minor is to be taught, and the time at which the apprenticeship shall begin and end.
- (4) An agreement stating the number of hours to be spent in work, and the number of hours to be spent in instruction. During the first two years of his apprenticeship, his period of instruction shall be not less than four hours per week or the equivalent. If the apprenticeship is for a longer period than two years, the total hours of instruction shall be

not less than four hundred hours. The total number of hours of instruction and service shall not exceed fifty-five per week; provided, that nothing in this paragraph shall be construed to forbid overtime work as provided in subsection 7 of this section.

(5) An agreement as to the process, methods or plans to be taught, and the approximate time to be spent at each process, method or plan.

(6) A statement of the compensation to be paid the apprentice.

(7) An agreement that a certificate shall be given the apprentice at the conclusion of his indenture, stating the terms of indenture.

Provision for Schooling

6. The employer shall pay for the time the apprentice is receiving instruction, at the same rate per hour as for services. Attendance at school shall be certified by the teacher in charge, and failure to attend school shall subject the apprentice to a penalty of loss of compensation for three hours for every hour such apprentice shall be absent without good cause.

Overtime

7. An apprentice over 18 years of age may be allowed to work overtime not to exceed thirty hours in any one month. Overtime shall be considered all time over ten hours in any one day, and in case the hours of labor are limited in the particular craft, industry or business, and as to the particular employer, to less than ten hours, overtime shall be figured as all time in any one day in excess of such limitation. For overtime the apprentice shall receive one and one-half times the rate per hour provided in his contract for regular time.

Penalty for Violation of Contract

8. If either party to an indenture shall fail to perform any of the stipulations thereof, he shall forfeit not less than one dollar or more than one hundred dollars, such forfeiture to be collected on complaint of the Industrial Commission of Wisconsin, and paid into the state treasury. Any indenture may be annulled by the Industrial Commission of Wisconsin upon application of either party and good cause shown.

Administration

9. It shall be the duty of the Industrial Commission of Wisconsin, and it shall have power, jurisdiction and authority, to investigate, ascertain, determine and fix such reasonable classifications and to issue rules and regulations and general or special orders as shall be necessary to carry out the intent and purpose of section 106 of the statutes. Such investigations, classifications and orders, and any action, proceeding, or suit to set aside, vacate or amend any such order of said commission, or to enjoin the enforcement thereof, shall be made pursuant to the proceeding in sections 101.01 to 101.28,* inclusive, of the statutes, which are hereby made a part hereof, so far as not inconsistent with the provisions of section 106 of the statutes; and every order of the said Industrial Commission of Wisconsin shall have the same force and effect as the orders issued pursuant to sections 101.01 to 101.28,* inclusive, of the statutes, and the penalties therein shall apply to and be imposed for any violations of section 106 of the statutes, excepting as to the penalties provided in subsection 8 of section 106.

Determination of Instruction

10. It shall be the duty of all school officers and public school teachers to co-operate with the Industrial Commission of Wisconsin and employers of apprentices to furnish, in a public school or any school supported in whole or in part by public moneys, such instruction as may be required to be given apprentices.

Limits of Application

11. The provisions of section 106 shall not be construed as invalidating any contract of apprenticeship entered into before July 1, 1915.

* Industrial Commission Law.

INDUSTRIAL COMMISSION OF WISCONSIN

APPRENTICE INDENTURE

This Indenture, Made in triplicate this.....day of....., 19.....
 betweenhereafter called the first party,
(Address)
 anda minor born.....
(Date of Birth)
 of , Wisconsin, and
(Street and Number) (City)
hereafter called the second parties:
(Name of Parent or Guardian)

Witnesseth, That the first party agrees to take the said minor into its employ and service as an apprentice to teach him the trade of....., as per Exhibit A.⁽¹⁾

That the said second parties agree that the said minor shall diligently and faithfully work for and serve the said first party during the full apprenticeship.

The apprenticeship shall begin on the.....day of....., 19.....
 and shall be for a period ofyears. The length of year, the compensation for the term of apprenticeship, and the processes, methods or plans to be taught shall be as per Exhibit A.

It is mutually agreed that the total number of hours work in any one week shall not exceed fifty-five (55) and that at least four (4) of such hours or its equivalent⁽²⁾ shall be devoted by said minor to school instruction. If the apprenticeship is for a period longer than two years, the total hours of instruction shall not be less than four hundred (400) hours.

(This clause shall not be construed to prevent school instruction after the second year if both parties agree to the continuation of same.)

Any indenture may be annulled by the Industrial Commission of Wisconsin upon application of either party and good cause shown.

At the completion of the apprenticeship the said minor shall receive a certificate stating the terms of his indenture.

In Witness Whereof, The parties have caused this indenture to be signed as required by Chapter 106 of the laws of Wisconsin.⁽³⁾

..... (Seal)
Apprentice Name of Firm or Corporation
 (Seal) (Seal)
Parent or Guardian (Employer)
 (Seal) By

(1) Exhibit A is to be filled out on page 2 of this form.
 (2) To meet the peculiar requirements of certain trades special arrangements for schooling may be made through the Industrial Commission of Wisconsin.
 (3) A copy of the law forming the basis upon which this indenture is made and governing all matters not expressed in this contract is hereto attached.

