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SURVEY OF THE SCHOOLS OF WILMINGTON, DELAWARE

PART II

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INTRODUCTION.

The study of the public-school system of Wilmington, Del., of which this bulletin is a part, was made by the United States Commissioner of Education upon invitation of a committee of 30 citizens of Wilmington appointed by the board of education, by the city council, and by the mayor of the city, and empowered to arrange for such a study.

In the introduction to Part I of this report, printed under separate cover, will be found a full statement of the conditions under which this survey was undertaken, its scope, and the personnel of the commission appointed to make the study.

SURVEY OF THE SCHOOLS OF WILMINGTON, DELAWARE.

PART II.

Chapter I.

COMMENT AND SUGGESTIONS ON THE SEPARATE ELEMENTARY COURSES.

New courses and revisions of old courses have been prepared by the superintendent on the various subjects taught and issued only in September of the current year, less than two months before this survey was made. Some of these courses, like those on nature study and physical training, are entirely new, these subjects having never before found a place in the curriculum; others embody important desirable changes in the courses in the various studies which have long been used in the schools. Under these conditions, the courses on paper represent to a considerable extent what it is proposed to do, and not what actually has been and is done in the schools. In short, some of these courses are, in important respects, much better than the actual teaching observed. To carry them out, teachers will need more help than they now receive from the superintendent, the assistant superintendent, the supervisors of special branches, like drawing, music, etc., and from the principals, as more fully explained elsewhere in this survey. It will require more frequent teachers' meetings than are now held. In short, more effective supervision of the instruction is the prime requisite.

The following comments, and accounts of lessons observed, showing both points of excellence and defects, are offered in the hope that they may aid the teachers and the supervising staff to carry into practical effect the good features of these courses, and the additions to and modifications of them suggested below.

INTRODUCTORY REMARKS.

Judgment of any act implies a standard. Any teaching act is judged to be good or bad, right or wrong, profitable to those taught or unprofitable, according as it is measured by some standard of pedagogical practice believed to be authoritative. Such a standard must not only claim to be scientifically grounded, but it must have

proved also its effectiveness in accomplishing the ends that schools are conducted for in this day and age.

It is believed that the standards used in judging certain elementary school practices observed in the schools of Wilmington are not only thus grounded, but that they have been demonstrated in the best schools of the country as practically effective in accomplishing the great social ends conceived to be the aims for the education of the young in our democracy.

1. Education is something more than teaching. When Wilmington shall have for all of its little children properly equipped kindergartens under trained directors; when it shall have playgrounds for all, under trained supervision; when it shall have facilities for carrying out varied and full courses in industrial arts, household arts, manual training, and other prevocational activities; and shall have provided special classes for the feeble-minded, the exceptionally dull, the exceptionally bright, and the incorrigible, then will Wilmington be considered as providing more adequate educational facilities for its young citizens, so far as mere instruction is concerned.

2. Teaching is something more than instructing. Teaching has at least two other ends, of even greater importance than knowledge, to the accomplishment of which instruction for the sake of knowledge is only a means; these ends are mental development and training, resulting in power and skill. Until supervisors, principals, and others placed in judgment of the success of teachers cease to measure the product of teaching effort chiefly by what pupils know and can express in a formal test or examination, the knowledge aim will dominate; teachers will prepare pupils for such test or examination. The standard set by supervision determines generally the methods and aims of the teacher.

3. Knowledge is something more than information, something more than facts fixed in the memory by repetition. Knowledge is the product or result of real experience occasioned by the necessity of solving some problem of more or less vital concern to the individual being educated. The more teachers grow in their appreciation of this truth, and by study and experiment adjust their teaching in accordance with it, the more vital will such teaching become, and the more successful will the schools be in turning out young people able to think.

4. Training young people of a democracy to think involves something more than the general aim of self-realization, great as this is. Psychologists have pointed out to us the principal form or modes of thinking that characterize successful men and women, and pedagogists are helping us to shape our school practices so that these habits of thinking will be developed. (See McMurry's "Elementary School Standards.")

In the light of these four general considerations the following comments and suggestions are offered: Work observed has been pronounced good that seemed to have real educational value, and such work was found in many schoolrooms; work was seen also that did not meet the modern standard; it showed the dominating influence of traditional practice, of outgrown aims and methods. This would probably be found true to some extent of any school system. Judgment on a system as a whole is determined not by exceptional conditions but by the predominating conditions found. The ideal condition would be to find every teaching act so planned and executed as to contribute effectively to the accomplishment of the great end for which all this educational work is being carried on. While this ideal would be difficult of realization, still that school system, that part of the curriculum, that teacher's work, that class exercise must be judged the best which can show the most of such teaching acts.

1. LANGUAGE AND GRAMMAR IN ELEMENTARY GRADES.

In educational practice there have come to be recognized three sorts of language work which, in adapted form, should be afforded children in all grades:

1. Constructive language work, or the use of language to express thought. This is commonly called composition, oral and written.

2. Technical language work, which aims at grammatical correctness by bringing language expression up to approved standards.

3. Interpretive language work, which aims at growth of vocabulary, at appreciation of the power of words to express thought, and an interest in word selection.

Of these, it must be conceded that composition is the most important, the other two being auxiliary to it. It must be understood that by composition are meant all attempts at thought expression from the first effort of the little child to the finished oral or written production of the trained student; thought expression out of, as well as in, the special class called the language class; every exercise being an exercise in English.

Briefly summarized, then, successful language teaching requires of the teacher:

First, that interesting and profitable thought material be brought to the attention of the pupil, and thinking regarding this material stimulated.

Second, that the teacher find or devise occasion for the natural, free expression by pupils of their thought upon the subject thus caused to engage their attention, the best motive for such expression on the part of any pupil being the natural one of desire to communicate to somebody something he is interested in.

Third, that the teacher note during this free, spontaneous language performance the language needs, both of a grammatical and an interpretive sort, of those performing and proceed at the proper time to minister to those needs, either by drills or instruction. Freedom and fluency are the essentials which primary teachers should cultivate, and later there may be added to these coherence, accuracy, logical order, and felicity in expression.

Fourth, that the natural way to learn to speak a language, either native or foreign, is to acquire fluency first and complete grammatical correctness afterwards by pruning criticism and imitation of correct models. To try to secure grammatical correctness first involves a degree of criticism that checks spontaneity and makes fluency difficult or impossible.

It is believed that the four points named above epitomize in the rough the pedagogy of successful oral language teaching everywhere. In due time written language should follow oral language, practice being guided by the same general principles.

The three sorts of language work, as observed in the Wilmington schools, are here commented upon in the light of the foregoing general statements.

OBSERVATIONS OF ORAL COMPOSITION.

In the observation of over 30 language classes in all grades from 1A to 6A, very little free, spontaneous oral thought expression was heard; and in other subjects, such as history, arithmetic, and geography, the reciting of memorized words by pupils was far more commonly heard than the expression of what had become their own thought upon the subject. In certain schools these conditions seemed more marked than in others. When, as was done on several occasions, questions were put by the observer designed to bring out the children's own expression of their thooughts, they seemed so afraid of not saying things correctly that they said nothing at all, or spoke haltingly and very formally. In their efforts for correct expression many teachers and principals have inhibited, through constant interruption and criticism, freedom of speech. It seems reasonable to urge that children be allowed to talk like children when there is evidence of earnestness of purpose, and that guidance to better standards be sympathetic and patient, and not repressive, so as to check fluency and freedom as it now does. In several of the schools where repression was most marked, to give a wrong verb or pronoun, or a "then," or a "why," or an "and" in a free, really extemporaneous talk seemed a far more serious offense than to have nothing to say. The remedy consists in providing far more oral exercises, properly motivated, and correcting only a few of the

glaring errors in each. Children outgrow many mistakes without having them corrected, if given abundant practice and required to do their best.

Although the quiet interpolation by the teacher of the correct form in pronunciation or grammar may not disturb some children, there are others whose flow of thought is seriously interrupted by it.

REPRESSIVE CRITICISM ILLUSTRATED.

The following incident is illustrative of a typical sort of thing all too frequently observed:

A picture in the Aldine language book was assigned the class for observation, and the children were given a few moments to think of a story suggested by this picture. A boy was selected to tell his story. He came to the front with a bright face and an animated manner, looking and acting as if he had something to say, and really wanted to say it. He made a good start, and was talking freely and naturally, when the teacher interrupted him with, "Oh! I have heard something I don't like at all. You have put in two *ands* where they were not needed. Begin again." The boy, with dampened ardor, did as directed, but with lessened spontaneity; he controlled his *ands* but slipped on a verb, was corrected again, lost all his courage, as his countenance showed, was unable to rescue himself, and was sent to his seat with the undeserved reprimand, "You didn't study the picture very well." Such repressive methods of dealing with children who were attempting to express their thoughts in oral language were frequently observed; sometimes the interruption came from the principal, who was witnessing the recitation with the observer.

Believing that the formation of the *habit of success* and not the *habit of failure* should be the object of endeavor in all our dealings with young children; that the child who is making an honest effort to do the thing assigned him should not be allowed to fail utterly, the observer frequently found it difficult to resist effort to ameliorate in some way the inevitable consequence to character formation of this treatment.

The failure of teachers to avail themselves of the timely, live thought material afforded for oral composition by the current experiences of children, was especially observed.

LIVE THOUGHT MATERIAL SHOULD BE USED.

During the day of visitation two events of interest to children occurred. The first of these was Halloween, one of the most enjoyable days of the year for children; the spirit of fun is abroad, and the images of sprites and fairies and other fabled folk stir the fancy and

stimulate expression. For a week beforehand, the schoolrooms were filled with Halloween trimmings, the blackboards showed appropriate pictures, and the handwork was expressive of the Halloween thought. Throughout these days the observer watched for the use by teachers of these richly suggestive motives for good language work, but in vain. It was hoped that on the very eve of the day there might be heard a conversation between teacher and children on the right kind of fun to have on Halloween, and the difference between innocent and harmful mischief. Nothing was seen or heard but the oft-repeated dramatization, or the language game, or the quotations, all good in their place, but things that could have given way for a while to the timely motive for spontaneous, enthusiastic oral expression.

Again, on the Monday following Halloween, it was hoped that teachers, especially in lower grades, would be found using the events of this frolicsome season for a sort of happy-experience meeting with their children, and that free, natural conversation would be heard. A number of teachers were finally questioned as to whether or not they had at some point in the day's program had such an exercise, but they had evidently not thought of it. One made the reply: "We were about completing work on the use of quotation marks in some fables we had been studying, and I wanted to clinch that, so had no time to let them tell about Halloween experiences." Thus the psychological moment for utilizing an opportunity for real thought expression was lost for the sake of impressing a matter of form that could just as appropriately have been given a day or a week later.

The second event referred to was election day, a holiday in the Wilmington schools. On the day following, it was again hoped that, in the upper elementary grades at least, the formal grind would be set aside for a discussion of the significance of the great national event. A teacher of a fifth grade was asked if she intended to find out what her children knew about the importance of the day just past, of the celebration that had taken place, and anything else pertaining to it which the pupils might think of importance. "No," said she, "we didn't take time in school for such things, but at recess, I tell you, the boys had a lively time over it."

What better use of the school time can be found for the training of boys and girls than to carry on in a proper way the discussion of such questions as concern the civic life?

EXCEPTIONS TO FORMAL TEACHING NOTED.

Notable exceptions were observed to the formality described above, and there were admirable examples of good language teaching.

1. In a 2B language class there was heard free conversation, evidently not rehearsed, upon the subject of pets owned by the different

children. The children were, as usual, eager to tell what they knew, and were allowed to pour out their thought and feeling in free, childish, untrammeled fashion, the pity of it all being that there were so many children that all could not possibly deliver themselves of their stories.

2. In a 6B geography class, in a school largely Italian, the teacher had wisely motivated free expression by calling for reports of first-hand knowledge of Italy (and several were there who had such knowledge), or reports of what their parents had told them about their native land. Whatever its value geographically, this surely met the conditions named in point two of the introductory remarks concerning effective language teaching. It was motivated by the desire to communicate. More than that, whether she was fully aware of it or not, the teacher was inculcating habits of thinking of value: (*a*) Independence; they were not reciting memorized words, and each told his own story; (*b*) effective organization of thought, for these pupils were teaching, and felt something of the need of making unknown things clear to their listeners; (*c*) purpose, for out of this free discussion questions arose which only a careful reading of the book, or further discussion with father or mother, would settle, and of this the assignment for the next day wisely availed itself.

The two exercises described above illustrate types for oral composition which draw their thought material from experience. Much the larger portion, however, of the oral, as well as written, composition draws its thought material from story or other form of the organized expression of the experience of others, that is, it is reproduction. Under this heading may be classed the usual recitation of subject matter assigned in history, geography, hygiene, etc. As is usually the case, these school subjects were not utilized as well as they might be to develop power in oral composition. Some good recitations were heard, and others that had less value from the language standpoint. The former were the pupils' own expression of assimilated thought, and the latter the repetition of memorized words and not necessarily the reproduction of thought. This latter type of work is worthless and has long since been eliminated from good schools.

Some excellent recitals of memorized poetry and of short "gems of thought" were heard in the Wilmington schools. Such memorizing of what is literary art is a different thing from the memorizing of the language of textbooks and has high educational value in cultivating literary taste. Children have an intuitive love of rhythm, they enjoy poetry, and their appreciation of the beautiful in literature is developed by such memorization; but it must be remembered that this memorization of poetry and good prose is not oral composition, but, besides its chief aim of developing a love for literature,

it is also a means to that end, in furnishing ideals and in helping to form right speech habits.

Dramatization was frequently observed as a part of the oral language program. The real value of a dramatization, like that of other memorized production, can not be determined from the finished results. Its value depends upon the way it is worked out. If this is done by the children, if the situations and properties express their conception, and the language is wrought out by them and, though guided, is not imposed and memorized, then the dramatization has an educational experience of value. But when especially selected children are alone accorded the privilege of taking part, as is known to have been the fact in some cases, such performances are not only a worthless show, but a violation of the democratic spirit which our schools should in all ways exemplify. This is a distinction which many of the teachers do not seem to appreciate and which should be discussed in teachers' meetings and clearly fixed in their minds.

OBSERVATIONS ON WRITTEN COMPOSITION.

What has been said about lack of freedom in oral composition was found to be true also of written composition. As has been said, it is expected that oral composition will have the right of way in the lower grades, and that oral recitation in the pupil's own language of assimilated thought from reading will always be an important exercise in all grades. But as soon as pupils have acquired considerable ability to write, then written expression should follow oral, and should be increasingly emphasized from the fifth grade up, the demands in this form of expression being graduated and adapted to the growing powers of pupils.

Inquiry into the practices prescribed and followed in Wilmington showed that there is little attempt at written composition before the fourth grade. This is in the main right, with the exception of letter writing in the third grade, provided great emphasis is laid in the first three years on oral language, and freedom, spontaneity, and fluency are secured. But such fluency and freedom are not secured in Wilmington except by a few teachers. In the fourth grade, children are sent to the blackboard to write one or more sentences upon some assigned subject, or to answer a question upon some subject taken from the work of the day, the other members of the class observing. Criticism and correction follow the writing. In the fifth grade similar exercises are given. This sort of thing undoubtedly cultivates the habit of self-criticism and to that extent is good, but there is not nearly enough writing done to secure ease and skill in this form of thought expression.

Letter writing is not undertaken until the fifth grade. The postponement of this most important form of written composition seems a serious defect in the course. This sort of composition is motivated rightly, as it deals with matters of intimate, personal concern and furnishes the best sort of an exercise in written thought expression. More than this, it is of immediate practical use to the boys and girls. Not only is letter writing the one form of composition which every intelligent member of society is sure to be called upon to do, but some skill in it is needed by many at a comparatively early age. It is quite necessary to the illiterate or the foreign-speaking home that letter writing, with some attention to approved form, be taught as soon as the child has gained considerable facility in sentence making and has sufficient control of the hand to write legibly. This may be begun in the third grade, where children can be taught to write simple letters, the technique at this stage being a matter of observation and imitation. Children from the homes of the educated are not affected by the same need, but it is very probable that the parents of such children induct them into letter writing before they reach the fifth grade, in spite of the restrictions of the school course. This the illiterate or foreign parent can not do. When such meager exercises in written composition as are here cited are considered, one wonders why from the first grade so much of children's energies throughout the Wilmington schools is put upon practice in penmanship, the very first exercise of the day being frequently that. Granted that in grades 1 and 2 undirected effort may undo what the teacher has done for correct habit formation in writing, still children in the second grade can copy sentences which they have composed and which the teacher has written in good form; and third-grade pupils can advance a step further and write original sentences, provided that preliminary help has been given with spelling and other difficulties of a formal sort. The emphasis, however, in grades 1 and 2, and also in grade 3, outside of letter writing in the latter grade, should be wholly upon oral language training.

LACK OF AN APPEALING SUBJECT MATTER.

The curriculum, in both oral and written composition, seems to be operated with reference to the distant future, which accounts for the lack of subject matter that appeals now to children, and, therefore, affects present conduct; and it accounts also for the postponement of certain expression arts, which must necessarily in their first attempts be imperfectly done, but which children can learn to do well only by doing.

One fine piece of properly motivated letter writing is worthy of mention as exemplifying the sort of thing that should prevail in all

the schools. A letter was seen which was reported to be the result of the composite effort of the class. It was addressed in proper form to the manager of a manufacturing firm in Wilmington, and said:

> Our class is studying about the manufactures of Wilmington. We would like to know where the ——— and ——— you use come from. Do you manufacture anything besides ———? Thanking you for any information you may give, we are
>
> Sincerely yours,
>
> Pupils of ———.

A polite acknowledgment was received, asking that a day be named for the visit, when the writer would arrange to be present in person or "send a well-informed official of his company."

This necessitated another letter from the school. They had the pleasure of the visit on the day named.

COMPOSITION IN THE SEVENTH AND EIGHTH GRADES.

In grades 7 and 8 there is more freedom and spontaneity both in oral and in written composition than in the grades below. This is partly due to more skillful teaching and partly to the fact that pupils have acquired a degree of grammatical correctness which makes constant corrections less necessary. Yet, even in these grades, pupils do not attain fluency and freedom, either in oral or in written language. The ideal in the minds of the teachers also in these grades is to secure grammatical correctness first, which leads to excessive corrections of errors that check fluency and spontaneity.

The so-called socialized recitation, in which the pupils do nearly all the talking, is made use of to some extent in grades 5 and 6, and to a considerable extent in grades 7 and 8. This not only develops command of language, and constitutes the best training in oral language found in the schools, but it also requires more thought on the part of the pupils and a greater mastery of the material of the lesson. This is a feature of the Wilmington schools to be highly commended and which ought to be much extended.

Excessive correction of errors either in oral or in written language checks spontaneity, fluency, and freedom, both of thought and of language. This, as already pointed out, is a conspicuous fault of the language teaching in the Wilmington schools. Grammatical correctness on the one hand, and fluency and freedom on the other, can not be secured by the same kind of exercise. The solution of the difficulty lies in having two kinds of language exercises, the one having for its chief aim grammatical correctness and the other having for its chief, but not exclusive aim, clearness, fluency, and freedom of thought and expression. In oral language work, the former would consist of drill in correct pronunciation; drill in correct forms habitually used incorrectly by the pupil; drill on correct use of words in his vocabu-

lary which he frequently uses incorrectly; correction of slang expressions in his vocabulary, etc. In written language work the exercises would consist of dictation of carefully selected sentences to teach capitalization, punctuation, certain conventional forms (as in letter writing), the use of quotation marks, contractions, abbreviations in common use, certain grammatical forms like the formation of certain plurals and the possessive forms of nouns. These matters of technical language work should be taken up, point by point, and first explained and then drilled upon by dictating carefully selected sentences until the pupil not only comprehends them but also forms the habit of writing them correctly. Such dictation exercises also provide valuable drill in spelling, more valuable than the writing of separate words, as the meaning becomes associated with the words in the process.

This may be called technical language work, the purpose of which, as stated, is to secure grammatical correctness.

The second kind is composition, whose chief aim is freedom, fluency, and clearness in expression. The two exercises should be kept separate, either in the same recitation, or be given in separate recitations. The latter is generally preferable.

If the technical work is done well there is not much need for correction of errors of grammar in composition. Children will then outgrow most of their mistakes in composition without having them corrected, provided they are held up to their best and are given a great deal of exercise in composition.

So far as the Wilmington schools are concerned, there is not nearly enough composition writing above the fifth grade, and there should be somewhat more in the fifth. In these upper grades one composition a week, outside of letter-written work connected with the recitations in other studies, is the rule. This was the invariable answer of teachers, when questioned, in these grades. This is not nearly enough training to secure either grammatical correctness or fluency, and the results attained illustrate this fact.

SUGGESTIONS FOR TEACHERS.

The following suggestions may be serviceable to teachers:

Written composition in these grammar grades should be a daily exercise. Time should be found for it.

The exercise should usually be reasonably short. The subjects should, with occasional exceptions, be taken from the regular studies, such as geography, history, literature, hygiene, and certain parts of arithmetic, like taxes, stocks, and bonds. These subjects should be assigned after and not before the topics have been taught in class.

The teaching, if good, has interested the pupils in the subject and made the content clear. In this way the daily writing of compositions reenforces the instruction of the regular studies, and takes partly the place of drill and reviews.

To secure fluency, older children must be limited in time, and not be allowed to dawdle. Such compositions should be corrected mainly in class, usually within the period within which they are written, by hearing them read. They should be criticized in the light of their chief aims—clearness, fluency, fullness, interest, etc., and only mildly for errors of grammar, except such as have become a fixed habit of the pupil.

It is not an uncommon thing to insist excessively on neatness, correct margin, etc. The manuscripts of newspaper editors and authors of books who write what other people want to read are not noted for the degree of neatness we insist upon in school. There is a reasonable degree of neatness that can be secured in school without its interfering with fluency of thought and writing. Fussiness in this respect should be avoided.

The language work is one of the weak features of the Wilmington schools that needs radical change. It is too stiff and formal in all the grades, especially in the first five. The teachers are misled by their very conscientiousness. They are so anxious to secure grammatical correctness that they correct every mistake the child makes, and thus makes spontaneity, fluency, and freedom difficult, and generally impossible.

Good written composition in the upper grades is possible only when there is thorough training in oral language during the early years. The course of study recognizes this fact, and the emphasis is laid on oral language in the first four grades; but, as stated, it is so formal that it largely defeats its own end. This is evident at once to the observer, and it is illustrated by the fact that simple matters of punctuation, which ought to be mastered early, are emphasized in the course for the seventh grade.

GRAMMAR.

Practical grammar is taught in all the grades; that is, children are drilled in the correct grammatical forms which they need; but technical grammar, the teaching of the parts of speech, is begun in the sixth grade. In the best schools of the country technical grammar, even of the elementary sort, is not begun until the seventh. It is recommended that it be confined in Wilmington to the seventh and eighth, and that composition take its place in the sixth. It is further recommended that in the seventh and eighth only such phases of grammar be taught as will actually aid the children in learning to

speak and write correctly, and that the rest be relegated to the high school.