EXHIBIT A.

NOTICE: No apprenticeship indenture will be legal which does not have this exhibit filled out as indicated below.
(Section 106 of the Statutes.)

EXTENT OF PERIOD OF APPRENTICESHIP—(Here must be stated the length of time to be served, and wherever the trade can determine, the exact length of each apprenticeship year.)

SCHEDULE OF PROCESSES TO BE WORKED—(Here must be stated the processes, methods or plans to be taught and the approximate time to be spent at each process, method or plan—to conform to the character of the individual trade.)

COMPENSATION TO BE PAID—The apprentice shall receive in wages:

SPECIAL PROVISIONS These to be stated here or on following page.

[Back page of Wisconsin Indenture]

INSTRUCTIONS FOR FILLING OUT INDENTURES

NOTE:—This indenture is a contract—a contract for services, and it is as binding on the parties to it as any other kind of contract. It is of the utmost importance, therefore, that employer, apprentice and his parents thoroughly understand each other when the agreement is being entered into. The nature of the duties the apprentice is to perform, his hours of labor, overtime, wages, vocational school attendance, and all other conditions of employment, should be fully agreed upon and understood at the beginning of the apprenticeship.

The first page of the indenture hardly needs an explanation.

On the third page, headed "Exhibit A," at least three things must be stated:

1. The length of the apprenticeship. (One year is the shortest period for which an indenture may be executed.) It is advisable to state the extent of period of apprenticeship as a certain number of working days, or, better still, as so many hours. Thus, "The length of apprenticeship shall be four years, each year to consist of 2240 hours." The figure 2240 is commonly used where the eight-hour day prevails. There are about 270 working days in a year so that if the length of apprenticeship is to be given in days it would be worded: "The length of apprenticeship shall be four years, each year to consist of 270 working days of prevailing hours."

2. Under the heading "Schedule of Processes to be worked," there should be given an outline of the different divisions of the trade in which the apprentice is to be employed or which the apprentice is to learn. This should be as complete as possible. If it is not feasible to draw up a definite schedule of training then a statement may be written in covering the trade or business in a general way. For example, "The apprentice shall be given experience and training in the trade of in all its branches and shall be advanced in the trade from time to time in such a manner and at such times as to thoroughly develop his capacity and enable him to become an efficient journeyman." The wording of this section should be a promise to teach the learner the entire trade or business as carried on by the employer.

By writing to the Industrial Commission a pamphlet containing the standard schedules of training for all principal trades will be sent free.

3. Under "Compensation to be paid," there must be a statement of wages to be paid the apprentice. It is advisable to give this in six-months periods with a suggested increase in wages of from one to five or more cents per hour every six months. This varies with the trade. A schedule of wages for the entire apprenticeship should be given here. This wage is merely a minimum one, there being nothing to prevent the employer from paying more if later the apprentice proves himself worth more.

There is no law governing wages of apprentices indentured according to the terms of the apprenticeship law. But it is recommended that the scale paid in any one community be uniform in each trade.

It is possible to state the wage scale for apprentices as a certain percentage of the prevailing journeymen's scale. For example, 25 per cent of the journeyman's wage for the first six months; 30 per cent the second, etc. In that case the apprentice's scale would fluctuate with the journeymen's. However, the usual practice is to state the wages as so much an hour with the periodical increase.

Under the fourth heading, "Special Provisions," mention may be made of a bonus to be paid the learner upon successful completion of his apprenticeship. An offer of a bonus is not compulsory but it is of considerable value as an incentive to the apprentice. Practically all indentures now specify payment of such a bonus in money and tools ranging from 50 to 100 dollars. Here should be mentioned any other special condition of employment.

Notes on miscellaneous matters:

Time credit may be given the apprentice on his term of training for previous experience.

The first three months of the apprenticeship constitute a probationary period unless otherwise specified in the indenture. During the probationary period either party to an indenture may void the agreement by notifying the Industrial Commission.

Diplomas are issued by this Commission to all graduates who satisfactorily complete their apprenticeships.

It is necessary in every case to fill out and sign three indentures. One of these must be sent to the Industrial Commission at Madison for approval and filing, one is delivered to the apprentice and the third is kept on file by the employer.

Certificate of Apprenticeship

of the Industrial Commission of the



STATE OF WISCONSIN

This is to Certify that _____
has satisfactorily served an apprenticeship of _____ years in the employ of _____

at the trade of _____ in accordance with the Statutes of the State of Wisconsin, and has completed _____ hours of related school instruction, and is hereby recognized as a journeyman, together with all the rights, privileges and opportunities which everywhere pertain thereto.

Whereof let this diploma with official signatures and the Seal of the Industrial Commission of Wisconsin bear witness.

Given at Madison in the State of Wisconsin
this _____ day of _____ A. D. 19____
Industrial Commission of Wisconsin

WISCONSIN

INDUSTRIAL COMMISSION

1904/10/14

APPENDIX B

AN ACT RELATING TO AND PROVIDING FOR THE TRAINING OF APPRENTICES (1931)

Be It Enacted by the People of the State of Oregon:

Section 1. Apprentice Defined. The term "apprentice" shall be any minor, 16 years of age or over, who shall enter into a contract of employment of more than two months duration whereby he is to receive from or through his employer, in consideration for his services in whole or in part, instruction in any trade, craft, occupation or business, and whereby the learning of any trade, craft, occupation or business is an essential part of the condition thereof and of the benefit to be derived therefrom.

Section 2. Indenture Defined. Every contract or agreement entered into by an apprentice with his employer shall be known as an indenture; such indenture shall be in writing and shall be executed in triplicate, one copy of which shall be delivered to the apprentice, one to be retained by the employer, and one to be filed with the state apprenticeship commission of Oregon.

Section 3. Who May Be Indentured. Any minor, 16 years of age or over, may, by the execution of such an indenture, bind himself, as herein provided, for a term of service not less than two months.

Section 4. Who Must Sign the Indenture. Every indenture shall be signed:

- (1) By the minor.
- (2) By the father; and if the father be dead or legally incapable of giving consent or has abandoned his family, then
- (3) By the mother; and if both the father and mother are legally incapable of giving consent, then
- (4) By the guardian of the apprentice, if any.
- (5) By the employer.

Section 5. Who Must Approve the Indenture. Every indenture shall be approved:

- (1) By the state apprenticeship commission or a duly authorized deputy thereof.
- (2) By the local apprenticeship commission and/or the apprenticeship sub-commission of the trade, craft, occupation or business (if any such exist) covered by said indenture.
- (3) If there be no parent or guardian with authority to sign, the said contract must be approved by the judge of the juvenile court or the judge

of the court of domestic relations in the county in which such minor resides, if any such court exists.

Section 6. Every indenture shall contain:

(1) The name of the parties.

(2) The date of the birth of the minor.

(3) A statement of the trade, craft, occupation or business which the minor is to be taught, and the time at which the apprenticeship under the indenture shall begin and end.

(4) A statement setting forth all training and employment conditions pertaining to the learning of the trade, craft, occupation or business by the apprentice.

(5) A statement setting forth a schedule of processes to be worked; a schedule showing the per cent of mechanic's wage to be received by the apprentice in accordance with the per cent of mechanicship attained and the employment status of the apprentice.

(6) Such other and further terms and conditions as may be prescribed by the state apprenticeship commission of Oregon not inconsistent with the provisions hereof.

Section 7. State Apprenticeship Commission. The state superintendent of public instruction, the state labor commission, and a member of the state industrial accident commission, to be designated by the governor, shall constitute the state apprenticeship commission of Oregon. Such commission shall elect its own chairman and appoint a secretary, and prescribe rules relative to the business to be transacted by it. It shall be the duty of the state apprenticeship commission of Oregon, and it shall have the power, jurisdiction and authority, to investigate, ascertain, determine and fix such reasonable classifications, and to make rules and regulations and such general and/or special orders as shall be necessary to carry out the intent and purpose of this act, and may prescribe the authority and duties of its deputies.

Section 8. Local Commissions. The names of the members of the local apprenticeship commission and/or apprenticeship sub-commissions, if any such exist, and the names of the officers thereof authorized to approve the indentures shall be filed with the state apprenticeship commission.

Section 9. School Training and Attendance. It shall be the duty of all school officials to cooperate with the state apprenticeship commission, the state board for vocational education and employers of apprentices in providing the necessary training classes for apprentices. The apprentice shall be required to attend such classes not less than the equivalent of four hours per week, either within or without the usual working hours, as a part of his working obligation.

(Approved by the Governor, Feb. 28, 1931.)

THE OREGON BUILDING CONGRESS

Apprenticeship Commission and Sub-commissions

Uniform Apprenticeship Indenture Contract

RENDERED IN TRIPPLICATE (FIRST COPY)

NOTE: This SAMPLE COPY of the suggested uniform Indenture Contract is printed in order to bring the importance of proper indenture procedure before the interested public. Revisions in the final copy will be made in light of reactions received.

This Indenture Contract entered into under date of _____, 19__

at Portland, Oregon, for the period _____

between _____ Age _____

Full name of apprentice

Place of birth _____ Date of birth _____

Town

State

Month

Day

Year

Permanent address _____

Street and number

Town

State

Hereafter known as the APPRENTICE

and _____

Name of employer

Permanent address _____

Street and number

Town

State

Hereafter known as the EMPLOYER

WITNESSETH:

That the Employer takes the Apprentice for the purpose of learning or acquiring the trade or occupation of _____

That the Apprentice agrees to serve the Employer diligently and cheerfully throughout the period of this agreement and take advantage of all training opportunities offered by the co-operating parties.

That it is mutually agreed that the Apprentice is to be

- 1. Hired as a learner. 2. Trained as a learner. 3. Work as a learner. 4. Paid as a learner.

It is further mutually agreed that the stipulations printed on the following sheets or attached thereto are hereby made a part of this agreement with full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals.

Employer _____(Seal) Apprentice _____(Seal)

By _____(Seal) Approved _____(Seal) Parent or Guardian

Signed and sealed before me this _____ day of _____

in the year _____

(NOTARIAL SEAL)

Notary Public.