The new course of study, which is a good one, eliminates most of the technical parts which are of use only as a basis for the study of foreign languages in the high school, and should consequently be taught in the high school. Such topics as the subjunctive mood with its tenses, and complex and compound sentences, with their coordinate and subordinate clauses are beyond the grasp of most children of the elementary schools, and are of practical use only in the teaching of the subjunctive mood and sequence of tenses in foreign languages. The course of study eliminates the subjunctive mood, but retains complex and compound sentences, the discussion of which occupies a large place in grades 7 and 8. This, as stated, had better be relegated to the high school. The simple sentence, its subject and predicate and their modifiers, has practical value and is easy to comprehend. There should be thorough drill on these. The full conjugation of the verb is properly left for the high school. Drill on the principal parts of verbs in common use is emphasized, is skillfully done and practically applied.

METHODS OF TEACHING GRAMMAR GOOD.

The teaching of technical grammar throughout the grades is good, some of it exceptionally so.

The lessons observed, both in the sixth grade and in the seventh and eighth, showed skill and ability in making technical grammar function in children's language. In the grades below the seventh, effective use is made of language games to fix the correct forms of speech. This device is worked out in a valuable little book which teachers have on their desks. Much of this work observed was admirably done with the real game spirit.

INTERPRETIVE LANGUAGE WORK.

Little recognition of this form of language need was observed. The studies especially contributing to vocabulary growth are literature and spelling. It is only when teachers clearly recognize this kind of language work that it is given due attention. Much of the work done in spelling is only justified by the contribution it may make to a child's power of expressing and interpreting, and this effect does not come from the mere spelling of word lists, but by discussion of meaning and by full and varied and continued application of the words studied. One spelling exercise observed seems especially deserving of mention, as it not only was effective in its method for mastery of form, but also was an exercise in vocabulary growth.

The word "perilous" was written on the board by the teacher. Pupils were required to formulate sentences containing this word, the acceptable sentence being one that clearly showed that the pupil understood the word. "It was a perilous trip." was rejected. "Going across the Sahara Desert is a perilous trip" was accepted. "Ridicule" was another word. "Do not ridicule people" was rejected. "When Columbus walked the streets the boys would ridicule him" was accepted.

After each word had been used in a variety of sentences it was erased, then pronounced and spelled by the pupil with careful attention to syllabication, and written with others in a column for further reference and review.

CONCLUSIONS.

Judged by modern standards, the language teaching in the elementary grades fails in the following respects:

1. The thought material for expression is not sufficiently drawn from the field of experience, thus really exercising thought powers in shaping expression; and in the case of written composition it is not sufficiently taken from the regular studies. The opportunities to make school a part of life are not sufficiently used.

2. The methods employed for gaining correctness of form are not conducive to that freedom of expression which should be the first aim in language teaching. There must be spontaneity and fluency first and correctness afterwards. This is the natural way of learning a language.

3. Formal technical grammar should not be begun until the seventh year of school. Composition should be substituted for it in grade 6, where it is now begun.

4. The course is too uniform to meet the needs of a varied social situation. In spite of the fact that a large proportion of the children of some schools hear only a foreign language in the homes, while few in others hear anything but English, all are expected to spend approximately the same time in the study of English. There should be adjustment to different conditions.

5. There is not nearly enough composition writing from the fifth grade to the eighth, inclusive. Only one composition per week is the custom.

6. Daily short compositions, on subjects taken mainly from the regular studies, after they have been taught, rather than long formal compositions once a week, largely on subjects not taken from their regular studies, is a desirable change. Occasionally, for special purposes, long compositions are desirable.

7. Two lines of language work, kept quite separate and distinct, the one, consisting of dictation of sentences to teach capitalization,

punctuation, etc., and the other of composition, whose chief aim should be to develop clearness, fluency, and freedom in writing, are recommended.

8. In grammar it is recommended that the teaching of complex and compound sentences be relegated to the high school.

2. NATURE STUDY.

This subject was introduced into the schools of Wilmington only at the beginning of the current school year in September. The teachers had had only a little over a month before this survey was made to organize the work, and the teaching was therefore, not unnaturally, crude in method and rather indefinite in aim. The chief defect in the teaching observed was the fact that many teachers did not realize that information concerning plant and animal life, conveyed to children by means of oral instruction or reading, is not nature study, but that the children should actually observe nature—its phenomena and processes. In short, nature study is nature studied, not secondhand information about it.

Many of the lessons observed indicated that the children tried to recall what they had been told rather than what they had observed. But there were also many exceptions, where the teachers had specimens and the children got their knowledge of facts by direct observation. All the teachers are hampered by the fact that the study is so new in the schools that there has been too little time to provide the necessary nature material for study by direct observation.

However, the collection of nature material has begun, and in some schools very commendable exhibits were seen, comment upon which never failed to elicit evidences of the keenest interest on the part of the pupils. While the collection of this material is one of the best means to the stimulation of interest in natural phenomena, still there is another side to this matter to which attention of administrators needs to be called. It has long been the custom in high schools to supply needed material for science work; the elementary schools are deserving of the same help. While the excursion plan should be encouraged, the supplying of proper material for the carrying out of the course should not be left to the uncertain efforts of children or be entirely expected of the teachers, as is now the case.

OBSERVATIONS ON TEACHING.

The following observations on the actual teaching may be helpful to the teachers and supervisor in organizing effectively this new line of work, and in eliminating defects of method as well as in clarifying the aim in their own thinking. The teachers had been given an outline to follow but had had either one meeting or none at all

with the supervisor. In consequence, they were unfamiliar with both subject matter and the methods to be employed. The subjects taken up were leaves, milkweed pods, and the parts of the flower; the cricket, caterpillar, and the frog and toad. Little was done in the first grade, the names and colors of two or three flowers only being expected, according to one teacher. Two of the exercises observed were on leaves. In each case the teacher had specimens of the leaves—different kinds of maple in the one case, and a maple, oak, and poplar in the other; but the children had none, and the study of these was therefore superficial. The children were urged to observe the leaves on the trees on their way home, however, and to bring leaves of different kinds to school. In order to connect it with their language work they were taught a poem about leaves, Susan Coolidge's "How the Leaves Came Down."

In the lesson on the milkweed pod also the teacher had a specimen but the children had none. In consequence, the facts that should have been worked out from the children's observation—the shape of the pod, the arrangement of the seeds in it, the flying apparatus which the seeds have and its purpose—were not developed, and the teacher resorted to telling the children what they should have learned through her direction of their observation. The fact that teaching by this method was new to nearly all the teachers was quite apparent. When in the course of an exercise a point was touched upon that the children did not already know, the teacher did not work it out from observation then and there, as she should have done, but either told them about it or dropped the matter, saying, "Let us recall some of the other things we have learned."

The lesson on the parts of a flower was poor because neither children nor teacher had any kind of a flower to examine. The teacher had drawn a flower on the board showing the facts, and the exercise was little more than a memory drill without any observation of the facts in question.

In the lessons on the grasshopper and cricket, the caterpillar and butterfly, and the frog and toad, the teachers were clearly on unfamiliar ground, both as to knowledge of the subject and of method, and the exercises were quite poor. The nature-study outline suggested the making of cricket "cages." These had been made in many rooms, and the children had brought crickets and caterpillars and put them in the cages for observation. According to the outline, the children were to watch the crickets eat, hear the male sing, and note how the sound is made. These are facts of interest, but they have no value as nature study unless the children really observe them; and to have even a small proportion of the 40 or more children in a room observe all of these things from one cricket cage would be clearly

impossible. Such a topic could not be carried out successfully under ordinary schoolroom conditions, especially with young children, and the knowledge gained is not of a kind that young children feel any need of. The selection of subject matter, therefore, was made irrespective of school conditions, or of young children's needs and interests, on the part of the supervisor. In view of the lack of preparation on the part of the teachers for any work of this kind, it was an error to select topics which presented such difficulties. Having had no such work before, many teachers needed suggestions as to how to carry on an observation exercise when all the children had the material before them. Work that requires continued observation over a considerable period of time requires a different handling, and teachers should not have such work thrust upon them without conference and suggestion. Under the circumstances they could only resort to telling the children the facts that they should have gained from carefully directed observation.

The same criticism applies to the work with the caterpillar and butterfly and that on the frog and toad. Each of these affords opportunity for study in itself, but if the children are to get a real knowledge of them the observation of each must be continued until the transformation from one form to the other has taken place. To do this requires a degree of knowledge and judgment that the average teacher can not be expected to possess without help and direction.

The simpler forms of observation the teachers have carried out quite well. An exercise on the caterpillar in a 2B grade showed that the classroom work had stimulated the children to observe them out of school. The children reported different kinds that they had seen, and what they had seen them doing. The interest this awakened would form an excellent basis for the study of their transformation.

Another exercise, scheduled as an opening talk instead of a nature study lesson, might also have served as a good basis for later continued observation had the teacher known how to handle it. She had brought a package of something that the children examined and pronounced to be onions. Instead, they were bulbs to be planted, so that the room might have plants in its windows. The children were ready to tell many things about them, but the teacher missed her opportunity by telling herself all that would happen when they were planted. The continued observation of the growing bulb until it blossomed would have given the children a knowledge of the development of plant life. Such work would have been of value and interest to the children in the first and second grades particularly.

The frog and toad, too, could furnish an excellent opportunity for observation work in themselves. Something of that kind had

apparently been attempted in some classes, but the lesson observed in a 5B class gave little hint of what had really been done. It began with a rambling review of certain points about the frog and toad, one being that their color was not always the same. The question as to what determines this was answered by the children that it was "where they lived." The question whether "there was any good in this" was then asked, and the children had at least a vague idea that it was a means of protection. As in several other cases, the topic was brought to an abrupt close, and the children were asked to recite a poem that they had learned about the stages in the life of the caterpillar, for which they could hardly have had the observational basis.

A lesson in a 4B grade showed similar weaknesses. The children had evidently made some study of caterpillars, and were asked what they are. The answer was that they are insects. The teacher then asked how they compared with other things that had been studied. The answer to this was that a caterpillar is to a butterfly what a tadpole is to a frog. For this broad generalization which was told them the children could not have had an adequate basis of observation. In order to bring out the idea of development the teacher then asked a child what he was called when he was very small. The answer to this was "a baby." She then said that a caterpillar was a baby butterfly. To bring out the idea that the caterpillars need a means of protection, she asked why the children would not want to eat them. This brought out the idea that a hairy covering, such as some caterpillars have, is a protection against birds. This was evidently an effort to form a generalization from the knowledge which the children had gained, but it is doubtful whether the generalization was based upon observed facts. If not, it had little, if any, value.

These glimpses of the work being attempted under the heading of nature study show that much remains to be done before the subject will serve the purposes for which it is given a place in the school system. These purposes may be variously conceived, but giving children an insight into the fundamental facts of nature by means of their own observation must be recognized as one of the important ones. That it must be adapted to the stage of development and degree of comprehension of the children in the different grades would seem to be self evident. That it must include excursions to near-by gardens, markets, and parks, so that children may gain an idea of the significance of the changing seasons would seem equally evident. If these purposes are to be realized in Wilmington, however, the work will need to be materially strengthened. Nature study is needed in most schools to show children that knowledge can

be gained at first hand and that the knowledge contained in books is second hand only. The schools of Wilmington need it particularly, to offset the overemphasis upon the three R's and formal instruction.

THE COURSE IN NATURE STUDY.

The outline, or course of study, is, speaking generally, a good one, and when actually worked out in the schools ought to produce fairly satisfactory results.

As to topics, only such should be selected as children have actually an opportunity to observe, and these are not always the same for schools located in different cities, or even in different sections of the same city. Hence a course that is suited to one city can not safely be slavishly reproduced in another. Some freedom in the selection of objects to be studied must be allowed teachers.

A little more emphasis on the study of pets in the lowest grades; and, in the upper grades, on insects injurious to plants, the relation of birds to insects, and of cats to birds, would improve the course. The food plants may profitably be given a larger place in the course, and their study coordinated with the teaching of "products" and "commerce" in geography.

The work of the seventh and eighth grades should include general science. Before children leave the eighth grade they should be familiar with the explanation of the common phenomena of nature whose explanation rests largely on physics, mechanics, or chemistry. The course is confined almost exclusively to plants and animals. The elements of meteorology can easily be taught and can profitably be coordinated with geography.

As to method, observation must be made the basis. This point can not be emphasized too much. Secondhand information by oral instruction or reading can be properly given on a topic after the pupils have studied it by observation, and such secondhand information must never be given when the facts can be observed.

In brief, what is needed to work out this course in the schools is effective supervision by the special supervisor in charge. This must be done by holding frequent grade meetings—at least one or two a week—and teaching the teachers, giving them matter and especially method. This must be followed by diligent visiting of schools, often teaching the lesson for teachers, and observing their teaching. What is required is intelligent, sympathetic, stimulating, and suggestive, not prescriptive, supervision. The teachers are interested, loyal, and ready to cooperate.

The board must liberally equip the schools with the material and apparatus needed. Such equipment need not cost a large sum, but teachers should not be expected to supply it at their own expense.

3. ARITHMETIC.

The course in arithmetic, while it has some features that are highly commendable, is rigidly logical in its arrangement, and prescriptive in its method of execution. Some of the results reached are those for which elementary arithmetic is studied, accuracy and facility in the fundamental operations with integers, fractions, and decimals; but the teaching quite generally falls short of possibilities for thought development. A very commendable feature of the course is that it is not encumbered with useless and obsolete topics, but is reduced to the essentials according to modern standards.

The course may be briefly summarized as follows: 3B, addition and subtraction; 3A, multiplication (with multiplier of one or two figures) and short division; 4B, addition and subtraction of larger numbers; 4A, multiplication with larger multipliers, and long division; 5B, addition and subtraction of common fractions; 5A, multiplication and division of fractions; 6B, decimals, all operations; 6A, common fractions reviewed, bills and receipts, and denominate numbers; grade 7B, denominate numbers and practical measurements; 7A, percentage and its application; 8B, interest, taxes, insurance, stocks and bonds and bank discount; 8A, mensuration, roots.

Although inquiry brought the response that "arithmetic did not seriously begin until the 3B grade," exercises in numbers were observed in 1B, 1A, 2B, and 2A grades, which were remarkably like regular arithmetic.

A later examination of the written course showed that considerable advancement in the acquisition of arithmetical facts was expected by the end of the second year, such as addition of columns of one-place, two-place, and three-place numbers, the sums of columns being limited to 50, and of the addends to 1,000; subtraction of three-place numbers not involving reduction; "multiplication within the multiplication combinations learned and no carrying required;" division within the tables learned, and without reduction of carrying.

What was meant by the response cited was undoubtedly that the drill work was not so regularly and vigorously carried on in the first two grades as later, and that written arithmetic was not done; but with such a definite limit as that given, there is great danger that, even with the game idea in successful operation, the energies of children will be drawn from activities far more profitable for them at this stage of their development.

Children feel an interest in numbers about the same time that they feel an interest in reading; they can master the number facts at 6 years or even younger, and at this age have some reasoning powers. This, however, is not conclusive evidence that it is the

time for regular number work. It is believed that, aside from counting and counting games to fix number sequence, and other number games through which some of the facts of number may be incidentally acquired, the time of children in the first grade may far more wisely be spent on language and reading, handwork, and on reading to them the best children's literature and telling them classic stories.

A 1B class, but a few weeks in school, was found being drilled not in number with things to count, but with cards upon which sums in figures, as "2 plus 3," were indicated. This may have been a mistaken notion of an inexperienced teacher; more generally the number game was found in operation. But there is a difference in the value and adaptation of the number of games which teachers do not seem to realize. This statement is illustrated by the following descriptions of two games seem in two 1A grades.

NUMBER GAMES IN FIRST GRADE.

In the first, the teacher distributed among the children cards, each child having a handful. In turn each rose and told his story thus: "One postman left me 4 postal cards, and another postman left me 5 postal cards. I have 9 postal cards."

In the second, the teacher placed upon the chalk rack a number of carefully prepared and colored pasteboard forms of fish, each bearing on it a label in figures, like "3 plus 2" or "4 plus 3." Children in succession went fishing. If able to give correctly the number fact carried by his fish, he was allowed to keep it. After the game was done the children counted their catch.

It must be evident that the former was far the better game from the standpoint of thinking; it provided for some exercise of initiative, and it furnished a real experience with number, while the latter simply "sugar coated the pill" of memorizing the abstract number facts, not represented by objects but expressed in figures.

Strict adherence to prescribed forms of expression, observed throughout the elementary grades, began in the first grade. For example: In a 1A grade, a child with counters in hand said, "I have 6 sticks in one hand, and 4 sticks in another; altogether I have 10 sticks." He was obliged to repeat, leaving out "altogether." Although the use of this word was the best possible evidence that he had the idea of aggregation, and had found the best word for expressing this idea, he was obliged to follow the prescribed form.

SECOND GRADES.

In the second grades the work proceeded on the basis of what had been acquired in the first grade; and although the play motive was

still used, automatic memory results were the dominant aim, and little provision was made for use of number judgment or initiative.

The work in these grades was not chiefly devoted to addition and subtraction, as is customary in second-grade courses, but included multiplication and division.

No use of objects to develop these number concepts was observed. There is some of it, according to the course of study, but not nearly enough of it. Multiplication was correctly shown to be a short way of finding the sum of like numbers. Drills in division through some game or blackboard device were seen, but "9÷3," or "10÷2," whether they appear on an interesting ladder to be climbed, or on apples to be picked, are abstract technical expressions, whose meaning can be taught only by experience with things.

The interesting association with the device may have helped memory, but it did not help the understanding of the number relation expressed by the form.

The nagging of children was frequently observed. A card was "flashed," or expression written on board, and the child called upon. When the reply was not immediate, instead of teaching him, telling him, or passing it to another, he was told to "think quick," to "hurry up," or told that he was "slow," that he "must do better than that." Such indiscriminate treatment puts a strain upon children, creates mental confusion, and inhibits the very mental operation it aims to help.

THE SOLVING OF PROBLEMS.

Above the second grade, where real arithmetic is said to begin, the plan for conducting recitations was observed to be quite uniform. The teacher writes upon the board certain problems involving the operations being emphasized; also examples in abstract arithmetic for practice.

In problem solution a very commendable custom was observed; namely, that of always having the pupil, before attempting a solution, state clearly what the problem tells him and what it asks him. This undoubtedly trains to careful reading and interpretation and is conducive to the formation of habits of organized thinking in the solution of problems. It also lessens liability to guessing and figure juggling. The logical solution follows, and after that the written statement and solution for the finding of the numerical result. The solution, however, was characterized by extreme and needless formality, in contrast with the orderly procedure just mentioned.

The following is a verbatim report of a 4B exercise observed. While it is, on account of the nature of the problem, a somewhat extreme case, it is typical of a general requirement, frequently observed.

Problem: "A farmer raised 4,369 bushels of oats, 7,475 bushels of rye, 7,968 bushels of corn, and 8,430 bushels of wheat. How many bushels of grain does he raise?"

"The problem tells that a farmer raises (four items repeated). The problem asks us how many bushels of grain he raised."

Solution: "Since a farmer raised" (four items repeated) "*then* he raises in all the sum of" (four items repeated), "which is so much."

In this particular school the idea of the socialized recitation had lodged, and the child reciting turned, after her recitation to the class, and said, "Has any one any criticism?" A boy arose and replied, "Mabel, I think you made a mistake; you put a 'then' in, which was not needed." The teacher approved of this criticism and directed Mabel to give the solution again, which she did, repeating twice fully between "since" and "so much" the four items, but properly leaving out the offensive "then."

This weighing down, this obstruction of real thought expression by attention to details of pronunciation and to uniformity of sentence construction, is the common school experience of these children, who naturally come to think that this is arithmetic. The only evidence of really accurate and logical thinking is truthfulness of expression, not memorized form, but in the child's own language; and it is to be expected that the shaping of this expression into precision is a slow process, but it pays in the end accomplished, namely, independence in thinking.

NO TEXTS IN GRADES.

Another serious defect, this time not a matter of method and not chargeable to teachers or administration, but to the school board, is the fact that there are no arithmetics in the hands of the children in the fourth, fifth, and sixth grades. All the problems and all the exercises for abstract work must be written on the blackboard by the teachers. This not only requires a great amount of unnecessary work for the teachers but deprives the pupils of the variety and the amount of new and stimulating problems and practice material needed for the development of arithmetical thinking and skill in computation. This is a condition that is absolutely inexcusable and should be corrected at once.

The lack of this important teaching tool is due to inadequate funds. "The school board can't afford it" was the reason given by teachers. This places the responsibility also on the city council and the taxpayers. This denying the workman the necessary tools is a kind of "economy" which in business would soon make a rich man poor.

A commendable amelioration of this impoverished condition was observed. Teachers of the third and fourth grades are supplied with desk copies of a bright, new, good mental arithmetic, from which they read to children, greatly to the delight of the latter, problems relating to home and school and shopping. This, however, is no substitute for a textbook in the hands of each pupil.

The lack of problem material in upper elementary grades might be made up by more original problem work. This is a common practice, even in good schools, where children are supplied with textbooks, and under the circumstances found in Wilmington is even more necessary, if children are to be taught to apply in practical ways what they are taught, if information is to be transformed into real knowledge, and the purpose of all this work become an actuating motive—that is, if children are to be given a vision of the relation of arithmetic to life.

OBJECTIVE WORK IN FRACTIONS.

In the work with fractions the practice varies, of course, with the conception of the teacher as to what teaching really is and her willingness to devise objective means of presentation and her skill in handling this material. The use of some objective means of teaching the idea of the fraction, although inadequate, was very generally observed. One exercise of especial merit was seen. The teacher had prepared apparatus consisting of pasteboard circles, variously colored and cut; and with children grouped intimately and naturally about the table at which she sat they were led to discover truth for themselves; they were handling real fractions, and the eagerness with which they availed themselves of their turn was evidence of the sense hunger felt. Written expression on the board followed each discovery. The improper fraction and the mixed number were skillfully developed, expressed, and finally defined in the children's own words.

From grade 3 to grade 6, inclusive, the course follows too closely the two textbooks prescribed as a guide. These books are not quite up to date as to method. They encourage too early and too much abstract work, the use of too large numbers in the early years, and demand too little reasoning. In consequence much of the work of the first five years is too abstract and mechanical.

DEVELOP NUMBER CONCEPTS FROM THE CONCRETE.

Not enough is done to develop the arabic notation so far as place value of figures is concerned. In a class of 39, in grade 3A, the following simple test was made: The visitor wrote the numbers 19 and 27 on the blackboard and asked the children what they were;

all answered "nineteen" and "twenty-seven." Then he asked them if the 19 were apples, which they would rather have, as many as this figure means (pointing to the units) or as many as this (pointing to the tens) means? Then, in like manner, he asked them if the 27 were peaches, which would they rather have, pointing to the units and then to the tens. He asked them to write their choices on a slip of paper and hand it to him. All of the 39 but 1 preferred the 9 and the 7. This was in grade 3A, wherein some children had been adding and subtracting numbers of three digits the year before. The same test was given in the same way also to a class of grade 5A, and every pupil chose the 9 and the 7. The value of place must be developed by more effective devices than talking about units and tens or by "numeration."

Every new number relation or new thought process to be intelligible to children must be developed from the concrete. Much more concrete work than is found in the Wilmington schools is desirable. This applies to the teaching of fractions and whole numbers. In fractions the use of objective illustration in teaching the conception of a fraction is universal in the schools of Wilmington; in teaching the processes of addition and subtraction it is limited; in teaching the processes of multiplication and division no use at all is made of objective work, as shown by tests made by the observer. Pupils in 5A that were tested were all unable to illustrate concretely the addition of one-third and one-fourth; many could not illustrate the addition of one-third and one-third.

In grade 6B a number of pupils tested could not illustrate six divided by two; none could illustrate four divided by one-half; 25 per cent were unable to illustrate seven times five. Grade 6A did very little better. In grade 4B 10 per cent could not illustrate seven times six. In grade 4A 40 per cent could not illustrate five times seven and three times five concretely. In decimals no concrete illustrations of thought processes were observed in any of the schools.

Such absence of concrete development of thought processes, and the consequent formal drill on the abstract, leads to a lack of ability to reason in arithmetic which shows itself from the early grades to the eighth. With some processes children in the seventh grade had as much difficulty as children of the fifth may reasonably be expected to have.

UPPER GRADE TEACHING LESS MECHANICAL.

The teaching in grades 7 and 8 is distinctly less mechanical than that in the lower grades, and much good teaching was witnessed. The applications of arithmetic to business, to investments, taxes, etc., were well developed. The emphasis was properly laid on the nature of the business transaction and not wholly on calculation.

Such a subject as taxes is more properly treated as a topic in civics than as a topic in arithmetic. The Wilmington schools so treat it and place the emphasis accordingly. Stocks and bonds is the only topic in the elementary school curriculum that furnishes an opportunity to teach children how to tell the difference between safe investments and swindles. Such information is a better protection than blue-sky laws. It has been successfully given to children of grades 8 in other cities, and the topic is quite well taught in the Wilmington schools. Teaching thrift in the schools, as we do, is of little value unless we also teach young people how to invest their savings.

The course of study, too, for grades 7 and 8 is distinctly better than the course for the lower grades. It makes very helpful suggestions; and it contains a list of obsolete topics to be omitted, which is an important feature. As they are still found in textbooks, teachers will waste time upon them if they are not specifically requested to omit them.

RECOMMENDATIONS.

1. The elimination of all formal number work from grade 1A and 1B; the introduction of more games requiring counting; the association through objects of number, name, and symbol; and the writing of numbers in sequence; more measuring and making with paper, cardboard, and stick-laying, all consciously and thoughtfully directed by the teacher toward the development of the mode of judgment we call numbering, leaving the memorizing of facts to the incidental picking up of such as may be discovered through these experiences. Number work in this grade should be wholly incidental and should not be made a basis for promotion.

2. The emphasis in the second grade of addition and subtraction, leaving the acquisition of facts in the ratio operations to such as develop in work with objects; that is, the child who knows that 3 and 3 are 6, can be taught the other expression for it, 2 times 3, and see that there are "two 3's in 6," which is the division point of view of the same objective fact. Abstract drills in multiplication and division, however, should be postponed until later. Number work in this grade also should not form a basis for promotion.

3. The permitting of freer and more individual expression, the "cycle of thought" still being (*a*) the object of thought (a problem real or imagined); (*b*) the direction of the thought to fit the object; (*c*) the direction of expression to fit the thought; that is, expression that is true, but not necessarily of prescribed form.

4. The earlier introduction of measurements, with the actual measures in general use, will afford a greater variety of practical appli-

cations, now largely confined to dealing with money. There is no reason why small children should not be given experience with inches, feet, and yards, with pints and quarts, with telling time, and with pounds and ounces by their actual use in measuring and in solving problems. Such use will put motive into computation, help the acquisition of the number facts, and broaden the conception of number relations.

5. More varied and more abundant application in upper elementary grades, for which textbooks in the hands of children are needed.

6. The perpetual encouragement of and insistence upon the use of oral arithmetic where accurate computation does not require the use of the written record of the steps.

7. A more vital connection of arithmetic with life through the use of original problems brought in by pupils, and through illustrations and demonstrations of the uses of arithmetic in their homes, in the store, in the factory, and elsewhere in life.

8. There is need of the recognition of the differences between children in their ability to reach the same speed limit in computation, and in their ability to see relations. There is, therefore, constant need that principals especially, because they know individual children, shall carefully protect them from the common mistakes made by teachers desirous of bringing all pupils up to a certain standard, and that teachers be guided toward respect for the individual child.

9. Too large numbers are used in grades 2A, 3B, and 3A, and not enough small ones in grade 4B and grade 4A. With large numbers in these lower grades, the pupils inevitably do the work mechanically, and this is the observed fact in the Wilmington schools. Number relations can be represented concretely when the numbers are small; such relations are also much more readily comprehended later abstractly with small numbers. Much better thinking can be secured. The absence of anything like adequate concrete work, and the too early use of large numbers in teaching the "four fundamental" processes, accounts for the low average capacity in arithmetical thinking of children in the Wilmington schools. The children are bright, the teachers, as a class, are capable; it is the method that is at fault. This is a matter for supervision to correct. The teachers are following the method which the course of study prescribes for them.

10. To make it possible to teach effectively the standard units of measure referred to in (4) above, the actual measures must be furnished the schools, at least one complete set for each building. This is not done in Wilmington. It need hardly be added that in solving problems of measurement, the children themselves must do actual

measuring; they must not merely be shown the measures and told their names.

11. Interest is not taught until the eighth year. This is a mistake. It should be taught in its simple aspects not later than grade 6, so that children who leave school at the end of the compulsory attendance period will get it. It should include compound interest in its application to savings bank deposits, and should be used to interest children in thrift and to induce them to deposit their savings in these banks.

4. GEOGRAPHY.

Geography, as a regular subject of the course, begins in the 4B grade. A general outline of the course, so far as subject matter is concerned, is as follows:

4B. General view of the world as a whole, through the reading of the book, "Around the World with the Children," this being in the hands of the children.

4A. A study of Wilmington and the State of Delaware.

5B. United States as a whole.

5A. The sections of the United States.

6B. Europe and South America.

6A. Asia and something of Africa and Australia.

In 7B, 7A, 8B, and 8A, a second survey of the various continents is made, with the emphasis more on the deeper relations of cause and effect; many phases of physical geography are treated which have a causal relation to or controlling influence upon political geography, commerce, and human life generally.

No subject possesses greater possibilities of interest than geography. It is a study that can be made practical, concrete, and comprehensible to the children, through the use of a great variety of illustrative material, such as pictures, specimens, and stories, as well as through the right use of maps, globes, and the textbook. It is a study that has, therefore, great possibilities for the development of ability to think, and if rightly handled, will have a cultural effect of lasting value.

Of the subjects in the elementary schools of Wilmington, geography is one of the best taught, speaking generally.

Supplies of maps and globes found in some schools are fairly adequate, in others wholly inadequate. Very hopeful beginnings of suitable collections of supplementary geographical readers for fifth and sixth grades were observed.

The project or problem method has very recently been introduced by the best teachers of Wilmington, and is promoting the right use of the textbook and the purposeful reading of other books. This is

to be highly commended. Its use should, however, be much extended.

As experience with this method progresses, there will probably be an improvement in its use by teachers, the first one suggested being the raising of problems that are not so comprehensive or so general as those which are now directing effort. As teachers grow in skill in handling projects they will also, undoubtedly, use more that have definite relation to the experiences of the children and grow out of those experiences. If the interests of different groups of children are consulted, it must follow that exact uniformity throughout will not be found, since the interest dominant at a particular time with different groups is very apt to vary. This is quite sure also to be affected by the different dominant interests of different teachers. Right adjustment would, therefore, mean considerable latitude within the general requirements of the course.

OUTLINE TOO RESTRICTIVE.

As a matter of method it is feared that the outline prescribed in the course for the study of geographical units, such as "location," "size," "shape," "climate," "surface," "products," etc., hampers freedom and the natural development of interests. Although there exists a logical sequence between location and climate, between climate and production, and between production and industries, this is not always the best sequence of development for children. They should be allowed to start in at any point that their interest leads them to, and then by a natural following up of questions of cause and effect reach the desired knowledge requirement. It may be said in reply to this comment that the proposed plan of study is intended to be merely suggestive, and that teachers are entirely free to vary it. Teachers, however, do not so interpret it. It would be better to have it definitely understood and explicitly stated that the outline expresses the ultimate aim to be attained, according to which, after the study of a subject, the pupils can organize the knowledge gained by discussion, reading, and thinking. This logical arrangement should not be imposed upon children; it is the psychological one, the one that is definitely related to the learner that will bring the best results. The outline should come at the end, and should grow out of the discussion of the material taught, and be made by the pupils under the suggestive guidance of the teacher. It should be a summary of what has been taught, and not a skeleton of what is to be taught. Its purpose is to organize knowledge already gained.

To point this suggestion, there are cited here four different exercises in grade 4B, where the classes, in their journey "Round the

World with the Children," had quite generally arrived in Japan. In the first place, this book is admirably adapted to the interests of children, and almost any handling of it must result in some educational good to them; it had stimulated the collection of interesting objects, and these collections were quite generally seen. But in the use of the book several distinct levels of pedagogical practice were observed.

An exercise in 4B geography was observed, in which the approach to child life in Japan was made through a quiz on zones, climate, etc., evidently with the mistaken notion that this logical, adult approach was the right thing, and that this delightful book must be used for the developing of knowledge to fit the established outline.

A second exercise was observed, which was highly entertaining to the listener. The children rose in succession and each recited from memory a paragraph telling something about child life in Japan. When the children could not recall their parts they were allowed to read them. This was better adapted to the interests of children than the first described. The language was simple and the children enjoyed reciting their little "pieces." It is, however, needless to add that such memorizing of the text is out of date in all good schools.

Another class in the same grade in another school was called upon to tell what they had learned about Japan, and how it differed in its customs from this country; also to tell what we get from Japan. The children seemed bursting with desire to tell what they knew and indulged in very free conversation, the only restriction imposed by the teacher being insistence upon the elimination of "and," which to a child seems an almost necessary string to put his beads of thought on.

This exercise was, from a pedagogical point of view, on a distinctly higher level than the first, and better than the second for its provision for self-activity. Instead of memorizing the text, the children reproduced the content in their own language.

In another school a still different treatment was observed. There, as in a number of other 4B rooms, there was an appropriate setting for this geography work. There were beautiful blackboard borders showing Japanese motives, and there was a collection of Japanese articles, including several beautiful umbrellas.

Several children, apparently promiscuously chosen, were called upon to tell of an imaginary trip through Japan. A little girl was quickly transformed into a Japanese child by the use of a fan and an umbrella, and a little scene enacted, in which she was met by an American girl, whom she greeted after Japanese fashion. The American girl then proceeded to ask her little foreign visitor various questions about her home, how they conduct their tea parties,

how preparations for sleeping are made, what kind of dolls they have, etc.

This, on account of its providing for the exercise of imagination and for the expression of the dramatic instinct, seemed to lie on a still higher level, better than the third on account of the motive introduced, much better than the second, and very far removed from the first. Of course, all geographical thought material does not yield to dramatization, but there is every reason for trying to free it from formality and irksomeness.

LESSON TYPES OBSERVED.

In the handling of the 4A topic, namely, the study of Wilmington and Delaware, there was observed the same differences in treatment, ranging from the recital of mechanically memorized information about Wilmington to the discussion of how Wilmington could become a greater city. There can be no question of the differences in educational value of the following described exercises, which again, are arranged in order of what seems to be their pedagogical excellence.

In the first sort the logical approach by means of the outline was insisted upon, instead of the approach through the dominant interest of the class.

In a second sort of exercise children recited information about Wilmington, this having been evidently assigned, prepared for the occasion, and memorized. Whatever may have happened in the way of explanation when the assignments were made is not known, but the vocabulary was pretty stiff for little folks, and the general effect could hardly be considered highly educational.

In a third, a somewhat better use of gathered information was made, when, as the discussion proceeded, children were called upon to produce what they had found in newspapers or elsewhere concerning Wilmington, and read it before the class.

In a fourth, a systematic study of industries was most in evidence. Large placards bearing in colored letters the name of an industry, as "Ship building," "Leather," "Powder," appeared upon the walls, surrounded by objects and pictures in illustration. The children seemed as well informed about them as could be expected of fourth graders; and best of all they were allowed quite uninterrupted use of the opportunity to tell to an interested auditor what they knew. The teacher wisely kept in the background. This was somewhat better than the preceding, because of the degree of self-activity allowed pupils. Both were orderly in procedure.

In a fifth class, more of rational geography was being attempted. It seemed that the day before Ralph had said that Wilmington was

sure to become a much larger city than it now is, and to-day, after thinking it over, he was expected to explain and substantiate his statement. What had caused Wilmington to become the city it now is? What must be done to provide for further growth?

This may have been a pretty big undertaking for fourth graders, but it had its possibilities for touching the civic consciousness of these young citizens, while teaching them the main facts about manufactures, products, etc., which other classes were getting. It may be interesting to know that this excellent teaching was in a school said to be in the "slum" district of the city.

Exercises in fifth and sixth grades were observed which illustrate quite as distinct differences in the teaching of the different topics studied by these grades. In the best there were always the picture material, the collection of appropriate objects, the use of supplementary books. In many, there was outline following as a method of approach instead of as a final recapitulation.

COMMENDABLE FEATURES.

On account of the use of the project method, this most commendable thing can be said of the teaching; namely, that there was rarely observed the old, unmotivated, mechanical assignment of "the next paragraph" or "the next chapter," or "take climate," or "take products," to-morrow. Assignments heard were made as they should be, with reference to their bearing upon the problem under consideration. But as already suggested, it will be better to raise problems that are less comprehensive in scope. A comprehensive problem is best treated by a separate discussion of the more specific problems involved in it.

Need of improvement was also noted in the discussion and application of the reference reading found and presented by pupils. This reading matter frequently needs to be fitted to the understanding of children by questions and explanations, but this was sometimes omitted, making the exercise of doubtful value.

Especial commendation is deserved by one of the principals and her assistants, who, by their self-sacrifice and persistent effort, succeeded in raising money for the purchase of a fine lantern for the school. The writer observed with pleasure the preparations made by the boys of the room for an exhibition, such as the darkening of windows, the making of electrical connections, all done systematically and with dispatch by these willing helpers. Then came the views of France, and the free questions and answers. This was in a section of the city where there is little of culture, little of variety in the lives of the children attending, and was therefore done under handicaps, and shows what could be done in all the schools by superior teaching.

The stereographic views found in several schools are also very valuable geographical material.

A larger supply of geographical readers is needed. A variety is desirable, and the scanty collections observed included the best material of the sort available; but there is need, for really good work, of enough books of all kinds, so that each pupil will have a book of some kind. This lack was frequently complained of by teachers, who were seriously hampered in consequence of it. This is sometimes called "economy" by school boards.

While some teachers still do most of the talking and thinking in class themselves, there is an increasing number who are learning to throw the lesson into the hands of the pupils, a democratizing performance of great value.

UPPER-GRADE GEOGRAPHY WORK.

Speaking generally, the teaching of geography from the fifth grade to the eighth, inclusive, is good. Here and there individual teachers do poor teaching, as already pointed out, but the majority teach the subject effectively, and a limited number are doing superior work. This is especially true in grades 7 and 8. Excellent teaching was observed in many classes in these grades. Speaking comparatively, geography is taught better than arithmetic, and far better than oral and written composition, elsewhere discussed in this survey.

The teaching in these upper grammar grades is done wholly on the departmental plan in all subjects, and teachers have more or less specialized in the subjects they teach. The excellence of the teaching of geography is due largely to the fact that teachers have attended lectures on the subject in summer schools and in extension courses by college teachers. They are familiar with the best current thought on the subject, as shown in their teaching.

One of the excellent features of the work in geography in the upper grades is the emphasis placed on the causal relations between physical features and forces and political, economic, and social geography.

The course follows, in the main, a good textbook but not blindly, and requires much outside reading.

SUGGESTIONS OFFERED.

The following criticisms may fairly be made on the course and the teaching, and may be helpful.

Not enough emphasis is laid on map drawing from memory for the purpose of fixing in the mind the general shapes of continents, of a few of the great nations (not of States), and the location of such physical features and of cities, etc., as every intelligent person should

remember permanently and should have as a part of his ready knowledge. This means only a comparatively few important data. But these should be drawn from memory repeatedly in class until they are firmly fixed. The copying of detailed maps from the textbook is a waste of time. The facts to be drawn should be specifically stated by the teacher, and the pupil should make his own map to be memorized with the help of the textbook map, from whose confusing details he must select the data wanted.

A simple test was given a 7B class to determine their ability to reproduce from memory such data as to their own country as should be at everyone's ready command. They were asked to draw an outline map of North America and ignore all but the most important features of the coast line, and to pay very little attention to the coast line on the north. They were asked to draw the St. Lawrence River and make a rough drawing of the Great Lakes; to draw the Mississippi and the Ohio River; and to place a dot to indicate the location of the following cities: New York, Boston, Philadelphia, Baltimore, Chicago, St. Louis, San Francisco, New Orleans, Detroit, Cleveland, Minneapolis, Kansas City. Of the 33 maps drawn, not one could be called really good; a limited number were fairly good. One of the best located New York City in the region of Cleveland, and Kansas City in the region of Alabama; one of the poorest ones located New York City north of the St. Lawrence River, and Minneapolis on the Pacific coast in the region of Vancouver. Another located Minneapolis in the region of Colorado, and Baltimore on the coast north of the Great Lakes. Coast cities, like Baltimore, Philadelphia, and New York, were located by some as inland cities. Comparatively few could draw the coast line with any reasonable degree of correctness to show the most important features.

This class was apparently a class of average ability, and the teaching in other respects, so far as observed, seemed to be good. Evidently map drawing, as the most economical method of map study, was not used. This is true of the Wilmington schools in general and needs the attention of supervisors and principals.

More systematic, definitely planned, training in map interpretation would strengthen the instruction. A map has a number of functions. First, it shows the shape or outline of a continent or country. This is a simple use of it which can be made early in the course. Second, it shows location. This is also simple. Third, it shows direction. This is simple in case of maps of relatively small sections; but in case of maps of the continents, lines of longitude and parallels of latitude must be observed to determine direction, and this involves more difficulty. Fourth, a map shows contour, elevation, and depression. This is the most difficult feature to in-

terpret, and most children can not do it unless very carefully trained. This last use is emphasized in the upper grades of the Wilmington schools. Fifth, a map shows distance, and to interpret it the pupil must observe the scale on which it is drawn.

The beginning of map interpretation, it need hardly be suggested, should be made by drawing a map of the schoolroom, the school yard, etc., and studying a map of the city in which they live.

RECOMMENDATIONS.

1. Although in grades 1, 2, and 3 the subject of geography should not be treated as a separate strand of the course, there are many phases of the subject that can be introduced preparatory to the more specific work done in the fourth grade. It is recommended that in the first grade, the occupations closely related to the home be observed and discussed, and expressed in simple ways on sand table or blackboard or booklet, such as the bakery and the grocery.

In the second, those a little more remote, as the shoemaker and the weaver. In the third, how we are sheltered, fed, and clothed are interesting problems and broaden still further the vision of little children.

Hearing of child life in other lands is extremely interesting to all the early grades.

Material such as is found in books like "Seven Little Sisters," "Each and All," "The Dutch Twins," and many more recent books, forms a most appropriate approach to geography for grades 3 and 4. It presents the human aspect of geography, which appeals to children and creates a desire to know where these people live, a desire in short for real geography. Abstract location has no interest for children.

2. An appeal to the imagination and training to think, and not knowledge of facts merely, should be made the dominant aim in all the geographical work.

3. Much more use should be made, especially in the grammar grades, of map drawing, from memory, of the continents and of the most important countries, but not of separate States, except the pupil's own. Such maps should contain no items except such as everybody ought to remember permanently. In addition to this, it is recommended that pupils be encouraged to sketch quickly maps in connection with special topics for illustrative purposes.

Printed outline maps of all sections and countries studied, to be filled out by pupil, should be a part of the work, but should not take the place of maps wholly drawn by the pupil from memory in class.

4. The outline which indicates the scope of work expected in the treatment of any topic should be developed in class as the final and

finished recapitulation, rather than be given the class and made the approach. It should be treated as an organized summary of what has been taught, and not, as is now done, as a blocking out of what is to be taught.

5. Teachers coming as they do from a number of different training schools, and coming with different experiences and interests, should be allowed more latitude in the choice of topics, problems, projects, methods, and devices, through the use of which children are led into the geographical field.

6. The excellent beginning, already made, in the collection of objects and pictures should be continued; and the sets of stereographs found in several schools should be provided for all; and the board should provide maps, globes, lanterns, and slides much more liberally than is now done. Many of the schools are seriously hampered for want of these necessary and relatively inexpensive equipments.

7. Some of the principals of the elementary schools ought to make a greater effort to enlighten themselves in regard to geography teaching according to modern standards, and thus give better support to the supervisory head, put themselves in a more sympathetic attitude with their more progressive and ambitious teachers, and fit themselves to aid and direct the weaker and less experienced. In short, all principals should be, as fortunately many of them are, competent to supervise instruction effectively.

5. READING, PENMANSHIP, SPELLING.

This report aims to present a study of the subject of reading throughout the first six grades, from its beginning in the 1B to the 6A, inclusive, to determine, if possible, how effectively the problems in this subject have been met and solved as they arise from grade to grade. These problems are many and varied and are peculiar to each year of the child's life. They should be considered in their relation to the child's development, to the requirements of the course of study, and to the interrelationship which they bear the one to the other.

How have the little beginners just entering school met their initial contact with symbols as a representation of the well-known sounds in their oral vocabulary? Has this most difficult association, the printed form with the oral, been made easily and naturally, with profit and pleasure, or are there signs of stress and undue effort apparent in their mastery of the early reading process? How effectively has the phonic problem been solved, both as regards the acquisition of power and the ability to use their knowledge once acquired in its application to proficiency in reading? How have the reading habits formed in the lower grades functioned in the

upper? Has the oral reading been overemphasized to the exclusion of much practice in silent reading? Does ability in the first carry over into the second and make for proficiency in the study of texts in history, geography, arithmetic, and in reading for the appreciation of good literature?

MEASURING PROFICIENCY IN READING.

In order rightly to estimate proficiency in reading, units of measurement must be found which gauge not only the tangible results obtained by a given method, but quite as definitely evaluate the process by which the goal has been reached.

Many methods lead ultimately to proficiency in reading. Some of these are primrose paths which eager feet are glad to follow. Some are strewn with obstacles which retard and impede the pupil's progress, and some there are that wander far afield with waste of time and effort, binding the spirit of the child in weariness and apathy.

The extent to which pupils fail of promotion is one such unit of measurement. Figure 1 (p. 44) shows the failures in reading among the pupils of the first six grades in Wilmington (June, 1920) in comparison with failures in all other elementary subjects, and in comparison also with similar failures in the same grades in the schools of Butte, Mont. (June, 1916), and of Cleveland, Ohio (June, 1914).

A study of these curves indicates that nonpromotions in all subjects in the first three schools—Butte, Cleveland, and Wilmington colored—are unusually large; that reading is the stumbling block in the first and second grades; and that other subjects besides reading enter into the problem of failure in the third, fourth, fifth, and sixth grades.