My commission expires _____

INDENTURE CONTRACT STIPULATIONS

I

BASIS

The conditions of this indenture are based on the idea that each and every individual or group who participates in the benefits derived through the program of Vocational Education must co-operate morally and financially, either or both, in making these benefits possible.

In justice to all concerned, the conditions affecting each and every apprenticeship, whatever they may be, should be clearly set forth in an indenture contract.

II

DEFINITIONS

(1) **The Apprentice**—A young person who undertakes an employment contract of more than six months duration wherein the learning of a trade or occupation is an essential part to the conditions thereof and benefits derived therewith.

(2) **Improver**—An individual who has finished the apprenticeship period, but has not yet obtained a proficiency necessary for a full-fledged worker in the trade or occupation.

(3) **The Employer**—A firm or individual legitimately engaged in the trade or occupation and capable of carrying out that part of the obligation necessary for the proper teaching of the trade or occupation to the apprentice.

(4) **The Parent or Guardian**—The individual having the legal authority to make this indenture contract legally binding for apprentices who have not attained legal age.

(5) **The Trade or Occupational Advisory Committee**—A group of representative individuals from the trade or occupation respective to this indenture contract. Hereafter called the Advisory Committee.

(6) **The Employers' Organization**—A duly recognized representative group of individuals or firms or both who respectively employ workers in the trade or occupation pertaining to this contract, and who are organized for the mutual advancement of trade conditions and craftsmanship.

(7) **The Employees' Organization**—A duly recognized representative group of individuals employed in the trade or occupation pertaining to this contract, and who are organized for the mutual advancement of trade conditions and craftsmanship.

(8) **The School**—The Department of Vocational Education of the Portland Public Schools represented through authority vested in the Director, Supervisors and Teachers of this department.

III

THE APPRENTICE

(1) **Qualifications**—No one shall begin a term of apprenticeship before their sixteenth birthday or after their twenty-first birthday except under

conditions approved by the Advisory Committee. Candidates for apprenticeship must be well qualified, physically and mentally, for attaining a high proficiency in the trade or occupation selected.

(2) **Supervision of**—The Apprentice shall be under the direct supervision of the employer while on the job and under the direct supervision of the school authorities while in school, and at all times under the indirect supervision of the Advisory Committee. The Apprentice must report to the Advisory Committee or the School on call.

(3) **Attendance Obligation**—The Apprentice shall be employed by the week which shall include a minimum equivalent of four hours attendance to classes established by the School as part of the apprentice's working obligation, subject to the provisions under part XI of this contract. The apprentice shall also regularly attend classes established by the School during temporary periods of unemployment. Assignment to such classes in the trade or occupation shall be made by the School.

(4) **Regulations**—The Apprentice shall at all times cheerfully comply in letter and in spirit with the regulations set forth from time to time by the Advisory Committee and the School authorities.

IV

THE EMPLOYER

(1) **Qualifications**—The primary obligations of the employer are to provide training throughout the length and breadth of the trade or occupation, steady employment and proper working conditions for the apprentice. In special cases with the approval of the Advisory Committee, the apprentice may be indentured to an organization or individual (such as a Father or Labor Organization, etc.), qualified in effect as the employer, but without the payroll responsibilities.

(2) **Approval of**—The employer shall prove to the Advisory Committee, ability and willingness to comply with the above provisions before the final approval of this contract.

(3) **Selection of Apprentices**—The final selection of the apprentice must rest with the employer. This selection will be made, however, with the approval of the parties to this agreement and where possible with and through the support of other co-operating groups.

(4) **Quota of Apprentices**—The ratio of apprentices to journeymen shall be in conformity with the going practice in the trade or occupation.

(5) **Attendance Enforcement**—The employer shall compel attendance of apprentices under his employ to classes established by the School in conformity with the provisions hereafter enumerated in Part XI of this contract. Assignment to such classes in the trade or occupation shall be made by the School.

(6) **Trade Placement**—The apprentice shall be placed in strict conformity with the recommendations made by the Advisory Committee. Such placements will regularly be effective January 1st and July 1st of each year. Special recommendations may, however, be made at any time by said Committee and shall be effective in accordance with written notice.

(7) **Suspension of Apprentices**—On written request from the Advisory Committee and in full conformity thereof, the employer shall temporarily or permanently suspend from employment apprentices who have failed to comply with the rules and regulations set forth by the School Authorities or Advisory Committee.

(8) **Transfer of Apprentices**—The employer may temporarily transfer the apprentice to another employer in the same trade or occupation without nullifying in any way this agreement. The Executive Officer of the Advisory Committee shall, however, be notified immediately of such transfer. Permanent transfer may only be effected with the approval of the Advisory Committee through the marginal endorsement of all parties concerned.

(9) **Scope of Training**—The Employer shall provide the apprentice with practical training throughout the scope of processes based on an analysis of the trade or occupation as specifically outlined in Part X of this contract.

V

THE GUARDIAN

(1) **Enforcement**—The guardian shall assure the diligent enforcement of the apprentice's obligations in letter and spirit, both before and after attainment of legal age by the apprentice.

(2) **Home Environment**—The guardian shall assure home conditions conducive of regular attendance to school, health, honesty, cheerfulness and home study.

VI

THE ADVISORY COMMITTEE

(1) **Personnel**—The individuals comprising this group are to fairly represent the trade or occupation. They are to be nominated in equal numbers by the respective recognized trade or occupational organizations where such exists. Where the trade or occupation is unorganized or where special conditions exist nominations may be made by the City Director of Vocational Education. Nominees shall be approved by the City Director of Vocational Education and appointed by the Board of Education of the Portland Public Schools in order to effect the legal status hereafter outlined in Part XII of this contract.

(2) **Duties**—The Advisory Committee shall conduct examinations, make recommendations for trade placements, set apprentice wage scales, assist in providing supplies and equipment for apprentice classes, settle all controversies regarding job conditions, and in general maintain active interest and effective results in the apprentice training within their power. Executive authority for the Advisory Committee shall be vested in the School through the City Director of Vocational Education.

VII

THE EMPLOYERS' ORGANIZATION

(1) **Representation**—Individuals nominated are to fairly represent the recognized employers' organization on the Advisory Committee and shall

be clothed with full authority to carry out the duties outlined in Part VI of this contract.

(2) **General Enforcement of Regulations**—All recommendations of the Advisory Committee or school authorities pertaining in any way to apprentice training shall be cheerfully and effectively enforced by the recognized employers' organization.

(3) **Enforcement of Attendance**—The recognized employers' organization shall at all times take definite and effective means to enforce the regular attendance of apprentices in good standing whether employed or temporarily unemployed, to the classes established by the School, in the respective trade or occupation.

VIII

THE EMPLOYEES' ORGANIZATION

(1) **Representation**—Individuals nominated are to fairly represent the recognized employees' organization on the Advisory Committee and shall be clothed with full authority to carry out the duties outlined in Part VI of this contract.

(2) **General Enforcement of Regulations**—All recommendations of the Advisory Committee or school authorities pertaining in any way to apprentice training shall be cheerfully and effectively enforced by the recognized employees' organization.

(3) **Enforcement of Attendance**—The recognized employees' organization shall at all times take definite and effective means to enforce the regular attendance of apprentices in good standing whether employed or temporarily unemployed, to the classes established by the School, in the respective trade or occupation.

(4) **Suspension of Apprentices**—On written request from the Advisory Committee and in full conformity thereof, the Employees' Organization shall temporarily or permanently suspend from membership in said organization apprentices who have failed to comply with the rules and regulations set forth by the School Authorities or Advisory Committee.

IX

THE SCHOOL

(1) **Housing**—The School shall provide and maintain proper class-room facilities within the provisions of the funds available.

(2) **Instruction**—The School shall provide proper and effective instruction through teachers experienced in the trade or occupation within the provision of funds available.

(3) **Testing**—The School shall ascertain through tests and examinations, the information, appreciation and doing ability of the apprentice in the various phases of the trade or occupation.

(4) **Records and Reports**—The School shall keep complete records as to school progress, personal qualifications, experience, and attendance of apprentices and report same to parties affected at such periods to insure the effectiveness of the training program.

(5) **Advancements**—The School, with the co-operation of the Advisory Committee will grant periodically such advancement Certificates of Merit and Diplomas as merited by the apprentice.

(6) **Regulations and Schedules**—The School shall prepare and administer such rules and regulations as are necessary to insure proper school conduct and instruction procedure, and also set and administer such process schedules, fee schedules and class schedules necessary for the effective progress for apprentice training.

(7) **Authority**—The School shall in general act as the Clearing House and executive in correlating the aims and activities of the various co-operating groups.

X

SCHEDULE OF PROCESSES TO BE WORKED

Based on an analysis of the Trade or Occupation

XI

EMPLOYMENT STATUS

Explanatory Note: It is not intended that all of the conditions set forth below shall apply to every indenture contract. Where such conditions do not apply insert the word "VOID," in the blank space provided.

(1) **Employment**—The Apprentice will be employed by the week which shall include four hours, or equivalent, attendance to the school as part of the working obligation.

(2) **Hours**—Time and overtime conditions shall conform to the going practice in the trade or occupation except that attendance to school shall be on the straight time basis. Such attendance to school shall be either in or out of the usual working hours, and conform with class schedules set by School Authorities. Overtime work shall in no case be allowed to conflict with school attendance.

(3) **Wages**—For time and overtime the apprentice shall be paid the percentage of the going scale for full-fledged workers in the trade or occupation, listed herewith according to trade placement. Such trade placements to be based on trade attainments, independent of the time worked.

Pre-service training %	3rd year high %
1st year low %	4th year low %
1st year high %	4th year high %
2nd year low %	5th year low %
2nd year high %	5th year high %
3rd year low %	1st year Improvership %

(4) **Penalty**—The employer will deduct from the apprentice's weekly wage two hours pay for each hour of unexcused absence from the school.

(5) **Present Standing**—It is understood and agreed by all parties concerned that the trade placement of the apprentice at the date of entry of this contract is

(6) **Yearly Employment**—In economic conformity with the wage scale above outlined the employer guarantees the apprentice a minimum of wks. weeks employment per year during the duration of this Contract, or alternate:

(7) **Bonus Provision**—In order to stimulate the interest of the apprentice, the employer has deposited in escrow with the the sum or security to the extent of (\$) Dollars, to be paid the apprentice on the satisfactory completion of this indenture contract.