The curves in reading for Wilmington white schools demand especial attention; they seem to indicate that a relatively low score of failure in the first grade may be the cause of a relatively high failure in the sixth; and that promoting pupils en masse in the lower grades without due regard to proficiency may bring a day of reckoning for the sixth-grade teacher in her attempt to bring her pupils up to the necessary requirement for the more technical work of the junior high school. Evidently the Butte and Cleveland pupils gain a power in their early years which carries them safely over the crucial period in the sixth, Butte scoring a failure of two-thirds of 1 per cent for this grade and Cleveland 2 per cent, while Wilmington (white) rises to an 8 per cent failure for sixth, thus meeting the Wilmington (colored) schools at the same point for that grade. Too many subnormal pupils are carried along from year to year in the

Wilmington schools, which is clearly indicated in this diagram. Overage pupils were noticed in nearly every room visited, and many teachers deplored the lack of special provision which should be made for these pupils.

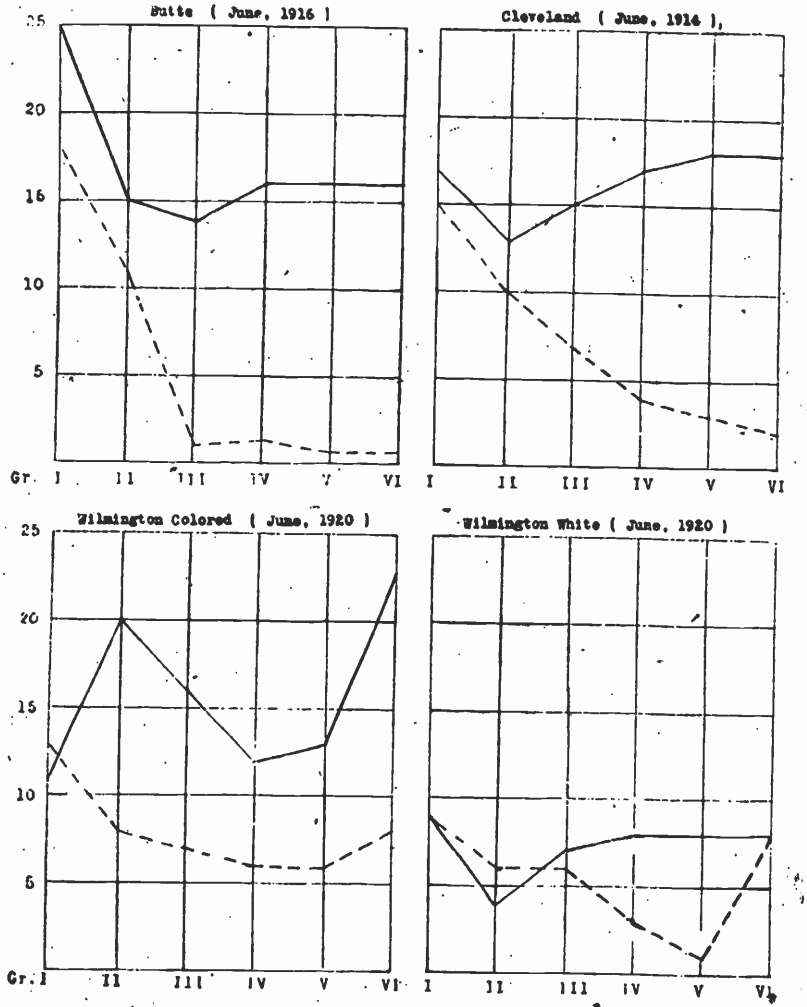

FIG. 1.—Comparison of nonpromotions in all subjects in the first six grades with failures in reading in Butte, Cleveland, and Wilmington schools.

ANALYSIS OF FIRST-GRADE FAILURES.

Even a cursory study of these lines of nonproficiency is illuminating. All four schools show a major difficulty in passing the first-grade requirement in reading. About 1 pupil in 7 drop back at this

point in Cleveland, 1 pupil in 8 in Wilmington colored, and 1 pupil in 11 in Wilmington white, and every fifth pupil repeats in Butte. Judd, in his measurement of work in the Cleveland schools, maintains that "this curve represents what would naturally be expected in any subject which is carried throughout the grades and is successful in its training of the children. We would naturally expect that the initial difficulties in the study would hold back any one who is likely to develop serious weakness later." From the subject-matter point of view this is undoubtedly true, but from the pupil's standpoint does it not seem like an arbitrary solution of the problem?

Is there any natural trait in 15 per cent of the children in a class in beginning reading which requires of them a repetition of the work for two successive years of their school life? May not the requirement be too high, when 1 pupil out of 11 in the white schools of Wilmington and 1 out of 8 in the colored schools fails to acquire the necessary proficiency? Could not the subject matter and the method be modified to suit the ability of every child in the class?

The first grade in public schools, generally, has been since its establishment a clearing house wherein a child has found his level by a standard wholly outside of himself and unrelated to his particular endowment. Recently the attention of educators has been turned from methods of teaching reading to the child himself, to ascertain why he fails and in what way he differs from his classmates who have passed on to a higher grade and have left him stranded. Already in many schools a simple measurement of his mental ability has been taken, usually by some modification of the Binet scale, and then attempts have been made to adapt the course of study and the methods of teaching to his particular type of ability.

Some attempt of this kind has been made in Wilmington. A phonic method is in use in some schools for the early work in reading where pupils of foreign parentage are found to predominate, and where much help in clear enunciation of English sounds is necessary. In other schools, where pupils come from American homes and are already familiar with nursery rhymes, a method based upon the repetition of certain words and phrases in this type of child literature is used.

This organization of subject matter is not based, however, upon a scientific study of the children, but upon the observation and experience of the teacher. It is earnestly hoped that, out of this initial attempt in Wilmington to adjust the work of the school to the needs of the children, a scientific classification of the pupils in the first grades at first, and later in all, may develop and that an investigation of this movement in other cities by the superintendent and his

assistants may lead to the adoption of a similar course in Wilmington.

It is a principal of great importance in this early work in reading that the two factors mentioned below should be kept separate and distinct. (1) "Much time should be devoted to the mechanics of reading," and (2) "constant emphasis should be put upon the acquisition and interpretation of the thought," are the two fundamental processes in learning to read. Robins, and in fact all authorities who have probed deeply into this subject, agree that the two lines of work can not be profitably carried on at the same time, in the same recitation; for the first requires numberless drills in the acquisition of forms through acts of memory, while the latter exercises the imagination, the feeling, and many other attributes of the mind which training in recognition of symbols does not require. In fact, it was constantly demonstrated in classes in early reading in Wilmington that pupils who were being drilled on words and phrases were not thinking of the meaning of those words but were trying to remember the form only. It was observed frequently in many classes that the child remembered the word by its position on the board, and failing to read correctly from the chart he could "get the word" when the teacher directed his attention to the permanent list of words on the board. Thus does nature protect the child's mind from overstrain and fatigue, for by using his mind's eye and remembering words because they occur in a certain order on the board he satisfies the teacher's requirements and saves himself an undue amount of exertion.

Why not give the child at once the necessary phonic tools, so that he can help himself to unknown words, and in other periods of the day's program give him interesting vital reading matter based upon his everyday experiences, in short, simple sentences written upon the blackboard, and leave the more difficult reading of classic literature to a later period of his year's work when he can read the text easily with the thought uppermost in his mind, and when he will not need to spend a week, or even two weeks, on one page of his reader because the technical difficulties of his reading have not been mastered? Too often these principles are lost sight of in the stress of the year's work.

READING IN THE MIDDLE GRADES.

The oral reading in the middle grades was unusually good, judged by all standards of comparison. Fluency, good articulation, expressive enunciation, all bore witness to the careful training of pupils in the lower grades. Perhaps an overemphasis has been placed upon these requirements in oral expression, for the ability to

interpret a paragraph read silently failed to measure up to the proficiency found in oral reading. This, no doubt, was due to a lack of training in this essential element in reading. Silent reading and its interpretation are among the very recent problems to receive the attention of the supervisory staff in Wilmington. An attempt is being made this year for the first time to provide for training in this important phase of reading. Without this specific training in silent reading children are usually quite impotent to acquire it, for proficiency in silent reading comes with practice, just as it does in oral reading. A movement throughout the schools of the United States is under way to emphasize silent reading and to minimize the importance of oral reading—at least to place less importance upon the one at the expense of the other.

PENMANSHIP.

Writing in the first three years is by crayon on the blackboard and lead pencil on paper. Writing with pen and ink is begun in the fourth year. The writing during the first two years is mainly on the blackboard, and, of course, with the whole-arm movement. The forearm, or "muscular" movement, is taught from the fourth year up.

The question of teaching writing at all during the first two years is, to say the least, a debatable one, and in many good school systems it is not taught in these grades. There is not sufficient space available in a survey of this kind to enter into the reasons for this omission. As elsewhere recommended, writing, along with arithmetic, in Wilmington, should at least be reduced in these grades to make room for reading good literature to the children.

The quality of the penmanship in regard to the two essentials of legibility and speed is not so good as it should be; much of it is decidedly poor.

While the muscular movement is taught in the writing period, it does not carry over effectively into the pupils' other writing. Classes were observed in which only from one to three pupils in the room were using it: all the rest wrote with the finger movement. Not all actually used it in the writing class. This indicates that the nature of the movement is not clearly explained to the children by the teachers, or that they fail to give effective drill in it. In some classes observed there were indications of both. The muscular movement is easier to acquire for the more mature children of the upper grades and should be especially emphasized there.

The matter of penmanship needs the attention of the supervising staff, consisting not only of the superintendent and the assistant superintendent, but also of the principals of schools. Detailed supervision of instruction devolves upon the latter.

SPELLING.

The same painstaking effort to teach the mechanics of spelling was observed in these classes which marked the methods used in reading. Two lines of work were carried on, lessons based upon phonetic families, and lists of words from the spelling book. A first-grade spelling lesson based upon phonetic words follows:

(*Teacher*) Who can tell what family we had yesterday? (*Pupil*) The "en" family. (*Teacher*) Spell the en family. (*Pupil*) e-n, en. (*Teacher*) glen. (*Pupil*) g-l-e-n, glen. (*Teacher*) hen. (*Pupil*) h-e-n, hen. (*Teacher*) What is a hen? (*Pupil*) A chicken. (*Teacher*) pens. (*Pupil*) p-e-n, pen. (*Teacher*) Don't you hear an s on that word, pens? (*Pupil*) p-e-n-s, pens.

Other words in this family followed, ten, men, den, etc., and then the "ell" family was taken-up.

This material for early spelling lessons is excellent. It follows logically the lessons in phonics which the pupils have had and completes the process of his word study, from the sounding of the letters in a word to the naming of them in the required order. Care should be taken not to burden the child with unnecessary repetition of words he already knows in his spelling lessons. Perhaps the greatest need in the work of spelling in our schools is the careful preparation of the spelling lesson by the teacher and the elimination from the daily drills of those words with which the child is already familiar. An appalling amount of time is wasted by a failure to do this. Rightly trained in phonics the child will know how to spell 87 per cent of all the words in the English language, and the teacher's task is to teach the remaining 13 per cent only. How many teachers confine their efforts to the unknown words in a spelling lesson? How many give the entire list as it stands and spend just as much time drilling upon the known element as upon the unknown? These are pertinent questions which will lead to much needed reforms in methods of teaching spelling and to greater power on the part of the pupil.

A lesson in third-grade spelling was conducted as a study recitation, with open books in the hands of the pupils.

The following lesson is that given in a third grade and was based on the textbook:

(*Teacher*) Look at the first word, and stand and spell it. (*Pupil*) b-o-w-l, bowl.

(*Teacher*) Give me a sentence using the word bowl. (*Pupil*) I had a bowl of milk.

(*Teacher*) Next word. (*Pupil*) c-o-f-f-e-e, coffee.

(*Teacher*) Now spell without looking at your book. (Pupil spells coffee.)

(*Teacher*) Give me a sentence. (*Pupil*) I made some coffee. (*Pupil*) I grind a cup of coffee.

(*Teacher*) Class may study words silently. Read them aloud first. (*Class reads*) Sugar, bowl, dish, pitcher, tea, coffee.

Evidently the author of the spelling book used has made a decided attempt to provide for the correlation of the formal spelling of word lists with the use of the words in sentences, an exercise which needs emphasizing in every school in the country. Children's ability in the first does not necessarily transfer over into the other. A child may spell a list of words correctly and then misspell many of them in his written composition. The teacher's work is only half done when she has given isolated words to her class for a spelling lesson. These words should be used in sentences, and should be incorporated into the pupil's written language work, so that he not only masters the technical difficulty which the word presents but acquires proficiency in its written use as well.

The spelling in the upper grades was only fairly good in the best classes observed; many teachers showed skill in the teaching of the actual lesson in spelling separate words, and in these lessons the children generally spelled correctly; but the spelling did not carry over into their composition writing as it should. This seemed to be due to the limited amount of dictation work and the wholly inadequate amount of written composition, as more fully discussed elsewhere.

The teachers are studying the problem. Tidyman's excellent book on teaching spelling has recently been placed on the teachers' desks. The study of this book by principles as well as teachers will be of great help. It makes extensive discussion of method in this survey unnecessary.

6. PHYSICAL TRAINING AND HEALTH EDUCATION.

The need for activities in the lower grades is not yet fully recognized by teachers and superintendents generally in public schools, and the function of these is far from clear to them. To give physical education a place in the daily schedule is a good thing, but unless the director helps to create the conditions by which the work of the school contributes to the children's health instead of impairing it, the work is form rather than substance. Likewise to introduce art is a step in the right direction, but it will do little to further the children's development unless it is so taught that it is an expression of the child's own experience, given in his own way. If the work in each of these lines is under the supervision of a special teacher, and the regular teacher has no voice in determining its relation to the other work of the grade, it can have little value. This seems to be the situation in Wilmington. There are no kindergartens to suggest how these activities should be carried on with little children. The work of the entering children, as well as for all the others in the first and second grades, is a rigid course in the three R's.

Upon this the courses in physical education, art, music, and nature study have been superimposed, each independent of the other work of the grades. Whether the work given under the name of physical education is contributing anything toward the children's health is decidedly open to question. Out of a 5-hour daily session, 15 minutes are allowed for it in the schedule. A portion of the 15-minute recess, morning and afternoon, is also devoted to it. In so limited a period but little could be done even under more favorable conditions. Rooms crowded with seats afford opportunity for little else than formal gymnastic exercises. The work observed in 10 or more different buildings and 20 different rooms, consisted of little else, although the ages of the children ranged from those just entering to those in the fourth grade. In a few cases this was done to the music of a piano or victrola.

In three or four rooms a freer form of exercise was given which was decidedly better. The children were formed into a circle around the seats and played such games as Mulberry Bush, Looby Loo, and Round and Round the Village. In another the teacher asked some child in each row to name an animal. All the children in a row designated then ran around the room until they came to their seats again, representing in some way the actions of the animal named. Each row did this in succession. The games played at recess were similar to those mentioned. Each teacher was held responsible for her own group with the younger children. With the older ones the boys on the one side of the building and the girls on the other played games requiring more skill. One playground was equipped with a slide which was greatly enjoyed. The boys in another had organized into a volley ball team, and had furnished their own equipment.

That this work has value can not be questioned, but the benefit in the direction of building up the children's health is more than offset by other conditions. The children spend 15 minutes a day in gymnastic exercises, 30 more in the recesses, and in most cases 15 more in writing at the blackboard. They are thus on their feet and active one hour out of the five-hour day. The remaining four hours are spent in sitting, most of the time held in rigid attention to the lessons in reading, spelling, phonics, arithmetic, etc. This is a condition that should not be tolerated, since all authorities agree that children from 4 to 8 years require much physical activity, and that their health is of necessity impaired if this is withheld. This is a condition that needs remedying.

This condition can be considerably relieved, even under the many unfortunate limitations as to suitable buildings and overcrowded rooms under which teachers labor through no fault of their own,

by introducing many games, especially devised to be played in a schoolroom with fixed furniture. A number of good books giving detailed descriptions of these games can be got. A short game of three or four minutes should be played, as a rest and for recreation, at the end of every lesson in the grades. It would more than make up for the time devoted to it by arousing increased attention in the succeeding lesson.

The system of gymnastics introduced only this year is that known as the Swedish. It is so well known that it needs no description here. It is one of the systems widely in use. There are differences of opinion among competent experts as to its merits as compared with other systems, and criticism would be out of place here. Suffice it to say, however, that the general, and we might say the whole, trend of the best thought on physical education is that free play, supervised in a way not to interfere with spontaniety, is a better form of exercise than any system of gymnastics; and the judgment of experts is virtually unanimously in favor of substituting free play for formal gymnastics wherever possible. There are those who even question the need of formal gymnastics for corrective work.

In the Wilmington schools there was no provision for physical education until this year. The introduction of this system is therefore a distinct gain. The course also recognizes in a small degree the function of games. The teachers conduct outdoor games, but sometimes only formal gymnastics, at recess time. But the unfortunate thing in Wilmington is that few schools have playgrounds that are at all adequate.

The responsibility for this condition rests primarily upon the taxpayers, and is a part of the larger problem of replacing the many unfit school buildings with new ones.

THE PROGRAM OF HEALTH CARE AND EDUCATION.

A brief study was made, during the survey of the Wilmington public schools, to ascertain to what extent a program of health care and education was functioning. As no time was allowed in the regular school day for health teaching, those courses in which it might function were looked into very carefully.

In the primary grades (to the fourth) "incidental teaching," planned by the principal, in which "health talks" are given by the classroom teacher the last period on Friday afternoons, was described by the superintendent of schools. No demonstration was witnessed, but a number of teachers were interviewed upon the subject, and the textbook used as reference examined. Having no specific program outlined and being reserved for the last period in the school week, when in the very nature of things children are restive and lacking in concentration, it is hardly likely that "health talks" based upon

facts in a primer written in 1910 would arouse interest in either teachers or pupils.

From the fourth to the sixth grades, inclusive, hygiene and physiology are taught in the usual formal way. A satisfactory text has been adopted, although at the time the classrooms were visited individual teachers had not yet been supplied with copies.

In the high school a personal hygiene and home nursing course is open to seniors, but is not obligatory. It is given after school hours by a representative of the American Red Cross. A similar course, taught by the home economics teacher, is also to be given in the senior year as part of a course in household arts.

AN EFFECTIVE LESSON.

A commendable treatment of health considerations was observed in a fifth-grade class in citizenship. The topic under discussion was, "Why is Wilmington a good place in which to live?" During the period many aspects of the topic were touched upon; important matters concerned with the health of the individual and with the city as a whole were given particular emphasis. As a means of visualizing the environs of the city, and in particular the system of protection afforded the water supply, an excursion had been made by the class to the watershed, the race, and the filtration plant, and a spirited discussion of the trip brought forth many interesting points, each child contributing something. Following this, the milk supply, sewerage system and disposal plant, garbage collection and disposal, good roads, clean streets, and other means of maintaining the health and comfort of Wilmington citizens claimed, for a brief period, the attention of the class. The fact that spontaniety was encouraged, that the teacher expected to be convinced by the class that Wilmington was a good place in which to live, was stimulating to the pupils and created an atmosphere of real interest.

There are great possibilities in work of this character for health teaching, and when the "health talks" given in the primary grades and the kindergarten are supplemented by a vitalized daily practicing of health habits, children in the grades from the fourth up will understand that the soundest basis for good citizenship is good health. They will understand, too, that the surest way to attain and maintain health is to practice early in life good health habits.

SCHOOL LUNCHES.

A hot midday lunch is available for pupils in the high school only. It was good to know that neither tea nor coffee could be purchased by pupils, and candy only after luncheon has been partaken of.

The lunch service will be considered elsewhere in this report, but it may not be amiss to urge the installation of a hot school lunch in

all elementary and grammar schools. Certainly the condition of the children would seem to warrant this step, scrawny legs and arms being much in evidence among the children seen. The value of this service as an educational factor is now undisputed, and as a means of demonstrating the food facts presented in class offers endless opportunities.

MEDICAL SCHOOL INSPECTION.

An official medical and nursing service was initiated by the city board of education of Wilmington the latter part of 1919. Prior to this volunteer organizations and individuals had for four years done such preventive and corrective work in the schools as was possible under the existing circumstances.

The present staff consists of the medical inspector, on a part-time basis and two nurses on full time. It is the desire of the department to keep medical inspection on the plane of teaching and examining alone. A morning was spent with the staff when it was stated the usual procedure, with the exception of weighing and measuring, was followed.

After a considerable wait a line of children began to file in the room for inspection, no attempt being made to separate the child being inspected from those who were waiting. The two nurses were in attendance, one doing the clerical work, the other directing the children to the physician from the room and assisting generally.

In general the inspection consisted of a good examination of the mouth, throat, and neck (although no digital examination was made to determine the presence of adenoids); no examination made of the nasal passage; an occasional one (without a speculum) of the ears, and a superficial examination of the extreme upper part of the chest. In the majority of cases carious teeth were noted and the child told to go to the dentist.

One pair of scales was all that were available for the entire school system, and as it is a policy to weigh and measure children once a year at the time of inspection this pair is sent from place to place as needed. Although ordered to be on hand for use the morning in question they did not arrive, and therefore no weighing and measuring was done.

Weighing and measuring would seem a superfluous process anyway so long as the theory is held that a thin, wiry person will be equally healthy with the fat, heavier person. It is true that the "general appearance and behavior of a child" is often indicative of his state of health. However, the most eminent pediatrists now lay more stress upon weight in relation to the height of a growing child, plus his regular gain in weight, than upon any other one factor.

The percentage of malnutrition now thought to prevail throughout the United States among school children is from 20 to 33⅓ per cent. Of the 4,335 pupils examined in Wilmington last year, 17 only were classed as malnourished, for Wilmington a percentage therefore of three-tenths of 1 per cent. In the two months of the 1920 term no cases of malnutrition had been reported by the medical inspector.

Besides assisting with the inspection of pupils (testing sight and hearing), the nurses visit the homes to interpret the need for correction of defects and, where necessary, to assist families in need of the same to establish contact with agencies providing institutional, dispensary, or economic care.

It is apparent the staff is devoted and interested, and with certain changes the service could easily become a potent influence.

It would be necessary first of all that the service be recognized at once as an important department of the school system, to which regular time should be allotted. On the morning the inspection was observed there was a delay of about an hour and a half because it was thought advisable not to disturb the regular school or classroom routine.

At no time can an inspection be made without some interruption of the day's usual procedure, and the most efficient system is one which does not permit the time of any school official to be wasted. When a physician is on a part-time basis this point is of particular importance.

GENERAL RECOMMENDATIONS.

1. A graded plan for teaching health should be outlined and made a required part of the school curriculum from the lowest grade to the last year of high school, inclusive. The establishment of health habits should be the purpose of such a course, and particular care should be taken to vitalize the teaching method so that the child's interest will be sustained throughout. For instance, with the youngest children the element of play and action should be used as a definite means of interesting children in health; toothbrush drills and songs, story telling, freehand cutting, and the making of attractive and varied colored posters are all valuable. As the children advance in the grades, the further development of health plays and establishment of health clubs should be featured. The spirited way in which the fifth-grade class before referred to entered into and contributed to the discussion is typical of what happens when spontaneity and some freedom is allowed. The formation of health clubs and the selection by them of phases of health work for practice and investigation is an admirable and practical means of making healthful citizens.

2. With the children in the seventh and eighth grades and in the high schools, the period in which hero worship is so usual, interest in an ideal of health may be kept keen and alive through a series of stories and dramatizations of lives of men and women who have contributed so much to the progress in matters of health conservation and disease prevention. Such geniuses, for instance, as Pasteur, Trudeau, Lister, Koch, Grenfell, Florence Nightingale, Madame Curie, Walter Reed, and others preeminent in their profession could well be brought to the attention of the children.