(8) **Deposit Provision**—In order to assure the employer that this indenture contract will be fulfilled, the apprentice has deposited in escrow with the the sum or security to the extent of (\$) Dollars, to be paid the employer in case this indenture contract is not completed satisfactorily by the apprentice.

XII
ENFORCEMENT

(1) **Arbitration**—The Apprentice, Employer, Guardian or other parties directly interested in apprentice training shall have the right of appeal to the Advisory Committee for arbitration concerning any and all controversies, arising under or out of, in connection with, or relating to, or for the breach of, the agreement of which this is a part. Such arbitration shall be conducted under the terms and conditions outlined in Chapter 186, Oregon Session Laws, 1925, and according to the rules and regulations of the duly appointed Advisory Committee; and judgment upon any award rendered may be entered in the office of the Clerk of the Court (Circuit or County) of the County where said Arbitration is held.

(2) **Annulment**—This contract may be annulled at any time and for any reason during the six months period immediately following the date of entry, by either Employer or Apprentice, by formal notice to the Executive Officer of the Advisory Committee through the surrender of the copy of the indenture contract held on which is noted the reason thereof. In case of such annulment any bonus or deposit provision entered into under Part XI shall be held void and return of same made to originating source.

After the expiration of said six months period this contract can only be annulled by the formal application of both Employer and Apprentice in a manner as above noted or by a formal ruling of the Advisory Committee.

(3) **Changes**—Additions and amendments may be made at any time through the Executive Officer of the Advisory Committee by marginal memorandum and endorsement of all parties concerned.

(4) **Approval**—This contract, rendered in triplicate, must be completely signed and approved by all parties concerned before becoming effective. One copy is to be held by the Employer, one copy by the Apprentice, and one copy filed with the Executive Officer of the Advisory Committee.

Approved for the Advisory Committee of
the trade or occupation, known as.....

WITNESSED BY:

.....

.....

Date..... By.....

1M—L.E.B.—11-1-28

Executive Officer.

APPENDIX C

THE ONTARIO APPRENTICESHIP ACT (1928)

An Act respecting the Training of Apprentices

His Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:—

1. This Act may be cited as *The Apprenticeship Act, 1928*.

2. In this Act,

(a) "Apprentice" shall mean a minor at least sixteen years of age who enters into a contract of service in accordance with this Act, whereby he is to receive from or through his employer, in whole or in part, instruction in any industry, trade, craft or business;

(b) "Employer" shall mean and include in relation to an apprentice, any person, firm or corporation, or municipal, provincial or other public authority to whom an apprentice is or is proposed to be bound in accordance with this Act, by contract of apprenticeship in any designated trade;

(c) "Inspector" shall mean Inspector of Apprenticeship appointed under this Act;

(d) "Minister" shall mean Minister of Labour;

(e) "Regulations" shall mean regulations made by the Lieutenant-Governor in Council under the authority of this Act;

(f) "Trade" shall include industry, trade, craft or business and any branch of any industry, trade, craft or business.

3. The provision of this Act shall apply in respect of apprenticeship in any trade specified in Schedule "A" of this Act and every such trade is hereinafter referred to as a "designated trade."

4.—(1) Upon receiving a petition signed by at least twenty-five employers in any trade asking to have such trade added to Schedule "A" the Minister shall direct the Inspector to inquire into the matter of the petition and the Inspector shall thereupon make such investigation as may be deemed necessary to determine whether or not such trade shall be added to Schedule "A."

(a) Nothing in this section shall prevent the Minister from directing such an investigation by the Inspector upon his own motion.

(2) The Lieutenant-Governor in Council, upon the recommendation of the Minister, may from time to time add to Schedule "A" such other trades as may be deemed expedient.

5.—(1) The Lieutenant-Governor in Council may appoint a Provincial Apprenticeship Committee to be composed of an equal number of employers

and employees and of a chairman to advise the Minister on all matters connected with the conditions governing apprenticeship.

(2) The Lieutenant-Governor in Council may appoint an Inspector of Apprenticeship for the purpose of carrying out the provisions of this Act and may also appoint such other officers or clerks as may be deemed necessary or expedient.

(3) The Inspector and such officers and clerks shall be under the direction and control of the Minister who shall be charged with the administration of this Act.

6. Subject to the regulations it shall be the duty of the Inspector:

- (a) to keep a register of every contract entered into by an apprentice;
- (b) to make such examination and enquiry as may be necessary to ascertain whether the provisions of this Act are being complied with by both employer and apprentice;
- (c) to arouse and promote interest in the adoption of apprenticeship in industries;
- (d) to assist in establishing a permanent system of training of apprentices in any industry;
- (e) to provide such information as may be required by apprenticeship committees;
- (f) to collaborate with educational authorities in the training of apprentices;
- (g) to submit a report annually to the Minister;
- (h) generally to perform such other duties and exercise such powers as may be prescribed by the Minister for carrying out the provisions of this Act.

7. After the commencement of this Act, no person shall enter into any contract of apprenticeship in a designated trade except in accordance with the provisions of this Act.

8.—(1) A minor shall not be employed in any designated trade for a longer period than three months, except under a contract of apprenticeship in accordance with this Act.