3. The working out of any course in health teaching should involve the cooperation of a number of teachers and should extend over a period of at least two or three years. The great possibilities through the correlation of subjects has already attracted the attention of educators elsewhere.

4. Above all, interest in an ideal of health should be maintained through the regular weighing each month and the measuring twice each year of each child. The classroom is the place for the weighing to be done, and the larger the share taken by the children the better. The Class Room Weight Record, with places for the names of 40 pupils, may be procured from the United States Government Printing Office. That each child may know what relationship his height-weight bears to the normal average, a weight-height table has been made a part of the classroom weight record, and each child is supposed to keep his own record, which, by comparison with a classmate's, creates friendly rivalry. A child is more ready to correct his own bad food and health habits when he learns through observation that it is the latter which is keeping him scrawny and pale, and usually rendering him unable to compete with more normal children.

Every school should be supplied with scales, and the report of the child's progress in weight be sent home each month with the report of his progress in other matters. To initiate and direct the weighing of children each month may seem at first only an additional burden, but teachers have been the first to appreciate that knowledge of weight-height relationship and its bearing on general fitness creates a new and stimulating atmosphere among children formerly indifferent to appeals for the formation of good health habits.

5. A hot school lunch in all primary and elementary grades should be installed, the educational aspect of which is of far greater importance than the feeding of hungry children.

6. Supervision of the course in health education is of prime importance, and by an individual with creative and imaginary ability as well as with special preparation and understanding of the purpose of such a course.

7. Until the medical inspector is put upon a full-time basis and given a salary commensurate with the requirements of the work, more time than is now given to the inspection of children can not be expected. Until a full-time basis is provided for it is suggested:

That the inspection of children be limited to the examination of skin of face and hands, examination of the throat, teeth, ears, eyes, glands of neck, and of posture and gait. That just prior to the day on which the inspection is to be made the nurse and teacher decide which pupils seem to require a thorough examination and that the parent or parents be asked to be present when the examination is arranged for. That during inspection or examination children be dealt with individually, and where a separate room is not provided a screen should be used and the child assured privacy during the interview. That the height-weight relationship be recognized as a significant means of determining the general nutrition of children, and the latter be informed in this department of the relationship. That the nursing staff be increased, preferably by a supervising nurse and one capable of contributing materially to the development of a program of health education. That the present scale of salaries be raised and that the nurses spend more time in classroom demonstrations. In order to accomplish this, one nurse only should assist with the inspection or examination of the children.

8. That a dental clinic be provided for at once within the school domain, and that dental hygiene be a definite part of the health teaching.

SUMMARY.

The schools should be supplied with scales.

Each school day health teaching should be recognized as an obligatory part of the day's work.

A hot school lunch should be made available for every child in Wilmington who needs it.

Correlation of subject and cooperation of teachers should be sought in rounding out the program of health education.

The present medical and nursing service should be enlarged and its scope broadened.

Health should be made a positive and desirable thing and not dealt with from the negative angle.

The main purpose of a graded plan for a course of health education should be constantly the promotion of health as something desirable and possible of attainment.

7. DRAWING.

At the close of the school year in June the supervisor of drawing resigned, and a successor was appointed who had begun work only

a little over a month before this survey was made, and had consequently not had sufficient time to make such changes as she may have had in mind. The following comments and suggestions are based on the tentative course of study which the new supervisor has prepared and which has been issued to the teachers in mimeographed form and on the work in the schools as observed by the commission.

This tentative course, issued, as it states, as a "Suggestive Outline for Teachers," is only for the months of October and November; the outline for the remaining months of the year had not been issued at the time of the survey.

The course as a whole is based too much on the old formal conception of art instruction, and fails to recognize the children's native interest, as all good teaching must; in short, it is too severely logical, as determined by the nature of the subject, instead of psychological, as determined by children's interests and capacities. This is particularly true of the lower grades. Some of the work is beyond children, such as the characteristics and processes of fixing and glazing of clay in grade 2.

There is an entire absence, both in the course of study and in the actual teaching in the first three years of the schools, of the drawing from imagination which children love to do to illustrate the stories told them and to picture scenes which they have observed. These drawings are spontaneous expressions of their native interest and occupy a prominent place in good primary schools. There is little trace in the course of a recognition of the results of the study, from a psychological standpoint, of children's capacity and native interest in drawing. A discussion of these studies can be found in a number of books, readily accessible, such as Sully's Studies of Childhood, and Barnes's Studies in Education. But by far the most extensive of these studies are Kerschensteiner's and Lobsien's, which, unfortunately, are not translated.

The course, so far as it has been issued, does not provide sufficiently for the coordination of drawing with the other subjects of the curriculum except nature study. The course, fortunately, is not prescriptive in regard to method except in so far as formal work calls for formal methods in teaching it, and this is actually the result as observed in the schools.

The consequence is that there is very little free expression in drawing anywhere in the schools. The same lack of spontaneity and freedom of expression, as more fully stated elsewhere in this survey, was found in the language teaching throughout the schools. This shows that a fundamental change in conception of teaching on the part of teachers and supervising staff in regard to the character and function of expression is necessary. In drawing, as in language,

the improvement in technique must come from an effort to express more adequately and clearly what is in the mind; it must not come merely from formal instruction in details of technique apart from content.

As the course now in force was prepared only for the two months stated above, it is impossible for the commission to make as helpful suggestions on it as a whole as would be desirable.

TEACHING OBSERVED.

The ideals and spirit of the kindergarten ought to permeate the primary grades in school, not only in art training, but in all other subjects; the method must be adapted to the children of these early grades.

The equipment of the kindergarten includes sand, clay, blocks of different shapes and sizes, and paper of different kinds, so that children may first experiment with and then express their ideas through these materials as mediums. It is by objectifying such things as the main parts of the home and its furniture, the store and its food content, and the garden in which the fruits or vegetables grow that children gain a conception of the purpose of human life and activity and of their place in the scheme of things.

If the work of the school is to be thus vitalized, it needs more than the one medium, drawing and crayon work, to accomplish that purpose, and whether it does so will depend in large measure upon the selection of subject matter to be represented and the method of carrying it out.

The work in drawing observed in the Wilmington schools seemed poor, but it was difficult to see enough to make a correct estimate because it occupied so small a place on the program. About 50 or 60 minutes are given to it per week, but this was usually concentrated into two or perhaps three lessons, given on alternate days. The work referred to below was observed in seven different buildings, and covered the first, second, third, and fifth grades. The lessons related to the season but had no relation to the other work being done in the grade. They were not therefore expressions of the children's thought or experience. Colored crayons were used in all cases but one, in which water color was used. The objects drawn were a pumpkin, a fence with jack-o'- lanterns on the posts, a cat-tail with leaves, red and green peppers, a dahlia, and an autumn landscape. Drawings on exhibition indicated that the children had also drawn and cut apples, potatoes, and bananas.

METHODS IN DRAWING.

The preparation for the work on the part of the teachers was systematic and careful, but the methods used were poor on the

whole. The object was not present in all cases, and in but two was any study made of the object to help children to note its characteristics before the drawing was begun. One of these was the drawing of two peppers, one red and the other green, in a 4B class. Some attention was called to the shape of the peppers, and the children then made their own representation of it. This was followed by a discussion as to whose drawing was the best, and why. The other lesson was the painting of a red dahlia in a 5B class. The flower was fastened to the board. Attention was then called to the shape of the flower and the proportion between it and the stem. The children then painted the flower as they thought it looked, and criticized their own and their neighbor's results. The work was somewhat crude in both cases, but the method was good because the children were led to observe for themselves, to express their own thought, and to estimate for themselves the worth of their own and others' work. This would stimulate them to like observation in the next lesson, and an effort to improve upon their previous work.

In the other cases the children were either shown or told just where, when, and how each line was to be drawn, or the teacher herself made a drawing of the object which the children copied. In one case the object to be drawn in a 2B class was a cat-tail with two leaves. The teacher tacked both cat-tail and leaves to the blackboard in a parallelogram that served as a frame. She began in the right way by calling the children's attention to the long stalk of the cat-tail, and the proportionate length and difference in shape of the leaves. Instead of then giving the children the chance to see how well they could make a picture of it, she drew another parallelogram, made a picture of the cat-tail and leaves in it, showed the children exactly where and how to make a picture exactly like the one she had made, and made no further reference to the real object that had been presented to them to draw.

A lesson in a 1B class in which the children made a fence with posts and jack-o-lanterns on the posts was carried out in the same way. In a 3B class a pumpkin was drawn from a form that the teacher had cut out, without any effort to have the children recall how the pumpkin really looked. She pointed to the ribs running from the stem to the blossom end and called them lines of growth.

In a 5A class the children were given a lesson on how to draw a landscape. The teacher drew a horizontal parallelogram on the board and told the children that she was going to draw a scene for them, something that she saw. She said that the first thing she saw was the sky, and the first thing that she was going to draw was the line where the earth and sky meet—the horizon. She added that artists made this line uneven to make it prettier, and she was going to do the same. She continued by saying that she saw some bushes

the moon just rising, corn shocks and pumpkins, a fence in the foreground, etc., showing them just how to make each as she proceeded. When the picture was completed she erased it and told the children they might make one like it, or another such as they themselves might see. The children's pictures made a fairly good showing, but their method of work raised the question as to whether the idea of the sky line as a fundamental factor in a landscape, or that of distance as affecting the size of objects, had been worked out from actual observation. If not, the lesson had no real value, since it did not lead children to see and express ideas for themselves.

AN APPRAISAL OF THE ART WORK.

As far as the work observed was an index of the art work in general it must be rated as barely fair, and that in the first two or three grades distinctly poor, in at least three respects.

The first is that the work done is unchildlike and has no foundation in children's life interest and experiences, and no relation to the other work of the grade. The drawing exercises were set lessons injected into the other work without organic relation to it. In consequence the conditions for real art work were lacking.

The second respect in which it is poor is that it is far too limited in scope. Young children need experience with several different media. They need clay modeling, painting, and cutting as well as drawing, and also paper folding and construction work. The last-named work appears in the course under the heading of "Industrial art," but no trace of it could be found in the daily schedule of the schools, and none was discovered in progress.

The respect in which it is the weakest of all, however, is the method. Real art is the expression of thought by means of a medium—in this case, clay, paint, or pencil. The first effort must therefore be directed toward helping children to see an object clearly; the second to expressing what they see in their own way. If the expression is poor, it is either because the children have not observed the object carefully enough, or because they have not yet learned to use the medium—clay, paint, or pencil—correctly. A more careful examination of the object is therefore the first step toward the improvement of children's work; instruction in the use of the clay, paint and brush, pencil and paper, or scissors is the second. The Wilmington teachers devote almost no attention to having the children observe the objects to be drawn, and would take the children to task if they indulged in any freedom of expression. There were many good drawings pasted in the different rooms, but the basis upon which they were judged was the success with which the children had followed the teacher's directions, or the nearness of their approach to the

teacher's copy. Individuality is evidently an unappreciated and therefore an undeveloped characteristic.

Children's spontaneous drawings already referred to have received much attention at the hands of educators during the last few years, and art courses have been revised in accordance with the suggestions obtained from them. Not one such drawing was observed in the Wilmington schools. Many blackboards had friezes of childlike pictures at the top made by the teachers, but there was nothing truly expressive of child life by the children. The only instance of children's initiative observed was the decoration of a blackboard by ears of corn suspended from the top at intervals and alternating with autumn leaves and jack-o'-lanterns which they had cut out. The art work, like the reading, will need to be recognized as a means to an end instead of an end in itself before it will truly function in the school system or in the children's lives.

Drawing, although coordinated with nature study, is not used effectively as a means of observation, as a means of concentrating the pupil's attention on the salient features to be observed. The observation is too much taken for granted and the drawing taught as if it had for its only function to express what had been observed out of school. This was the assumption of drawing teachers more than a generation ago, but is not now. To draw an object once fixes its appearance in the mind better than mere looking can, provided the drawing is based on actual observation and not on directions as to technique given by the teacher, or a model drawn by the teacher. It is for this reason that copying of pictures is so valueless an exercise in school.

In the upper grades the drawing is not used for illustrative purposes in the other studies to the extent desirable.

The artistic quality throughout the schools is distinctly below that of good schools. The whole subject requires the attention of the supervising staff. Much help could be got from courses of study and samples of children's work from progressive schools in which drawing is well taught, such as the Washington Irving High School and the Ethical Culture School in New York, and the public schools of such places as Brookline, Newton, and Springfield in Massachusetts, and Indianapolis, Ind.

Chapter II.

SECONDARY EDUCATION.

1. THE HIGH-SCHOOL PUPILS.

In every community the high schools and private academies are, and since their earliest beginnings always have been, the most important means of selecting and training the youth who have the best capacity for leadership.

Persistence through high school requires certain minimum amounts of ambition, intellectual capacity, industry, earnestness, physical vigor, and general competence, which, taken all together, constitute a character that is considerably above the average. Also the ability of parents to support their children through 12 years of education, and their willingness to do so, implies an economic status and an amount of foresight that are greater than the average. Thus we usually find in almost every community that the leaders, with few exceptions, are graduates of secondary schools.

Since a democracy can maintain and perpetuate itself only through the development of wise and sane leaders, and correlatively through the development among a majority of the people of the ability and disposition to choose their leaders wisely and to support these chosen leaders in their public acts and policies, it follows that the community is more fundamentally and vitally concerned in the business of education than in any other business in which any or all of the citizens are engaged. If the knowledge and the training for leadership that are being handed on to the rising generation by our schools and colleges should decline or fail, our entire economic system would soon become disorganized and would fall into decay. It should be clear, therefore, to the citizens of Wilmington that a well-balanced and intelligent support and control of both elementary and secondary public schools is absolutely essential to the economic life of the community as well as to its growth in those social and spiritual elements that make a community a fit place in which to live.

In every complex community such as Wilmington, made up of racial and other groups, with various kinds of endowments and diverse personal and group interests, each group finds within itself a few leaders whom the others follow. The things which the groups strive for, their ideals and objectives, are determined largely by the character of their leaders. If the leaders in the various masses of men and women who together constitute the citizenry are moderate,

wise, mutually conciliatory, and actuated by a common desire for the common good, the city itself is bound to be peaceful and prosperous. If, on the other hand, the group leaders are selfish, unscrupulous, or unintelligent, then bitterness, strife, and turmoil, or at least stagnation, will result.

In all our cities the high schools, however imperfect they may be, have proved themselves an effective agency for automatically selecting and bringing together for mutual contact and a common purpose the youth of all classes and of both sexes who have capacity for leadership. So also they have proved themselves not only potent in giving these boys and girls, through literature, history, science, and art, and through the opportunity for democratic contact which the schools afford, a knowledge of the world's best thought and achievement, but they have also proved themselves effective in inculcating the highest ideals and conceptions of democracy. Hence the urgent need for the adequate support of these institutions. In respect to this field of enterprise and endeavor Wilmington must not fall behind.

THE STATUS OF SECONDARY EDUCATION IN WILMINGTON.

For secondary education the city supports the Wilmington High School for white children and the high-school department of the Howard School for colored children. In October, 1920, these schools enrolled, respectively, 1,307 white children and 104 colored children, or a total of 1,411. The total population of Wilmington is reported as 98,000 whites and 12,000 colored, or a total of 110,000. If these reports are substantially correct, there are in the public high schools 12.8 pupils for every 1,000 persons of the total population. In the Wilmington High School there are 13.3 pupils per 1,000 of the total white population and in the Howard high-school department 8.7 pupils per 1,000 of the total colored population.

These ratios afford us a means of comparing this community with others, with reference to the attracting and holding power of its high schools, and the public interest in them. In 1918 for the whole United States, including high schools of all grades, city, village, and rural, there were 15.6 in every 1,000 of the total population enrolled in the high schools, while for the State of California this ratio was 27, and for Kansas 26.5. South Carolina had the lowest ratio, 5.3 per 1,000; while the States of Virginia, Rhode Island, Oklahoma, Nevada, and Texas, ranging from 11.9 to 13.4, were about equal to the city of Wilmington.[1] Wilmington slightly exceeds the State of Delaware, which stands between Virginia and West Virginia, with its ratio of 11.8.

[1] These percentages from U. S. Bu. of Educ. Bul., 1920, No. 19.

Thus Wilmington sends to its public high schools less than half as large a percentage as the States of California and Kansas do, and but a slightly larger percentage than her own State of Delaware, which stands fourteenth from the bottom in the list of 48 States with reference to high-school attendance. These facts, so far as they go, tend to raise the presumption that if a stronger and more united sentiment for public high-school education existed in the community, and if better high-school accommodations and more vitalized high-school work were offered, a larger percentage of the city's youth would be found in these schools.

It is true that a considerable number of Wilmington's children are attending private and parochial high schools. The inclusion of these in the calculation, together with the exclusion from it of the figures for the colored population, would slightly raise the percentage; but this, while it would make a better showing for general interest in secondary education, would not at all affect the question of the support and patronage of public high schools. In fact where unusually large numbers of the people send their children to private schools, on the one hand they may be sending them there because they believe the public schools to be poor or unsatisfactory. On the other hand the public schools may actually fail to become all that they should be because the prosperous and influential people, sending their children to the private schools, center their interest and support on these, and are indifferent, or even opposed, to adequate financial support of the public high schools. The survey commission is not lacking in appreciation of the good work that is done by many private schools. These can do much for certain individuals which the public schools under present conditions can not do. More of them might well take the lead in educational experimentation, and thus point the way to better methods and better forms of school organization; but the public should be on the alert to guard jealously the principle of adequately financing the public schools, which are and must always be the foundation and the safeguard of democracy.

PERCENTAGE OF SCHOOL POPULATION IN HIGH SCHOOL.

Another index of the interest taken by a city in its public high schools is the fraction which the high-school enrollment is of the enrollment in all its public schools. The total enrollment of the public schools of Wilmington in October, 1920, was 12,797, and the high-school enrollment was 1,411. Hence, 11 per cent of all pupils enrolled in the public schools are in the high-school grades. The corresponding ratios for several cities[2] are: Cleveland, Ohio, 9.7:

[2] Adapted from a table on p. 41 of "Methods and Standards for Local School Surveys," by Dan C. Bliss. D. C. Heath & Co., Boston, New York [etc.]. 1918.

Springfield, Ill., 11.7; Solway, N. Y., 12; Montclair, N. J., 18.4; La Crosse, Wis., 22.9; Brookline, Mass., 23.5; and Newton, Mass., 25.1. On comparing the Wilmington figures with these it appears that Wilmington stands between Cleveland and Springfield with respect to the percentage of its enrolled public-school pupils who are attending high schools. She stands far behind all but one of the other cities in this list. This ratio is not an absolute measure of the attractive power of the high schools, but it does furnish an approximate index for comparison. As the compulsory attendance machinery is less efficient here than in many other cities, it is fair to suppose that the calculated index for Wilmington would be somewhat reduced if attendance were better enforced. The reason for this inference is that efficient census and attendance service would bring into the enrollment of the lower school grades many more children than are now there, but it would not increase the high-school enrollment in anything like the same proportion.

Table 1 (in the Appendix) shows the full enrollment of each of the two high schools from 1916 to 1920, distributed by grades and sexes. A glance at the grand totals for the years shows that the white high-school enrollment has increased from 932 in 1916 to 1,301 in 1920, but that the numbers of girls and boys decreased 9.1 per cent and 3.1 per cent during 1917, probably because of war activities. This loss was nearly regained in 1918, and the total in 1919 had reached 1,140. The total increase in the four years is 369, or an average of 133 per year. This rate may be expected to increase slightly from year to year, and would probably increase considerably faster if the efficiency of the high school along practical lines were materially improved. In the colored high school similar changes occurred, but lagged a year or more behind. In the white high school the number of girls slightly exceeds that of boys, as it does in other communities; but in the colored school the excess of girls over boys is much greater. The number of girls in the latter is now about two and a half times as great as that of the boys. This indicates that the kinds of instruction given appeal more to the girls than to the boys; and in both schools it calls for the development of more practical and concrete types of work. Suggestions for such improvements will be found in the section treating of the curriculums.

BETTER HIGH-SCHOOL ACCOMMODATIONS NEEDED.

Maintenance of the present 10 per cent average rate of increase in the Wilmington High School will in two years overcrowd that school to the breaking point, and will also carry the enrollment beyond 1,600. This is in excess of the number favorable to the greatest

efficiency, even if the present building would properly accommodate them all, which is certainly not possible.

The Howard School, moreover, is already overcrowded and is an unfit building for a school of any sort, not to mention a modern high school.

These facts contribute a danger signal which the city of Wilmington should heed. Immediate action is necessary. In another chapter, dealing with the building program, the survey commission has outlined clearly what must be done to meet the crisis which exists, not only in the high schools but in the elementary schools as well.

DO THE HIGH SCHOOLS HOLD THE PUPILS THAT THEY RECEIVE?

The success of a high school in holding its pupils through the four years' course is another measure of its efficiency; for the pupils will not stay unless they and their parents feel that they are getting value received for the time, effort, and sacrifice involved. Also, they will not stay unless they are reasonably successful in the work that they are required to do. Success implies reasonably good ability and preparation in the lower grades; so some must be expected to drop out because they lack the requisite ability and ambition or because of economic necessity, or because of inadequate training in the grades below; but the great majority, who are not thus handicapped, should be expected to persist until they graduate, if the school is offering them what they need and giving it to them under methods of instruction and administration that enable them to carry on their work successfully.

In Table 1, in the Appendix, it is shown what per cent the enrollment of each grade is of the total high-school enrollment in 1920, for each school; and these are placed alongside with percentages similarly obtained for the total high-school enrollment in the United States.[3] We are thus enabled to compare the decrease in enrollment from the lower grades to the higher in the two Wilmington schools with that in the high schools of the country collectively. It is seen that by this measure of the relative number dropping out of school the Wilmington High School makes a much poorer showing than the country as a whole, while the rate of the Howard High School is about the same as that of the country as a whole, excepting in the senior class, whose percentage is raised probably by the accession of repeaters. Such percentages are unreliable anyway when applied to such small numbers of students as are enrolled in Howard High School.

In Table 2, in the Appendix, the enrollments are given for the B and A sections in the four grades from October, 1916, to September, 1920, by half years for Wilmington and by full years for Howard.

[3] Adapted from U. S. Bu. of Educ. Bul., 1919, No. 19.

In the Wilmington High School the enrollments for the ninth grade show an increase for the four years of 50.3 per cent, while those of the twelfth grade, or senior class, show an increase of only 15.6 per cent. Even this gain was due wholly to the girls, for the number of senior boys in 1920 is actually 6 per cent less than it was in 1916. This is indicative of a large amount of dropping out, even though allowance be made for the fact that gains in the upper class enrollments usually lag behind the gains in the lower classes.

The rapid rate at which pupils drop out of school as classes progress through the grades is indicated by the rapidly dwindling enrollments of the three upper classes as we glance down the columns for the successive half years. Looked at in this way, however, the figures appear slightly more unfavorable than they are in fact, because the successive increases in the size of the entering classes make the losses in upper classes appear relatively somewhat larger than they really are.

HIGH-SCHOOL CASUALTIES.