(2) Subsection 1 shall not apply to a minor who has already completed the period of apprenticeship customary in the designated trade.

9.—(1) Every contract of apprenticeship shall be in the form set out in Schedule "B" of this Act, except that the Minister may upon the recommendation of an apprenticeship committee authorize the variation of such form to suit the special circumstances of any particular designated trade.

(2) The contract shall not be of any force or effect until it has been approved of by the apprenticeship committee and the Inspector by writing endorsed thereon, and has been registered by the Inspector in the manner prescribed by the regulations.

(3) A contract of apprenticeship under this Act shall not be entered into for a period of less than two years.

10. Where a minor has been employed under a contract of apprenticeship in any designated trade prior to the date of the commencement of this Act, such contract shall within three months after the said date be registered at

the office of the Inspector, but such contract shall in other respects be regarded as if this Act had not been passed.

11. Where a minor is employed as an apprentice in a designated trade, but not under a contract, the provisions of this Act shall in relation to any unexpired period of such apprenticeship apply as from the expiry of three months after the commencement of this Act and the period during which any such minor was employed as an apprentice may, with the approval of the apprenticeship committee, be allowed as part of the time required to complete the full period of apprenticeship.

12. Every contract of apprenticeship shall be signed:

- (a) by the minor to be apprenticed;
- (b) by the father of the minor, and if the father be dead or legally incapable of giving consent or has abandoned his family; then
- (c) by the mother of the minor, and if both the father and mother are dead or legally incapable of giving consent; then
- (d) by the guardian of the minor, if any; or
- (e) if there be no parent or guardian with authority to sign, then by the judge or junior or acting judge of the county or district court of the county or district in which the employer carries on business; and
- (f) by the employer.

13.—(1) The Inspector may refuse to register any contract of apprenticeship which is not in his opinion for the benefit of the apprentice.

(2) Where the apprenticeship committee approves a contract of apprenticeship but the Inspector refuses to register the same, the matter in dispute shall be referred to the Minister whose decision shall be final.

14. The registration of a contract of apprenticeship shall not be regarded as a guarantee that all the provisions of the contract are valid or that any provision thereof is not in conflict with the provisions of this Act.

15. Subject to the approval of the Minister, a contract of apprenticeship may be terminated by mutual agreement of all parties thereto, or it may be cancelled by the Inspector, provided good and sufficient reason is adduced by the employer or apprentice or his guardian, and the fact of termination or cancellation shall be endorsed by the Inspector upon the copy of the contract registered in his office.

16. Where the terms of a contract of apprenticeship cannot be fulfilled the Inspector may arrange for the transfer of the apprentice to another employer but such transfer shall not be regarded as completely effected until it has been approved by the apprenticeship committee and registered.

17. The Lieutenant-Governor in Council, may make regulations:

- (a) to establish for any defined area, an apprenticeship committee or committees to advise the Minister on all matters connected with the conditions governing apprenticeship in any designated trade within that area;
- (b) prescribing the powers, duties and functions of apprenticeship committees relative to; the designation of any trade; the period or periods of apprenticeship; the qualifications upon which apprenticeship may commence in any designated trade; the standard of education for the

apprentice; the nature and number of educational classes to be attended by the apprentice; the course of training to be given an apprentice in a designated trade; the number of apprentices that may be employed by an employer in a designated trade; the issuance of a certificate to an apprentice who has completed his term of service; fixing the hours of labour and rates of wages for apprentices; recommending such methods of assessment of employers as may be deemed necessary to maintain a system of apprenticeship in any industry or designated trade;

- (c) specifying the number and qualifications of members of an apprenticeship committee, and fixing the period of appointment and the method of designating or appointing a chairman and other officers;
- (d) governing the procedure of an apprenticeship committee at its meetings and the time and place of such meetings;
- (e) providing for books, records and forms to be used by an apprenticeship committee; and
- (f) generally such other matters as may be necessary for the proper carrying out of the provisions of this Act.

18. The Minister may assign an officer in his Department to act as secretary to an apprenticeship committee.

19. Such courses of part or full time instruction in a school, collegiate or other educational institution as may by regulation under this Act be prescribed for the training of an apprentice shall conform to the provisions of *The Adolescent School Attendance Act* and *The Vocational Education Act*.

20. The members of an apprenticeship committee shall serve without remuneration but the Lieutenant-Governor in Council may fix an allowance to be payable to such members on their attendance at meetings and in transacting the business of apprenticeship committees, and all reasonable and necessary travelling and living expenses and all other expenses incurred by it in carrying out the provisions of this Act shall, when approved by the Minister, be payable out of such sums as may from time to time be appropriated by the Legislature for that purpose.

21. Every person who, after the commencement of this Act:

- (a) enters into a contract of apprenticeship in respect to any designated trade except in accordance with the provisions of this Act: or
- (b) except as expressly provided by this Act employs any minor in a designated trade; or
- (c) contravenes any of the provisions of this Act or any regulation made thereunder,

shall incur a penalty of not less than \$10 nor more than \$100 to be recovered on summary conviction before a police magistrate.