To get a more accurate measure of the casualties from year to year and grade to grade we must follow a given entering class through four years and see what happens to it. This can be done with the class, for example, that entered in September, 1916, by inspecting the figures which lie just above the black step-shaped line which runs diagonally down through Table 2. It will thus be seen that this class which started in grade 9B with 251 pupils had dwindled to 44, or 17.6 per cent of its original number, when it had reached the 12A grade in June, 1920. Other classes may be traced in a similar manner.

In Table 3 the same figures are rearranged so that the enrollments of each class in the successive half years of its progress through the grades are placed in the same horizontal line across the page, and under each enrollment is placed the per cent that it is of the number who were in the 9B grade when the class entered the school.

This table does not take separate account of the pupils who fail and drop back into each class from the class that is just a half year ahead of it. There are many of these "repeaters" in each term, from start to finish, and they tend at times to fill up the ranks in place of those who drop out, and thus temporarily to check the descent of the curve of enrollment; but as many of the early repeaters themselves drop out before they reach the upper classes, and as the 9B grade itself always contains many repeaters, the inclusion of the repeaters does not seriously affect the inferences to be drawn from the per cents of persistence as read across the page. In spite of the irregularities probably due to the influx of pupils who dropped out during the war and returned in 1919 and 1920, the decrease in enrollment as the classes progress through the grades is startling. The percent-

ages remaining have been averaged for each grade and placed at the bottom of the table with corresponding percentages for all the high schools of the United States[4] just below them.

Comparing these figures we find that, on the average, out of 100 pupils who enter Wilmington High School in the ninth B grade only 63 reach tenth B, 38 reach eleventh B, 31 reach twelfth B, and 20 graduate. More than half are gone before they reach the second half of the second year, and four-fifths drop out before their class graduates. The per cent persisting to tenth B is one-eighth less than for all high schools in the United States, to eleventh B one-fifth less, to twelfth B one-fourth less, and to graduation one-half less.

The losses for the classes entering in February do not appear quite as bad as they really are, because for these the per cents persisting are based on the enrollment taken in June, instead of February when these classes entered school; and there are always some who drop out between February and June. Hence each of the per cents persisting is larger than it would be if calculated on the February enrollment of the 9B grade as a base, instead of on its June enrollment. The figures for the Howard School are nearer those for the country at large, but are not reliable on account of the small numbers of pupils involved.

It is thus shown that compared with the average of the high-school pupils, city and rural, the country over, Wilmington boys and girls are far behind as to persistence in high school. They do not do nearly as well as the "average American high-school pupil" in sticking to their courses and graduating with their class.

A careful study should be made by the teachers and administrators of the conditions out of which these abnormally large percentages of school mortality come. Such a study should include tables like Tables 2 and 3, made for each of the curriculum groups separately, and for boys and girls separately, in order to determine the particular groups that furnish the greatest number of casualties and on the other hand which courses hold their pupils best. In a similar manner the investigation should get down to particular studies and to individual teachers. Careful records should be kept of all pupils who drop out of school, and the reasons why they drop out should be definitely ascertained and recorded. On the basis of such records, causes for the large casualty lists may be ascertained and remedial measures applied.

A STUDY OF HIGH-SCHOOL FAILURES.

In seeking to discover the causes for the phenomenally high elimination rate in the Wilmington High School the survey commission naturally turned its attention to failures, because it is well known by

[4] From U. S. Bu. of Educ. Bul., 1920, No. 19.

educators that lack of success in school work is the most potent cause for leaving school. Failure causes retardation, and it is the retarded pupils who drop out in largest numbers.

In making our study we were fortunate in finding among the records of the school a complete summary of failures for 1919–20 in each subject, distributed by grades and sexes. From this record, compiled by the head of the science department, we have calculated the percentages of failures in each subject by the girls and the boys in every grade and also the percentages of the total failures in each subject, and have arranged them for convenient inspection in Table 4 of the appendix. By thus reducing all to the common denominator 100, it has been made easy to compare each group with every other group. For the sake of brevity, details are omitted in some subjects where they lack significance because of the small numbers of pupils in some of the groups involved. In these cases only totals are given. By reading across the first line of the table it may be learned, for example, that in English 26 out of 124, or 21 per cent of the girls, and 68 out of 262, or 26 per cent of the boys, in the ninth grade B (or first half year) failed in the work. In the ninth grade A (or second half year's work in the same subject) the failures, though too many, were not so numerous; 25 out of 125, or 20 per cent of the girls, and 35 out of 148, or 14.1 per cent of the boys, failed. In the second year the proportion of failures is still too large in the 10B group; but from that point on to the second half of the twelfth grade or senior year they do not in any case exceed 7 in 100, or 7 per cent. In other words, a satisfactory proportion of those who survive to the beginning of the fourth half year are successful thereafter in meeting the demands of the teachers of English.

For the English department, then, we may summarize thus: There are too many failures in the first three half years of the work, since from 14 to 26 out of every 100 pupils fail; whereas, if things were going entirely as they should go, the failures would rarely exceed 10 or 12 in 100. During the remainder of the course not more than 7 pupils in 100 fail, and the percentage for the junior and senior years is only 3.5, a very moderate proportion.

In this connection, however, it should be noted here and throughout the discussion of failures that, since pupils have dropped out of school all along the line until in the second half of the senior year, more than two-thirds of the class that entered four years ago are gone and that presumably the third or less who remain are the ablest and most persistent, nothing less should be expected than that those who survive the first four of the eight drastic elimination contests should with very few exceptions be able to survive the remaining four. On glancing down the table from English to mathematics we find, in general, that the percentages of failures in the first year

in algebra and in the second year in commercial arithmetic are approximately equal to those in English. These, however, increase through intermediate algebra, plane geometry, solid geometry, and trigonometry, from 29 per cent of all pupils enrolled in the first of these subjects to over 38 per cent of all those enrolled in the last.

When we reach Latin, the next subject in the table, we find that in three of the four years' work the condition with respect to failures is astounding. In the work of the first half year in elementary Latin, the ninth B grade, almost 1 girl out of every 3 and more than 3 boys out of every 5 failed; while for the entire class the percentage that failed is 49.6. Practically 1 out of every 2 of the beginners in Latin failed at the end of the first half year.

The class that was doing the second half year's work, the ninth A grade, did a little better, as they certainly should after somewhere from a quarter to a half of them had been dropped out at the end of the first half year. Of this grade, 27.9 per cent of the girls and 38 per cent of the boys failed, a total of 52 out of 153, or 34 per cent of all. In other words, out of the 50 per cent who succeeded in jumping the first hurdle after a half year's run, 1 in every 3 fell at the second hurdle. Evidently the hurdles are too high, the training too poor, or the runners abnormally weak. Of the tenth B grade in elementary Latin, who presumably were repeating mainly the second half year's work, 50 per cent of the girls and 27.8 per cent of the boys, or 35 per cent of the total, failed. The two repeaters in the tenth A grade and the two in the eleventh B passed. This indicates that after going through the whole of the first year's Latin work once, then through the whole of it the second time, and in some cases through half of it for the third time, all the repeaters pass. Out of all groups who did less than this a third or more failed in the accounting of June, 1920.

In the tabulation for Caesar, or second-year Latin, the percentages of failures are 47.3 per cent and 46.5 per cent, respectively, for the 10B and 10A grades, and the status of the retarded or repeating group 10A, 11B, and 11A is a little better than that of the corresponding groups in elementary Latin. Of all the 191 pupils who studied second-year Latin, 45 per cent failed. Verily Caesar is a conqueror!

When we reach Cicero, the third year of Latin, we find enrolled only 34 pupils in all, 7 of whom are retarded or repeaters, and 10 of whom, or 29.5 per cent, failed. In the fourth-year Latin, or Virgil, class there were enrolled only 24, and only one of these failed, or 4.5 per cent; but before this very moderate rate of failure was attained, approximately nine-tenths of those who had started in with first-year Latin three and a half years and four years before had either dropped the subject or had left school.

In the science subjects there is great variability in the percentages of failures. In "general science" 9B they are 20.4 per cent; in physical geography 9A and 10B, 21.3 per cent and 14.3 per cent; in physics, tenth to twelfth grades, inclusive, 19.7 per cent; and in chemistry, eleventh and twelfth grades, 35.7 per cent—all larger than they should be but in general not so bad as in Latin. In general science 9A they are 10.6 per cent; in physiology, 9B and 9A, 8.2 per cent; and in biology, tenth to twelfth grades, they are only 2.9 per cent.

In the history department the failures have about the same range and characteristics as in the English department. In ninth grade community civics they were 20 per cent for all; in tenth and eleventh grade early European history 25.4 per cent for all. In ancient, in modern, and in American history and civics the percentages ranged from 15.8 for the first down to 7.8 for the last. In the first two and the fourth of these social studies, contrary to their experience in most of the other subjects, the girls make larger percentages of failures than the boys.

The total failures in French, all grades, are 19.8 per cent; in Spanish, 5.8 per cent. In manual training (boys) they were 14.3 per cent in 9A, 13.8 in 10B, 5.3 in 10A. In shop mathematics (boys) they were 9.1 per cent in 9B, none in 9A, none in 10B. In freehand drawing for girls the failures were 14.7 per cent for the ninth grade and 8.9 for the tenth. In mechanical drawing, for boys, the corresponding percentages were 26.2 and 13.8. In domestic science 3.1 per cent of the 9B girls and 6 per cent of the 9A girls failed. There were in this subject no failures in the tenth grades. In dressmaking one out of the six 9A girls failed; while none failed in the 9B and 10B grades or in 10B textiles. Finally, the commercial department registered very few failures. There were none in commercial law, only 2.5 per cent in typewriting, 2.7 per cent in shorthand, and 3.7 per cent in commercial geography, while in office practice the total for all grades was 10 per cent.

THE FAILURES ARE ABNORMALLY LARGE.

This analysis of the failures in the school is very illuminating. It shows that with the exception of Spanish, commercial subjects, and household arts, all the subjects as administered by the respective departments are causing abnormally large percentages of failures in the first two years of the curriculums; and that in Latin and mathematics the proportions of failures were so large as to be sensational. In all classes excepting English 10B, 11B, and 11A, algebra 9A, geometry 10B, Latin 10B repeaters, community civics, early European history, modern history, commercial arithmetic, and biology, the percentages of failures for the boys were considerably heavier than those for the girls; but in these classes more girls than

boys failed. In the last two subjects no boys failed; all the failures were made by girls.

It is clearly incumbent upon the administration of the schools to seek out the causes of these large percentages of failures and to adopt measures that will reduce them in the future. Normally the percentage of failure in any high-school class should be expected to fall between 5 and 12 per cent, and if the percentages are above or below these limits a careful study of conditions should be made. A high rate of failures usually means poor teaching, overexacting requirements, too drastic examinations, or a specially unintelligent or ill-prepared class. It may be due to a combination of any or all of these causes. Conversely, a very low percentage of failures may mean exceptionally fine teaching, an unusually able or well-prepared class, a drastically sifted class, or a subject appealing strongly to the interests and needs of the pupils. On the other hand, it may mean that the teacher is too lax in his requirements and too easy in his marking. The supervisors should find out the causes in either case, and should bring the influence of the really successful teachers to bear on the unsuccessful ones.

In the opinion of the survey commission the high percentages of failures are not to be charged to unusual lack of ability or disinclination to work on the part of the pupils. On the contrary, we are convinced by extensive class visitation that they showed themselves to be equal in intelligence to high-school pupils anywhere and more than usually willing to work industriously to meet the demands of their teachers. We believe that the trouble is caused by faults in the methods of teaching, by overrigorous requirements with respect to certain details, and by faulty methods of administering promotions.

We find that (1) all pupils who received a mark of 80 or more for the term's work were promoted without examination, (2) all below 80 were required to take a final examination and were marked "failed" if they did not make 75 per cent or more on this examination. For such pupils the single grade attained in this examination was the only deciding element. (3) Those receiving a term grade of less than 65 per cent were marked "failed" without being accorded the privilege of taking the examination. In our opinion the two latter provisions are manifestly unwise and unfair.

A PROMOTION METHOD SUGGESTED.

We recommend the following method of promotion:

1. The teacher's term mark to be based on (*a*) daily recitations, (*b*) written tests, at least four per semester, (*c*) notebooks, library assignments, and project reports. The final semester mark should be one-third of the sum of the averages or estimates for the three types of work.

2. All pupils standing lower than 80 per cent should be required to take the examination, the final average of such pupils to be determined by adding together the examination mark and twice the teacher's semester mark and dividing the sum by three. The survey staff incline strongly toward the opinion that all who are physically fit should be required to take the final examinations.

3. The teachers should be instructed to the effect that, in general, human ability is so distributed that if 100 pupils receive school marks A B C D E, representing five approximately equal steps from the highest ability to the lowest or complete failure, then the marks A and E should each be assigned to from 3 to 10 pupils, the marks B and D each to from 20 to 25 pupils, and the mark C to from 40 to 50 pupils. The teachers should not be required to force their marks into these ranges against their judgment, but they should understand that if their marks do not fall within these limits they should be able to give good and sufficient reasons for the variations.

The suggested changes in the marking system, together with a thorough discussion of conditions and causes, getting down to the cases of individual teachers and making comparisons of methods and requirements, will, it is thought, bring about a more just administration of promotions. Certainly a school that, according to its own records, can show no better percentages of success by its pupils in meeting the curriculum requirements than has here been shown needs to subject itself to a very thorough self-examination with a prompt reform in view.

As a further contribution toward the solution of the failure problem, the survey commission collected from the teachers individually the records of the enrollments and failures in their classes for June, 1920, and also of the number of repeaters in their classes in September, 1920. From these reports Table 5 in the Appendix has been compiled. This table enables us to compare the failure percentages of different teachers in each of the subjects in which there are several different teachers, namely, French, English, algebra, Latin, and history. We may thus find out whether in a given department including several teachers there is general uniformity with reference to failures, or whether some teachers have a high percentage of fatalities and others a low percentage. In other words, by means of such a table a given department can find out who is mainly responsible for its proportion of failures and to what degree.

NO NORM OF PROMOTION RECOGNIZED.

As to French, the table shows that two teachers who were rated as unsuccessful last year, and who were not reemployed, had failures of 26.6 per cent and 26 per cent of their pupils, respectively, while the other two had failures of 12.7 per cent and 10.5 per cent, respec-

tively. Evidently the excess of failures over the normal in that subject is chargeable almost entirely to these two teachers. In English the percentages of fatalities range from 27.5 per cent down to 2.7 per cent. In this group two teachers who are not now in the school had failure percentages of 18.5 and 17.5, the former above and the latter below the median (17.9 per cent); but both very near it. The variation in these percentages, which is wider than that in French, indicates a lack of coordination in the department as a whole with reference to policies. There seems to be complete lack of agreement as to what should reasonably be expected of high-school pupils and how it should be obtained.

In Latin there is a rather remarkable similarity among three out of five of the teachers with respect to their percentages of failures, all three ranging between 41 and 46. The one having the senior Virgil class, in which there was only one failure, had the lowest percentage (29.6). The next lowest (36.4) is that of a teacher who was considered a failure and was not reemployed. It was explained to the commission that the large percentage of failures in Latin was largely due to this teacher, part of whose pupils were taken over by the others in the middle of the term, but too late to save them. It seems quite clear, however, that this explanation, even if valid for the first-year pupils, does not account for the abnormal proportion of failures made by the second and third year pupils. The absence of failures among the seniors is quite easy to understand in view of the excessive eliminations from the subject that had taken place during the three previous years.

In social studies the percentages of failures range from 21 per cent in community civics by a teacher who was not reemployed down to 15.3 in ancient history. The other three teachers in this department show less variation than those of English and mathematics; but, as in the case of the teachers of Latin, mathematics, and several other subjects, even the lowest percentage of failures among them is larger than it should be. These two tables, 4 and 5, show where investigation should be made. Such tables should be made, studied, and kept on file from year to year, and should be carried to still further detail, so that not only sexes and grades and teachers can be compared, but also pupils who come from different elementary schools and pupils who are in different curriculums. For example, it is obviously of advantage to know whether pupils promoted from the eighth grade in school B do as well as those promoted from the eighth grade of school C, and why; also whether pupils pursuing the classical, or the commercial, or the "general" curriculum, etc., register the greater proportion of failures and eliminations.

Table 5 of the Appendix is very illuminating regarding another point. It shows that in the classes of 11 out of the 29 teachers tabu-

lated, from 10 to 15½ per cent of the pupils dropped out of the subject or left school during the year. Probably most of these if they had remained would have failed and so have made the percentages of fatalities still larger than they are as shown.

Another interesting feature is found in the last column of figures in Table 5, which shows the number of repeaters in the classes of each teacher. With a very few exceptions the number of repeaters amounts to more than 10 per cent of the whole number enrolled. As a rule these repeaters increase the teacher's difficulties in handling the class, for they are likely to be bored and uninterested. In so far as it is possible to arrange for it in the schedule, all repeaters should be segregated and taught in classes conducted with special reference to their needs.

By way of comparing Wilmington with other cities, attention is drawn to the following percentages of failures, the medians for 14 city high schools in New Jersey.[5] In all, 24,895 marks were tabulated. Total failures, 15 per cent; ninth grade, 18.5; tenth, 16.5; eleventh, 7; twelfth, 4.5; all Latin, 18; all mathematics, 20; all history, 11; all English, 11; all commercial subjects, 11. For Wilmington High School the percentages are: Total failures, 23.7 per cent; Latin, 40; mathematics, 22.4; history, 18.3; modern language, 15.2; science, 15.2; English, 15.1.

In the case of Wilmington perhaps the disorganization due to the war conditions, the influenza epidemic, and the more immediate teacher shortage may in part account for the excess of failures; but our study of the data of Tables 4 and 5 does not lend any strong support to this hypothesis. In the Howard High School (colored) no one was either dropped or failed in the classes in science, in elementary drawing and sewing, and in mechanical drawing and shopwork. It was explained that the latter subjects did not count in making promotions last year. In domestic science and domestic art 16.4 per cent and 18.3 per cent were dropped; but none failed of those remaining. In other subjects the percentages of "dropped" ranged from 14.8 down to 12.2, and the percentages "failed" from 21.2 down to 7.2. The teachers in this school have proportionally more dropping out of classes and proportionally fewer failing than those of the other school, and there is a wide variation in different subjects with the same pupils. As in the case of the Wilmington High School, it is recommended that systematic effort be made to arrive at something nearer to a general agreement as to the meaning of school marks, and a better common estimate of the abilities of the same pupils who are studying different subjects.

[5] Bliss, Don C., op. cit., p. 54.

THE CHARACTERISTICS OF THE PUPILS.

The pupils in the Wilmington High School strike the observer as an exceptionally fine body of boys and girls. They are dignified, well poised, and courteous in manner, and very generally earnest and attentive in the classrooms, as well as orderly in the halls and on the stairways. The boys look well groomed, and the girls are neatly and sensibly dressed. There seems to be none of the tendency toward overdressing and the prodigal use of paint and powder that is so lamentably prevalent among many of the girls in some city high schools. This is creditable to the parents of the girls as well as to the girls themselves.

During two weeks of continuous class visitation not a single incident occurred that should occasion any general adverse criticism of the conduct of the pupils. On the contrary, there was very much in their spirit of loyalty, willingness, and cooperation with their teachers that calls for emphatic commendation. In general, school loyalty and self-discipline are here so well upheld by the traditions and customs of the school that with regard to its general tone and esprit de corps the Wilmington High School may confidently be ranked among the best schools to be found anywhere.

A few discipline cases came to the office during the progress of the survey, as will inevitably happen occasionally in the best regulated schools. These were well handled by the acting principal, and call for no special comment.

There was positive evidence of the regular practice of cigarette smoking in the toilet rooms. A sincere but unsuccessful effort has been made to suppress this practice by close watching on the part of the men of the teaching staff. The commission would suggest that this practice is probably confined to a very few of the boys and can in all probability be broken up entirely by bringing to bear against it the public sentiment of the boys as a body. For this purpose we suggest that a mass meeting be held in which the boys shall be invited to take the matter in hand for the sake of the welfare and good name of the school. Committees appointed by the boys themselves in which each of the seat rooms shall be represented should be requested to meet with a committee of the men teachers and work out a plan for keeping a watch on the toilets, and also for conducting a general and continuous campaign among the boys for discouraging the use of tobacco among themselves and of absolutely prohibiting its use on the school property. Such a plan should include the help of parents to the fullest extent that it can be enlisted.

Like most other things, this is a matter in which the boys can be much more successfully led than driven. They should be assured that, however widely opinions may differ as to the effect of the use

of tobacco by mature men, all authorities agree that its use by growing boys is a handicap to efficiency in every activity that boys prize, and that it works directly against the building of a strong and permanently healthy body. Boys addicted to tobacco should receive the sympathy and moral support of all the other boys and of all who are interested in them, in a determined attempt to break up the habit.

Another objective might well be included in the same campaign—the entire elimination of profanity and vulgar talk. An overwhelming student public sentiment, effectively brought to bear against the use of tobacco and against profane and indecent language, would be somewhat of a rarity among high schools, but certainly something worth a great deal of effort to attain. Why should not the Wilmington High School capitalize its already splendid school spirit for the attainment of such an end?

As with the Wilmington High School, so with the Howard. We were impressed with the general earnestness, dignified bearing, and fine cooperation of the pupils. The new principal is a real leader and is perfecting the organization of the school with ability and understanding. Both pupils and teachers are cooperating satisfactorily with him.

2. THE NATURE OF THE HIGH-SCHOOL CURRICULUMS.

Table 6, Part I, describes the amounts of work in each of the several studies of the four older curriculums. These amounts are expressed in terms of a "unit" which is defined as the equivalent of 120 clock-hours of recitation work, two hours of laboratory, shop, or other unprepared work being counted as equivalent to one hour of prepared recitation work. The minimum value of a unit may be provided by five 40-minute recitation periods per week for 36 weeks, or a total of 7,200 minutes. Table 6, Part II, shows for each grade and sex the actual number of periods of work per week that are necessary to fulfill the graduation requirements in each of the curriculums.

The most noteworthy fact revealed by these tables is the rather large quantity of work required of the pupils pursuing each curriculum. This ranges from 19.2 units, or nearly 5 per year, for the classical boys, with an average weekly schedule of 26.4 periods of class or laboratory and shop attendance per week, to 17.45 units for the commercial girls with an average class attendance requirement of 24.9 periods per week. These requirements may be compared with those of the North Central Association of Colleges and Secondary Schools, which sets a minimum of 15 units for admission to college and a maximum of 20 periods per week of class work. A load of more than 20 periods per week is officially discouraged excepting in the case of the most able students physically and mentally.

The survey commission is convinced that for more than half the pupils in the high schools of Wilmington the weekly time-tables are too heavy. We do not believe it possible for the student of average or below average ability to carry successfully such an amount of work. If he has to spread himself over an average of nearly five subjects every day in the week, he is going to spread himself too thinly. We believe that this unusually large requirement is one of the main causes for the excessive percentages of failures and eliminations already noted.

We recommend, therefore, that the graduation requirements in all curriculums be reduced to a maximum of 16 units, exclusive of physical training and inclusive of all other required work. Four periods of prepared work and one of unprepared work (laboratory or shop) should constitute the maximum daily schedule for every pupil excepting those who are exceptionally strong and active both physically and mentally. The latter may be permitted, or in some cases required, to increase their schedules at the direction of the principal and on the recommendation of the heads of departments. To carry out this recommendation it will be necessary to overhaul the curriculums and place in the elective columns some of the subjects that are now in the required columns. A smaller requirement, to be honestly met by thorough intensive work, will, we believe, produce better results than the present requirements have yielded.

As to the contents of the curriculums, we note that (*a*) each one requires major sequences of courses consisting of not less than three consecutive years of work in at least two lines of subject matter (e. g., English, mathematics), and (*b*) minor sequences consisting of not less than two consecutive years' work in at least two other lines (e. g., science, social studies).

These two requirements should be preserved in any revision of the curriculums, as they are necessary to conserve the principles of continuity of effort with ample opportunity for breadth of knowledge and training. (*c*) Each of the curriculums includes at least two units of English, two of social studies, one of which is American history and civics taken in the senior year, one of science, and one of mathematics. This is another principle which should be conserved, since every American citizen ought to have at least this minimum of training in these fundamental fields of knowledge.

SUGGESTED REVISIONS OF THE CURRICULUMS.

The commission is opposed to the use of the term "classical" for the Latin preparatory curriculum, as tending to give it an air of aristocratic distinction which does not intrinsically belong to it. Latin-scientific is hardly a characteristic term for a curriculum which offers only three years of science when the so-called general

curriculum offers four; and the term "general" is rather derogatory any way. A curriculum offering four years of history and four years of science is deserving of a more dignified name.

The requirement of three years of French in addition to four years of Latin for all students in the classical curriculum does not seem wise. It seems certain that for many pupils it would be more profitable to substitute historical and scientific studies for three out of the seven units of foreign language. Again, although it is undoubtedly very desirable that all boys should get some training in manual arts and mechanical drawing, and that all girls should have some training in home economics and art, we can not think it wise to make these absolute requirements because of the inevitable overloading of the schedules of many pupils who are not able to carry so much work successfully. We therefore favor making these courses elective, and spreading them over a four-year period instead of a two-year period.

Throughout all the curriculums there should be a change in the organization and selection of the subject matter, and also in the methods of teaching, with the aim of making the studies more practical; more closely related to daily life problems. In other words the curriculums need to be vitalized along modern lines, by the use of the inductive approach, the project and problem method, and the socialized recitation, by constant comparisons and contrasts with present-day conditions, events, and relations, and by organizing the materials with special reference to the interests and needs of the various groups of pupils. With a view to stimulating a complete overhauling of the curriculum offerings in order that the school may provide adequately for the interests and needs of all its distinctive groups of pupils, we earnestly suggest the following as an ultimate aim:

Suggested curriculum.[1]

Subjects.	College preparatory.	Commercial.	Industrial.	Household arts.	Music.	Art.
English	3 or 4	2 or 3 or 4	2 or 3	2,3, or 4	2+1 or 2E	2+1 or 2E
Mathematics	2,3+1E	[2] 3	2 or 3+1E	[3] 1E	1, 2, or 3E	1, 2, or 3E
Social studies	2, 3, or 4	2, 3, or 4	2, 3, or 4	4, 3, or 2	2, 3, or 4	2, 3, or 4
Science	4, 3, or 2	1, 2, 3, or 4	4, 3, or 2	2, 3, or 4	4, 3, or 2	4, 3, or 2
Foreign language	4	0 or 2	0 or 2	.....	2 or 4E	2 or 4E
Physical training	4	4	4	4	4	4
Commercial studies	1E	4	0	.....	Sociology III E or Economics IV E	Sociology III E or Economics IV E
Shop and mechanical drawing	[4] 2E	1 or 2E	4	.....	1, 2, 3, or 4E	1, 2, 3, or 4 E
Household arts	2E	1 or 2E	.....	4	1, 2, 3, or 4E	1, 2, 3, or, 4E
Art	2E	1 or 2E	2E	2 or 4	1, 2, 3, or 4E	4
Music	2E	1 or 2E	2E	2 or 4	4	1, 2, 3, or 4E

[1] The Arabic figures in the columns represent the number of units that may be taken in each line of subject matter by option or election. E means that the subject is to be elective in the curriculum where this symbol is used, and in general taken extra only by students who are able to carry extra work.
[2] Commercial mathematics.
[3] First year mathematics.

Curriculums similar to those that for the sake of brevity are here presented in skeleton form are outlined in full, and are described at length and justified, in Chapter II, part 2, of the report by the survey commission on the *Public School System of Memphis, Tennessee*, U. S. Bureau of Education Bulletin, 1919, No. 50. Space limitations forbid the introduction of this extended discussion into this report. It must suffice to make a few brief comments only. Those desiring to have the arguments are referred to the Memphis report.

The college preparatory curriculum can be arranged through options between various lines of study in the various years (as indicated by the alternative numbers of units in the outline) so as to provide for admission either to any arts college or any technical or engineering college.

The proposed commercial curriculum is not made up of college preparatory studies mainly, with the addition of shorthand and typewriting, bookkeeping, and a little penmanship and spelling, as is the case with that now in use at Wilmington and widely prevalent elsewhere. It is made up of important commercial studies together with sequences of cultural studies that are most important to a business man or woman. Like the remaining four curriculums recommended, it calls for as much effort and is educationally just as respectable as the college preparatory curriculum. There should be no invidious discrimination in favor of the latter as against any of these. Such discrimination is productive of great harm, since it tends to draw from the others into the college preparatory curriculum many pupils who will never go to college. Many of these not only fail in it because it does not appeal to their interest, but also they lose the opportunity of pursuing studies which would be of very great benefit to them in direct preparation for the vocations which they will follow after leaving high school.

The proposed commercial curriculum in the first two years presents the studies which are most useful and most necessary to a considerable number of pupils who will drop out of school at the end of the second year. It is believed also that a certificate should be given such pupils who complete these two years creditably. We believe that this practice would not only not diminish the losses, but would result in gains in this curriculum in the two upper years. Many who would be attracted at first with the idea of a two years' course would become interested in what was beyond and would make a greater effort to stay and finish.

The proposed industrial curriculum should appeal strongly to many boys who intend to go directly into the productive occupations of industry, just as the commercial should to those who intend to follow mercantile or office occupations.

The suggested household arts curriculum is intended to appeal to those girls who can not hope to go to college or who do not care to do so. It provides a good practical and cultural education for the woman citizen.

In every large city there are considerable numbers of both boys and girls who manifest strong interest in music or art, and wish to make one or the other of these either their vocation or their main avocation. The music and art curriculums here suggested are intended to meet this need, and at the same time to provide as good an all-round education for useful citizenship as can be obtained in the four years of high-school attendance.

In the sequence of mathematical studies we recommend not more than a year of algebra for all excepting the boys who are preparing for technical and engineering colleges. For the latter a year and a half should be sufficient. The third half unit, when taken, should come in the second semester of the third year, after solid geometry. Trigonometry should follow these, and should be elective.[6]

The sequence of social studies should run as follows: Ninth grade, advanced community civics; tenth, modern history; eleventh, American history; twelfth, problems of democracy. In the case of pupils preparing for college where ancient history is an absolute requirement the latter might be made optional with problems of democracy in the twelfth grade.[7]

The science sequence recommended is as follows: Ninth grade, civic biology; tenth, general geography; eleventh, physics; twelfth, chemistry. "General science" should be pushed down to the seventh and eighth grades, where it is more appropriate to the pupils' needs and will reach a greater number.

In the third year there should be a special course in household physics and chemistry, which girls might choose instead of the college preparatory physics; and there should be special courses in applied physics and applied chemistry for the boys in the commercial, industrial, art, and music curriculums. These courses should be based on the simpler physical and chemical problems that arise in the local industries of Wilmington. For the household arts curriculum there should be provided in the twelfth grade a course in dietetics, care and feeding of children, first aid, and nursing.

The sequence of commercial mathematical studies recommended is ninth grade, commercial arithmetic and elementary bookkeeping; tenth, bookkeeping and office practice; eleventh, costs and contracts, salesmanship and advertising; twelfth, auditing, banking and finance, and insurance and investments.

[6] See Memphis Survey Rep., pt. 2, Ch. II, pp. 132–135.
[7] Ibid, pt. 3, "Civic Education."

The sequence of special commercial studies recommended includes ninth grade, stenography and typewriting; tenth, stenography, type writing, and use of office appliances; eleventh, office and factory management, personnel work, and elementary business law; twelfth, economics. The commercial department should train future sales people, office managers, secretaries, advertising managers and credit men, as well as stenographers, typists, and bookkeepers. These courses will give the necessary foundation for jobs that lead up to such activities.

The shop and drawing sequence recommended is ninth grade, mechanical drawing and woodwork; tenth, drawing, and cabinet making or wood turning and pattern making, bench metal work or sheet metal work; eleventh, forge work, foundry practice, or drawing and machine shop; twelfth, machine drawing and machine shop.

For the household arts sequence we recommend ninth grade, foods and cooking (3 days), textiles and sewing (2 days); tenth grade, foods and cooking (2), textiles and sewing (3); eleventh grade, dressmaking and millinery; twelfth grade, household management, housewifery budgets and accounts, and laundry.

For the art sequence and a full discussion thereof see the Memphis Survey Report, part 2, pages 149–52; and for the music sequence see the special chapter on music in this report, and also the Memphis Survey, part 5, pages 38–49.

It is the opinion of the commission that the art department of the Wilmington High School—if, indeed, it may be called a department—is not functioning effectively. We could not find in the school any evidence of an intelligent educational policy with respect to this important field of culture, or any conclusive evidence that the accepted modern theories and methods of teaching the principles of drawing, perspective, color work, and design are understood and used. In fact, we are convinced that for the elementary schools and both high schools art instruction must be built from the ground up on an entirely different basis from that which obtains at present.

We have made no attempt in this place to examine critically the household-arts curriculum now in use, or the cooperative industrial curriculum. The former of these, for some reason or other, is not taking hold of any considerable number of girls and is not taking the prominence in the school that such a curriculum should take. We believe such a curriculum as has been suggested would do so if the school authorities would get behind it and back it in the whole-hearted manner that they ought to. Discussions of both of these fields of work will be found in the special reports of this survey on home economics and on vocational education, Chapter III.

WHICH CURRICULUMS ARE MOST POPULAR?

Table 7 of the Appendix reveals many interesting facts with regard to the curriculums now in use in the school, because it admits of making comparisons in many different ways. It tells, for example, that the Latin scientific curriculum draws the most pupils, probably because of its name, although it offers less science than the "general," which stands fourth in the list. The Latin scientific enrolls 30 per cent of all the pupils, the commercial comes next with 29.1 per cent, the classical gets 24.9 per cent, the general 11.2 per cent, the cooperative industrial 2.5 per cent, and the household arts 2.3 per cent. In the general and the Latin scientific, which offer the most science, the boys outnumber the girls more than 8 and 4 to 1; while in the commercial and classical the girls outnumber the boys nearly 3 to 1. It is perfectly clear that Wilmington boys want science, and that they can not or will not master Latin according to present arrangements. They should be allowed a college preparatory course with four years of science and with French instead of Latin, as our suggestions provide. The table shows for every curriculum that the boys have relatively a smaller enrollment in the senior class than the girls have. Evidently with the present organization and teaching methods the school is more successful with girls than with boys in all curriculums. A further study of this and similar tables, to be kept and analyzed from year to year and compared by years, one with another, is recommended to the teachers by the survey commission.

3. THE TEACHERS AND THEIR WORK.

THE QUALIFICATIONS OF THE TEACHERS.

The teaching staff in the Wilmington High School consists of 17 men and 37 women; that of the Howard High School of 4 men and 7 women.

The accompanying analytical table shows, for each school and for each department, how the teachers are distributed with reference to sex and college training. It will be noticed that in the Wilmington High School the men are better trained than the women. Eleven out of 17, or 64.7 per cent of the former, hold degrees from standard colleges; while only 15 out of 37 of the latter, or 40.5 per cent, hold such degrees. Three of the men and one of the women hold master's degrees, and one of the men has both the B. S. and C. E. degrees, representing more training than is required for a master's degree. Two of the men and the woman holding master's degrees are heads of the departments of history, English, and Latin, respectively, making 3 out of the 8 heads of organized departments who hold an ad-

vanced degree. Advanced degrees are held by 5 teachers in all out of the 54. In the Howard High School only 1 out of the 4 men, the principal, is a college graduate; but 5 out of the 7 women hold the bachelor's degree. These are the teachers of English, mathematics, Latin, modern language, and domestic science. In the Wilmington High School the Latin department is the only one in which all the teachers are college graduates, and history comes next with 4 out of 5, while mathematics makes the poorest showing, with only 1 college graduate out of 8 teachers. The English department makes the next poorest showing, with 4 college graduates out of 10 teachers. Mathematics and Latin are completely feminized. There is not one man among the 13 teachers of these two subjects.

Table 8 of the Appendix shows for the two high schools how the graduate and nongraduate teachers are distributed with regard to the number of years of training that each has had beyond the elementary school. Of the 7 holders of normal-school or short-course diplomas (13 per cent), the extreme limits are 5 and 8 years and the median is between 6 and 7. Of those who hold neither degree nor diploma (38.9 per cent), the number of years of training beyond elementary school ranges for various individuals, from 2 years up to 11 years, with the median between 4 and 5. This is the equivalent approximately of a high-school education plus 1 year of normal school or college. The training of these noncollege graduates has been gained in a great variety of ways, such as by Chautauqua reading circle work, correspondence courses, business and art schools, extension courses, "private study," lecture courses by college teachers, and by regular university summer term work for which standard credits were obtained. The professional records of all but the latter class were difficult if not impossible to evaluate with accuracy. They indicate in general, however, that in the cases of about half of the teachers who have not had the advantage of regular college training there has been a commendable effort toward continuous and systematic growth in scholarship. The most notable exceptions are the teachers of manual arts in the Wilmington High School, who in their reports to the survey commission have shown no evidence of any attempt to get higher training during 30 or more years of service. Such a record is not creditable to them nor to the school. In contrast with these, note the record of the Smith-Hughes industrial teacher who reports 11 years of training since entering high school as a student in 1904, has taken the B. S. and the C. E. degrees from Delaware College, a certificate from Michigan College of Mines, and is now attending regularly at the University of Pennsylvania, working toward the M. A. degree while carrying a heavy schedule of teaching.

Status of the high-school teachers of Wilmington as to college graduation.

Schools and training of teachers.	Men.									Women.									Total men and women.
	English.	Mathematics.	Latin.	Modern language.	Science.	History.	Commercial science.	Manual training, drawing, gymnasium.	Total men.	English.	Mathematics.	Latin.	Modern language.	Science.	History.	Commercial science.	Household arts, art, gymnasium.	Total women.	
Wilmington High School.																			
With college degrees	2	....	....	1	3	3	1	1	11	2	1	5	3	2	1	....	2	15	26
Without college degrees	....	....	....	....	....	....	2	4	6	6	7	....	1	2	1	2	3	22	28
Total	2	....	....	1	3	3	3	5	17	8	8	5	3	4	2	2	5	37	54
Howard High School.																			
With college degrees	[1] 1	....	....	....	....	....	....	....	1	1	1	1	1	....	....	....	1	5	6
Without college degrees	....	....	....	....	1	1	....	1	3	....	....	....	....	....	....	....	2	2	5
Total	1	....	....	....	1	1	....	1	4	1	1	1	1	....	....	....	3	7	11

[1] Principal; does not teach.

The professional record blanks, filled by the teachers, called for brief statements as to the extent of professional training in psychology and pedagogy, as to special training in the subjects they were teaching, as to professional reading (both books and magazines), as to membership in educational associations and attendance at educational meetings and conventions, and as to other means of professional growth, such as travel, etc.

The answers given are too varied and complicated for successful analysis and tabulation within the space and time limits set for this report, but would make an interesting exhibit. In general they reveal a rather remarkable amount of reading, study, travel, and attendance on professional meetings. With only a few exceptions the reports indicate that the Wilmington teachers are alive and growing professionally; a fact which reflects credit both on the professional spirit and attitude of the teaching staff and on the administration. However, it should be noted that the pedagogical studies of the teachers have not very generally carried over into their teaching to the extent of modernizing their methods thoroughly.

This condition calls for more active organization and leadership of the teachers by the supervisors and heads of departments. Study clubs should be organized for investigation and discussion of the special problems with which the school, the departments, and the individual teachers are confronted. By thus setting up specific purposes for the study of pedagogical writings, such for example as the

solution of problems raised by the findings of this survey, such study clubs, together with more suggestive supervision of class work, would insure the application in the classrooms of the principles learned in the pedagogical books.

Since the high schools of Wilmington make a very poor showing with regard to the percentages of their teachers who are college graduates, particular attention should be given to directing the private study of the teachers in such a manner as systematically to make up for this deficiency. Also the policy of appointing none but college graduates with at least 11 semester hours of professional pedagogical training to fill vacancies when they occur, or in the engagement of additional teachers, should be rigidly adhered to. In connection with future appointments the commission has another recommendation to make, namely, that only men be appointed to fill new positions, or to fill vacancies that may occur, until the number of men and of women on the staffs of the high schools are equalized. Care should be taken, of course, not to take on men of inferior personality or qualifications. The influence of more vigorous, progressive, and scholarly men is needed in the school, but it is more difficult to get such men as teachers than it is to get capable and scholarly women. Hence school boards must be on their guard against overfeminizing the schools.

POLICY REGARDING SALARIES AND EXPERIENCE.

Table 9 of the Appendix shows how the high-school teachers are distributed as to salaries and years of experience. One may see at a glance, that nearly all of the teachers are experienced, and that a third of them are veterans of long service and mature years. Fortunately, most of these have not lost the sympathy for youth and the enthusiasm for the work that is characteristic of successful teachers of from three to five years of experience. Too often these youthful qualities are lost by teachers who have given very long service, and the usefulness of such is seriously impaired.

The salaries, as shown in the table, are in general fairly liberal. They represent a very material increase over last year's salaries. Even more liberal provision will have to be made for holding young teachers of high qualifications and superior training in the present condition of supply and demand. In the not very remote past the salaries were parsimonious, considering the wealth of Wilmington. It is gratifying to observe a change in attitude with regard to the support of education. This table shows a general tendency to grade salaries according to length of experience only; although it will be noted that in each salary class the college-graduate teachers have had considerably less protracted experience than the noncollege graduates. This, so far as it goes, represents a wise discrimination

in favor of better preparation for the work. A similar tendency is shown in the choice of heads of departments, those chosen for these positions, with two exceptions, being among those who have had the most training. Three out of the four persons holding master's degrees are department heads.

The commission recommends that a salary scale be worked out which shall include four or five classes, promotion from class to class to depend on measured efficiency and definite accessions to professional growth, as well as on original preparation, experience, and willingness to cooperate. In the lowest class, which should be regarded as probationary, salaries should be advanced only on special recommendation. In the other classes, salaries should advance by automatic annual increments to a fixed maximum for each class. All noncollege graduates, excepting always the person of unusual ability, should be stopped in the second or third class. Only college graduates having done work equivalent to that required for a master's degree and having special qualities of leadership and efficiency should be placed in the highest class. Promotion from any class to the next higher should require formal action of the board of education pursuant to recommendation from principal and superintendent. Such a scale, with the lowest salary at $1,350 to $1,500 and the highest at $3,000, should enable Wilmington to compete successfully with other cities for the best teachers. With generally higher salaries should come more rigorously exacting requirements for qualifications, and also for effective teaching service. For the details of such a salary scale the reader is referred to Chapter VI, page 242, of the Report of a Survey of the School System of the Territory of Hawaii, U. S. Bureau of Education Bulletin, 1920, No. 16. Methods of rating teachers are described in School and Society, Volume IX, June 21, 1919, pages 748–756, and in Stoever and Englehart's The Classroom Teacher, American Book Co., 1920, page 57 ff.

ARE THE TEACHERS OVERWORKED?

It is a well-known fact in engineering that an engine or other mechanical device works most efficiently and lasts longer when worked at a certain optimum load. If habitually overloaded, it wastes power and wears out quickly. If underloaded it also wastes power, and furthermore it wastes a part of the interest on the capital invested in it. Although teachers should never be classed with machines, in most matters they are subject to this mechanical law; and it is therefore important for the administration of a school to know whether any of the teachers are underloaded or overloaded, and to adjust the schedule so as to equalize burdens as nearly as circumstances admit.

The survey commission made a study of the loads in pupil periods per week carried by the high-school teachers of Wilmington. If a section of 25 pupils engaged in classroom recitation, or in laboratory work, or in directed study-recitation work, occupy the time and efforts of a teacher for 5 recitation periods (usually of 45 minutes each) per week, the teacher's load from this source is $25 \times 5 = 125$ pupil periods per week. Similarly, if the same teacher has a section of 20 pupils occupying 7 periods per week, this class adds $20 \times 7 = 140$ units to his load. His total teaching load is the sum of the loads due to each of his class sections. To find the total scheduled load we add to the teaching load one-half the number of pupil periods devoted to supervising undirected study in the study hall, seat room, or the library. This is done on the arbitrary assumption that such work, requiring no outside preparation, requires on the average about half the energy consumed in teaching a class.

A teacher having 5 class sections each for 5 periods a week, averaging 25 pupils to a section, has a teaching load of 625 pupil periods per week. This is as heavy a total schedule load as ought to be placed on any teacher of English or science, if the administration desires to get the best quality and quantity of work out of him or her. Teachers of English have heavy burdens of examining themes and notebooks, which must be carried by each of them if their work is to be effective. Teachers of science also have regularly much notebook work which it is ruinous to neglect; and in addition they must prepare demonstration experiments and must care for and set out apparatus and material for the individual laboratory work of their pupils. A great amount of repair work and stock keeping is also done by every competent science teacher. For teachers in these departments more than 625 units should be considered an overload.

For teachers of other subjects an addition of 350 units of study-hall supervision is certainly the upper limit that should be considered in making a time schedule for the school. This would be the equivalent of policing the study hall for 5 periods a week with an average attendance of 70 pupils. Adding half of this to 625, we have a total schedule load for such a teacher of 800 pupil periods, which should be the upper limit for any teacher. A majority of the high-school teachers in many of our cities are loaded year after year by more than this amount, but the inevitable result is deterioration in the quality of the teaching and loss of buoyancy and ability to inspire pupils. The tendency of overloaded teachers, no matter how ambitious and sincere at first, is to slip into a rut and follow the line of least resistance. They gradually lose enthusiasm and get into the habit of driving their pupils instead of leading them. An overloaded teacher can not long retain the qualities of initiative and originality;

and, furthermore, his scholarship and professional growth inevitably becomes atrophied.

Two teachers in the Wilmington High School have teaching loads between 950 and 1,000 units, and two have total schedule loads within the same range. One has a total load of over 1,000. The median teaching load is 680; that is, the loads of half of these 43 teachers are greater than this and half of them are less. The median total scheduled load is 710; but 13 of the 43 teachers, or 30.2 per cent, have total scheduled loads of 800 units or more. Six teachers have recitation loads of less than 500 units, and four teachers have total loads of less than that amount. On the face of the schedule, then, it would appear that nearly a third of the teachers are overloaded and about a seventh are underloaded. As a matter of fact, however, nearly all the teachers carry heavy work and responsibilities outside the time schedule. Nearly all of them do more or less coaching of backward pupils or absentees outside the classroom hours. Nearly all of them report three or more hours per week of clerical work in the keeping of records and averages, sending reports to parents, and the like. A few report from 10 up to 15 hours. In the cases of these, however, with one exception, examining notebooks and papers is probably interpreted as clerical work, while most of the teachers must have included such work under preparation for classwork. Moreover, nearly all the teachers have pupils studying in their rooms while they are conducting recitations; and they are responsible for the order and application of these pupils. While there are some teachers who can carry on this function without loss to the pupils doing classroom work, and without any serious nervous strain, there are many more to whom it proves to be a serious burden. Many of the teachers also have duties connected with the supervision of pupil organizations and activities outside the classrooms which require thought and planning as well as control and direction. In a big school all these things make demands on loyal and enthusiastic teachers which add much to their labors, and which are a very important part of the socializing work of the school.