22. This Act shall come into force on the day upon which it receives the Royal assent.

Provincial Apprenticeship Committee of Ontario

* * *

CONTRACT OF APPRENTICESHIP
SCHEDULE "B"

THIS CONTRACT, made and entered into the . . . day of . . . 19 . . .
between (hereinafter called
the Employer) of the First Part, and
a minor of the age of . . . years, having been born on the . . . day of
. 19 . . . (hereinafter called the Apprentice) of the Second Part,
and (insert name of
parent or guardian or judge) of the Third Part,

WITNESSETH: 1. That the party of the Second Part, having been found
medically fit, does of his own free will and with the consent of the party of the
Third Part by these presents agree:—

- (a) To bind himself as an Apprentice to the said Employer in the trade or
occupation of for a period of years commencing
on the day of 19 . . .
 - (b) To serve faithfully, honestly, and diligently the Employer and to obey
all lawful and reasonable demands and requirements of the Employer
or those duly placed in authority over him.
 - (c) Not to disclose or communicate to any person whomsoever any informa-
tion relating to the business of the Employer.
 - (d) Not to be interested directly or indirectly, either as a paid agent or
servant, in any business or undertaking other than that of the Employer.
 - (e) To attend, in accordance with the requirements of the Minister, such
classes as may be decided upon by him for the purpose of receiving
technical or other education.
2. That the Employer does by these presents agree:—
- (a) To bind himself to receive the said Apprentice for the period stated
and to teach efficiently or cause to be taught efficiently the said Appren-
tice in the trade or occupation specified.
 - (b) To refund to the said Apprentice the reasonable class fees expended on
technical instruction where free instruction is not available, provided
that the Apprentice has made not less than seventy-five per centum of
the full number of prescribed attendances at the technical course, and
provided that the principal of the technical institution has reported
that satisfactory diligence has been shown by the Apprentice.

Note: This contract is of no force or effect until it has been approved by the
Provincial Apprenticeship Committee and registered.

Forward three completed copies to the Inspector of Apprenticeship, East
Block, Parliament Buildings, Toronto, 5. One copy will be returned
to the employer, one copy to the apprentice, and the other kept on file in
the office of the Inspector.

- (c) To pay to the said Apprentice wages at the following rates, viz:—
 (Specify Only One Method of Computing Wages)

For the first year the sum of \$..... per.....
 or..... % of the prevalent journeyman's rate
 For the second year the sum of \$..... per.....
 or..... % of the prevalent journeyman's rate
 For the third year the sum of \$..... per.....
 or..... % of the prevalent journeyman's rate
 For the fourth year the sum of \$..... per.....
 or..... % of the prevalent journeyman's rate
 For the fifth or any subsequent year the sum of \$..... per.....
 or..... % of the prevalent journeyman's rate,
 or at such other rates as may be decided upon from time to time by the
 Minister.

- (d) To furnish annually a report on the progress and conduct of the
 Apprentice to the apprenticeship committee.
 (e) To endorse and sign this contract on completion of the period of
 apprenticeship and to hand it over to the Apprentice as his property.
 3. That it is further agreed between the parties to this contract that:—

- (a) This contract may with the mutual consent of all parties be transferred
 to another Employer in the same trade, provided that the Employer or
 the Apprentice shows cause why he should not complete the contract, and
 provided that the Inspector assents to such transfer, and such transfer
 shall be effected by endorsement thereof on this contract signed by the
 parties thereto and endorsed on the copy of this contract filed in the
 office of registration, and upon such transfer taking place all parties
 thereto shall be bound by all the terms of this contract for the unexpired
 portion thereof.
 (b) If the Employer has good grounds for belief that the Apprentice has
 committed a serious breach of the terms of this contract or that the
 Apprentice has been or is conducting himself in an unseemly manner
 and contrary to good discipline, he may forthwith suspend the Appren-
 tice and shall immediately report the matter to the Minister to be dealt
 with under the Act.
 (c) If the Employer shall commit any serious breach of the terms of this
 contract the Apprentice may with the consent of the party of the third
 part report the matter to the Minister to be dealt with under the Act.
 (d) The Minister shall be notified by both parties to this contract in the
 event of any alteration to the contract such as provided for in the last
 four preceding paragraphs.

IN WITNESS WHEREOF the contracting parties hereto have hereunder set
 their hands the day and year aforesaid.

As Witnesses:

1.....
 2.....

Employer

1.

.....
Parent or Guardian

2.

1.

.....
Apprentice

2.

Registered at the office of the Inspector of Apprenticeship this day of
....., 19.....

.....
Inspector of Apprenticeship

(To be Filled in if Apprentice Transfers to Another Employer)

*With the consent of all the parties to this contract the services of the Apprentice
and the responsibilities of the Employer are hereby transferred to.....*

this day of 19.....

As Witnesses:

1.

.....
Employer

2.

1.

.....
Employer

2.

1.

.....
Parent or Guardian

2.

1.

.....
Apprentice

2.

Registered at the office of the Inspector of Apprenticeship this day of
....., 19.....

.....
Inspector of Apprenticeship

*(To be Filled in on Completion of the Term of Apprenticeship under this
Contract)*

*This is to certify that the within-named..... has completed
his apprenticeship under this contract, this day of 19.....*

.....
Employer

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