Most of the teachers, and especially the heads of departments, are overloaded with work and responsibility. This becomes further apparent when it is known that the number of teaching periods for 34 of the teachers is 6 per day, or 30 per week. For one science teacher the number is 36, and he teaches physics and chemistry and coaches athletic teams every day till dark. The teacher of penmanship has 31 periods, 3 teachers have 28, 2 have 26, 2 have 25. Six of the department heads have 20, with total schedule loads ranging from 368 to 450, coupled with supervisory responsibilities, lunchroom and hall supervision and the like, while of the 2 who have lighter schedules 1 assists largely in general as well as departmental

supervision and the other does much clerical work, which he estimates at 15 hours weekly. Most of the lighter loads outside the department heads result from smaller enrollments in the classes rather than from fewer classes per week.

The wide variations in the scheduled loads are in many cases equalized to some extent through the distribution of work outside the schedule, but the equalization thus brought about is by no means complete. It might be made more so by a redistribution, with the aid of a tabulation, of the work loads of the individual teachers. However, although approximate equalization of loads is desirable in the interest of fairness as amongst individual teachers, the action called for is more radical. If the school is to be put on a basis of real modern educational efficiency, all the teaching loads excepting those of a very few of the teachers must be reduced. This should be apparent without further comment or explanation. The corollary to it is that more teachers must be added to the corps.

In considering the arduousness of their work it should never be forgotten that teachers, no less than their pupils, must study and prepare for their recitations and plan their lessons daily. Also they must have time outside school hours for physical exercise, recreation, social contact, and mental and spiritual refreshment.

In general, the heavier the teacher's schedule of school work the more preparation it requires in order to be effective. A teacher having a 6-period schedule needs to give 20 per cent more time to preparation than is necessary for a teacher with a 5-period schedule, and has 45 minutes more taken out of every day. So the teacher who needs the most time for preparation has the least time to give to it.

In order to learn how much time the teachers devote to direct preparation for giving their lessons, and to work of a clerical nature, each was asked to estimate the average number of hours per weeks which he or she was accustomed to give to these two kinds of work. It was found that 5 of the teachers give less than an hour a week to lesson preparation; and of these, 4 give less than an hour a week to clerical work, while the fifth gives between 5 and 6 hours per week to clerical work. The median amount of lesson preparation is approximately 8.5 hours per week. Half the teachers give less than this amount, and half give more. The median amount of clerical work is 4 hours per week. Half the teachers do less, and half more than this. If the teachers' estimates are near the truth—and we can see no reason why they should not be—it must be apparent that 4 teachers are wholly neglecting a very important part of every teacher's duty, and they have for company a number of others who are not much more conscientious than they.

The work schedules and loads of these teachers should be looked into, and also their methods of work, their percentages of elimina-

tions and failures, and their records of professional training and professional reading and study. It is perfectly possible for the supervisory officers of a school to get all this information about individuals of the teaching staff, and take such measures as may be necessary to stimulate greater and better directed activity where such stimulation is needed.

An effort was made to ascertain the amount of time the majority of the teachers give to lesson preparation and clerical work. Much of the hardest and most important work of the conscientious teachers is and must be done outside the recitation hours. The evidence points strongly toward the conclusion that many of the teachers find it necessary to take so much time outside the scheduled school hours for daily lesson preparation and clerical work that some of it must come off the time that every person should give to exercise, recreation, and sleep. Such a condition does not make for fresh, buoyant, and inspiring activity in the classroom. By lightening the scheduled class work of the overburdened and overworking teachers through additions to the teaching force, as we have recommended, the administration can place itself in a position to require and obtain more inspiring types of teaching than are common in the school. Each teacher should have one or two periods in the daily time table in which he or she is free of other work, to be used in lesson preparation, reading of notebooks and themes, and the like. The members of the survey staff are strongly of the opinion that lightening the teachers' loads, together with more careful and intelligent supervision and with a reconstruction of the examination requirements, would result in a very gratifying reduction of the disconcerting percentages of failures and eliminations to which attention has been drawn in another section of this chapter.

ARE THE RECITATION SECTIONS TOO LARGE?

Another important phase of school administration affecting the efficiency of the teachers and the benefits from the instruction received by the pupils is the size of the recitation sections. From the blanks which the teachers were requested to fill out we should have been able to obtain the total number of class sections and the number of pupils enrolled in each. Unfortunately there were a few teachers who, either through lack of understanding or through negligence, did not properly fill in their blanks with the complete and simple numerical data that were called for relative to this part of our study. However, we are able to show in Table 10 the distribution according to numbers of pupils enrolled in them, and also according to departments, of 292, or about 90 per cent, of all the class sections into which the pupils are divided; and this is a large enough proportion of them on which to base valid conclusions.

From this table it will be seen that 51.3 per cent of the sections in Wilmington High School have enrollments of between 20 and 31 pupils or are within reasonable limits for both economy and efficiency. Thirty-five sections, or 12.6 per cent of all, have enrollments of more than 30 pupils. Eleven, or 4 per cent, enroll fewer than 10 pupils; and 42, or 14.4 per cent, enroll between 10 and 15. Thus, 53 sections, or 18.1 per cent, are too small for reasonable public economy, and 12 per cent are too large for reasonable efficiency. Between 15 and 21 pupils are enrolled in 17.8 per cent of the sections. Sections of this size are more favorable for educational efficiency than those enrolling larger or smaller numbers, but are obviously, on the average, only two-thirds as economical as those enrolling from 20 to 30. Excepting in gymnasium work, sections of 31 or more pupils, although they reduce per capita costs, ought not to exist at all; and in many kinds of physical training also they are too large to be handled with satisfactory results.

It should be quite clear even to the casual reader that with an otherwise adequate teaching force, the presence of every very small section must be provided for by assigning to it from one-fifth to one-sixth of the time of one teacher. According to the present time schedule, with an $1,850 teacher each pupil in a section of 25 gets from the public funds approximately one twenty-fifth multiplied by one-sixth of the $1,850 salary of this teacher, transmuted into the form of instruction, or he gets the instruction equivalent of $12 a year in this one subject. Similarly each pupil in a section of 5 gets $60, while each pupil in a section of 35 gets one-seventh of $60, or $8.57. This is a very inequitable distribution of public funds, since it discriminates against the pupils in the large sections and in favor of those in the small ones. Small sections necessitate extra teaching force or else they necessitate a compensating number of oversized sections in which the pupils get less individual attention than they should, and by which the teachers are overloaded, so that none of their pupils get as good instruction as otherwise they would. These facts lead to the conclusion that neither undersized nor oversized sections should be made where it is possible to avoid them.

It is rarely feasible to eliminate entirely, in a progressive school, sections of undesirable size; but since Wilmington High School has 18.1 per cent of its sections undersized and 12.6 per cent oversized, such a condition calls for careful study of the organization and curriculum, to the end that these sections, amounting to almost one-third of the whole number, may be reduced, if possible.

In a large school it is usually easy to dispense with oversized sections, if the teaching force is sufficiently large. Small sections are more difficult to deal with, because they usually occur in subjects that are taken by very few pupils. Such are the upper classes

in modern languages, and the classes in manual training, household arts, and some of the commercial subjects. In considering such subjects four pertinent questions should be asked and answered:

1. Is the subject important enough, from the standpoint of the community and to the few pupils who take it, to justify its retention in the curriculum at the per capita rate of expense involved?

2. Can the small class be eliminated by giving the subject only in alternate years and combining in it the pupils of two contiguous grades?

3. If the subject is one in which it is economically and socially important to have pupils trained, is it not possible by pressure and publicity or by curriculum requirements to get more pupils to take it and so fill up the small sections?

4. If the subject is one, like Latin or French, that runs through three or four years of the curriculum, are the upper classes being cut down by too many failures and eliminations in the lower years of the curriculum?

These questions themselves suggest the possible remedies for the prevalence of so many small classes; and in the Wilmington High School the commission believes it possible to eliminate a good many of them. Every small class eliminated, except by the method suggested in 3, opens the possibility of eliminating one or more of the oversized classes through distribution.

In the Howard High School there are no oversized classes, but about 85 per cent of the 59 sections are undersized. Owing to the small total enrollment of the school, only a few of these can be eliminated under present conditions; but the question may well be raised as to whether this school should offer two foreign languages. French might very well be eliminated, as the children in this school are likely to have little or no use for it. History and civics, including the simplest and most important phases of economics and sociology, are vastly more important to them, and if as excellently taught as the Latin and French are would be vastly more important to the pupils who do not go to college. We believe also that the vocational work of the school should be expanded to include short, intensive courses in the higher trades that are open to colored boys and girls, but we are heartily in sympathy with what seems to be the firm opinion of the most influential colored people, that, no matter though it be expensive to do so, the college preparatory curriculum, which is now the only one offered in the school, should continue to be maintained in the best possible state of efficiency for those who have the ambition and capacity to profit by a college education. Colleges should take students having had four years of earnest and thoughtful work where they find them, and give them the training they need most. If this were done then, it is clear, a better high-

school training could be given than that afforded by the narrow college preparatory course now given.

Whatever the ultimate solution of the race problem, in the South and in the North as well, it is certain that it must be worked out largely through the cooperation of the leaders among the various races. Hence the importance to Wilmington, as for every city where considerable numbers of colored people are found, of seeking out those among them who are endowed with the best intelligence and seeing to it that they have every possible encouragement to complete a course of training in college. At the same time the great majority of them, who will not desire to go to college and who would not profit by it if they did so, should have the very best training it is possible for them to take and for the public to give, in citizenship and vocation.

We believe that if stronger courses in history and civics, in science, in literature, reading and speaking, in music, in manual and domestic arts, and in intensive vocational training were offered, and if the school were housed in a modern, commodious, healthful, and attractive building, with the teaching all as good as the best that is now done in the school, the colored young people would flock to it in much larger numbers, and that these would be able to get broader and better training than the present pupils are getting, and at no greater per capita cost. The outlay would be returned to the community in large dividends of loyalty, industry, skill, and patriotic devotion on the part of the colored population.

Wilmington is doing far better than many communities in the education of her colored children, but she is yet very far from doing all that it would be to her best interests to do.

ARE THE METHODS OF TEACHING EFFICIENT AND MODERN?

Every one of the 64 high-school teachers was visited at least once while teaching. Most of them were observed twice, and some three or four times. Notes were taken on the observations made. By means of careful and attentive class observation an attempt was made to get a general estimate of the character of the teaching in each department and to note special points of merit or special defects in the instruction.

In addition to classroom observation the commission prepared a special questionnaire asking the teachers about their aims, purposes, and methods of teaching, about the needs of the school and of their departments, and calling for suggestions for the good of the service.

From the observations of class work, from a careful perusal of the answers to the questionnaire, and from considerable informal conversation with heads of departments and teachers, the commis-

sion is of the opinion that the Wilmington High School teachers with few, if any exceptions, are conscientious and industrious in the prosecution of their class work. The great majority of them strongly emphasize their desire to train the pupils to be efficient, broad-minded citizens, with the ability and will to serve unselfishly the community, State, and Nation. They want their pupils also to become clear-thinking and cultivated individuals capable of earning their livelihood in some useful vocation and also capable of appreciating literature, art, and science. They want them to be strong, healthy, and happy. It is not possible to doubt that they are sincere, and try to realize these ideals in their contact with pupils both in and out of the classroom. The generally dignified behavior and air of loyalty and responsibility which we have noted on the part of the pupils must, we believe, be largely owing to this devotion of both teachers and administrators to these ideals.

With very few exceptions the teachers express or show that they desire especially to make their instruction thorough and effective. They are thorough and methodical in trying to get the pupils to do their work. The methods in a majority of the departments are mainly very good; and the teachers get very generally good responses and good lesson preparation from their pupils to much more than an average degree.

If we were to classify the school, aside from the commercial, manual training, and household arts departments, as a college preparatory high school of 20 years ago, we might also classify it as an excellent school; but standards and ideals for public high schools have changed during the past 20 years very materially. While the Wilmington High School has apparently steadily improved with reference to better work along the lines of the secondary education of the last decade of the nineteenth century, the general development of the school, most of the methods of all the teachers, and all the methods of some of the teachers are somewhat lacking with regard to the modern spirit.

The socialized recitation, in which the pupils themselves are trained by practice to carry on active and orderly discussions of live problematic questions, in which each one takes part while the teacher keeps in the background as referee and director, is very seldom used.

New topics and principles should be approached inductively through the discussion of many simple, concrete cases from which the principle or law in question should clearly emerge, so that the pupils may be able so to grasp it and state it themselves in their own words. The inductive approach is very seldom employed. No single case of its skillful use was observed.

In almost every class observed it was noted that there was less use than is needed of such visual aids as maps, charts, pictures, diagrams, lantern slides, specimens, models, and apparatus for making the ideas concrete. Even where such materials were in the rooms they were not used on frequent occasions where they would have aided greatly in vitalizing the instruction and the study of the topic in hand.

The modes of teaching, though mostly thorough and exacting, and generally fairly methodical, were often inclined to be dry and uninteresting. Too much stress is laid on exact and formal abstract statement and too little on the practical applications of the principles and their bearings on human life and activity. A generalization becomes real and intelligible to the individual only to the extent that he has direct personal experience with the practical cases in which the principle applies. Otherwise, it is for him nothing but a series of meaningless words.

There is too much of driving and too little of stimulating and inspiring. Skills, memory connections, and habits are formed by drill, repetition, and practice. Thinking power is developed only by practice in thinking resulting from being confronted time after time with questions of a problematic nature. These must be made to appear in such a form that the active desire to solve them comes from within the pupil, and not because of pressure from the teacher. The cases where it was evident that the teachers thoroughly understood this principle and were acting in accordance with it in the conduct of their instruction were rare. Drills and memorizing may be made intensely interesting when conducted according to methods clearly pointed out by modern experimental and educational psychology, and problematic questions always appeal strongly to pupils if not too difficult and if put in such a way as to appeal to their immediate interests. It is necessary, however, that teachers clearly understand the distinction between these two kinds of mental activities and differentiate their methods accordingly.

We found indications here and there of the use of the project method, but no general sympathy with it among the teachers, and nothing in the way of a systematic attempt to organize projects in the different studies and try them out. The project method is psychologically right in principle and can be put into practice at least to a limited extent in every study. In schools thoroughly pervaded with the modern spirit, at least some project work is being assigned and successfully used in most of the subjects. We agree with some of the Wilmington teachers who say that the project method is often either so overworked or so unintelligently worked that it does not prove as effective as the old and tried methods of book teaching,

yet we hold to the firm belief that it is right in principle, is successfully used by many teachers, and that its unsuccessful and faddish employment by some teachers is no argument against its intelligent and judicious use by others. We urge a careful and watchful trial of it by all teachers, and believe that if so tried it will prove to be of great assistance in vitalizing and motivating the work.

We believe that much better results could be attained if every teacher would make out a brief but carefully written plan for every lesson. Most of the lessons observed were not as systematically planned as would be desirable; and the opinion was reached that this feature of the teachers' work in preparing to give their instruction is not being done with habitual thoroughness. We recommend careful study in departmental study groups of lesson planning, questioning, and technic, and greater attention to lesson plans by the department heads.*

In this connection the teachers should strive to arrive at a better organization of the lesson material, a more systematic use of visual aids and reference books, and a better distribution of time among the various lesson topics according to their relative importance.

Improvement in these important factors of giving a lesson can rarely be made without the habitual use of written plans. We are not contending for a slavish and mechanical following of the plans after they are written. Occasions often arise in which a wise teacher will depart from his plan or vary it considerably to meet a special situation which arises; but in general, plans should be adhered to in their main lines pretty closely, for this is the only way to secure methodical, unified, and well-proportioned instruction.

We should have been pleased to note more asking of pertinent and thoughtful questions by the pupils themselves during the recitations. Pupils in the habit of doing good thinking are often moved to ask such questions, and their occurrence in a class is indicative that the teacher is both stimulating thought and encouraging inquiry. A skilled teacher will usually put the pupil in the way of answering his own question, and will do it in such a way as to encourage him to open his mind freely in the classroom and reveal his difficulties. Every such question brought up by one pupil is likely to be helpful to other pupils who have the same or other difficulties in mind. Furthermore, pupils are much more apt generally to be interested in a real live question asked by one of their own group than in one asked by the teacher; and finally, such questions are very valuable to the teacher in helping him to get the points of view and sense the difficulties of the pupils.

* Loose-leaf books of plan sheets especially designed for the use of high-school teachers can be had on the market.

Other things that we should have been glad to note more of are appeals to individual initiative and originality, and judicious, discriminating commendation of individuals when they do some piece of especially thorough or especially thoughtful or skillful work. Discriminating approval and commendation tends strongly to call out originality and stimulate individual initiative. On the other hand, expressions of approval, if indiscriminating and too frequent, are likely to have no effect one way or the other.

The commission is of the opinion that disproportional stress is placed on college requirements and traditional methods of teaching aimed at college examinations. College preparation is only one of the many functions of a modern high school, and it should not be allowed to dominate the methods of instruction to the detriment of the great body of pupils who will never enter college. The effect of the overshadowing college influence is most evident and most detrimental in the departments of English and mathematics. It also shows itself in the tendency to require foreign language study of many pupils who will have little use for it and less success in pursuing it. The history department also suffers because of the disproportionate emphasis placed on ancient history as compared with modern history, civics, and the problems of democracy. This same attitude is tending to formalize the methods in physics and chemistry.

Finally, it has what we believe to be a harmful influence through the general attitude of the teachers of the college preparatory courses. Without, perhaps, meaning to do so they are producing the effect of erecting the so-called college preparatory studies, and especially Latin, into an aristocracy of learning and creating the impression that those who are not interested in this study or are not successful in it are inferior to those who are. This can not but have a harmful effect on departments and studies such as history, civics, science, literature other than prescribed college classics, household arts, manual arts, and fine arts. As long as the pupils in the curriculums that are not primarily college preparatory are made to believe that they are getting a kind of training which is regarded as inferior to that given by the college preparatory subjects, it will never be possible to get them to use their very best efforts in the pursuit of their studies.

Let it be understood that no one subject or group of subjects monopolize the possibilities of mental training and culture. Culture is inherent in all good teaching and all good study, no matter what the subject matter may be, so long as it be significant and useful in modern life in a democracy. Let the teachers of all subjects seek to make their pupils realize to the fullest this ideal, and allow no invidious distinctions on the ground of tradition, and probably more en-

thusiasm for study and greater respect for all worthy intellectual achievement will result.

It is believed by the survey commission that an earnest effort on the part of the teaching staff to modernize and vitalize the curriculums and the methods of teaching will not cause deterioration in the large proportion of good and thorough work that is now being done, but will result in a freshness and enthusiasm that will make for further success, and tend to reduce very materially the eliminations and failures. In this connection it is urged that a careful study be made of Ch. IV, part 2, of the Memphis Survey Report, Bulletin, 1919, No. 50, of the U. S. Bureau of Education. (Superintendent of Documents, Government Printing Office, Washington, D. C.)

There is much in this chapter on secondary education that will be of direct and helpful interest to Wilmington High School teachers and supervisors. The same is true of parts 4, 5, 6, and 7 of the Memphis report, treating, respectively, of science, music, industrial arts and home economics, and health work, and especially of part 3, on civic education. All of these sections of the report contain suggestions which would be directly pertinent to conditions in Wilmington, but which space and time limitations render it undesirable to discuss at length in this report.

It is a matter of regret to the surveyor that the limitations of time and space prohibit description of some of the many examples of especially good methods that were observed. Some phases of method were observed in both the high schools of Wilmington which are equal to the best seen anywhere. On the other hand, there were observed examples of certain faults of technic which are too prevalent in all high schools, which it would have been profitable to point out for correction, but which happily are much less common in this school than in many others. These are described in the Memphis report referred to above.

ARE THE TEXTBOOKS THE BEST THAT CAN BE HAD?

The textbooks in many of the subjects are modern and among the very best of their class, but there are some books in use of which this can not be said. Certainly the textbook in every subject should be the best that can be had, the one best adapted to the needs of that class so far as the persons in the system who are best qualified can determine it. No other consideration than the best interests of the pupils should enter into the choice of textbooks, and the teachers who give the instruction with their aid should have some voice in deciding which books they shall use. From the cautious and guarded references to textbooks by some teachers we infer that they have been allowed to have little or nothing to say in the choice of the tools of

instruction which they are required to use. We hope this inference may prove to be incorrect; but if it is correct, the method of adopting texts should be revolutionized and placed on a more democratic basis. If there is in the high schools any teacher who is incompetent to render an opinion that is worthy of consideration concerning the choice of the textbook or visual aids that he or she shall use, then that teacher should be dropped from the list. On the other hand, if teachers are so competent, then to ignore them in an important matter which so immediately concerns their efficiency is a tacit snub, even if not so intended, and they ought not to submit to it in silence.

4. ADMINISTRATION AND SUPERVISION.

ARE THE HIGH SCHOOLS WELL ORGANIZED?

The present administrative personnel of the Wilmington High School consists of eight department heads, one of whom is the acting principal, an office secretary, and a stenographer-clerk, who is also a part-time substitute teacher. The principal of the school, who is a veteran in the service, recently became broken in health and is now unable to carry on the functions of his office. The fact that the administrative machinery of the school was running with well-oiled smoothness in his absence, with no signs whatever of disorganization, is a tribute to his ability as an organizer and inspirer of loyalty, cooperation, and devotion to duty. The splendid school spirit of the pupils and their ready responsiveness to ideals of law and order was attributed by the teachers who were questioned to his influence and that of the heads of departments; but of course it could not have been secured unless the teachers themselves had also shared the same influence in cooperation with their official superiors.

In spite of its present smooth operation there are defects in the organization which must be remedied in order that the present grade of efficiency be maintained and that further progress in efficiency may be achieved. We recommend that the acting principal be at once relieved of all teaching excepting one senior division in American history, which it would be desirable for him to retain in order to keep in intimate touch with teaching problems and with the senior class. He should be free to give more time to administration, supervision, and constructive planning for the future.

We recommend that a man and a woman from among the heads of departments be appointed as acting assistant principals, and that their teaching schedules be reduced to three sections per day.

We recommend that the stenographer-clerk or another person equally competent for that work be designated for full-time duty in the office.

We recommend that the library be at once stocked with a careful selection of reference books and general literature, and that a trained librarian who is also a successful teacher be placed in charge. The library room is nicely and completely furnished, but there is not a book in it. Furthermore, it is far too small for a school of such large size. It should be supplemented by a stock of reference books in the study halls and department classrooms, and these should be furnished with reading tables and suitable bookshelves.

No large school can have its pupils carrying on really successful and efficient library study if it must depend entirely on a public library, unless that library is contiguous to the school grounds, and unless the librarian is a person with teaching experience and thoroughly intelligent and sympathetic with regard to school needs. The school must have its own library, which need not be relatively large, but should be especially well selected, and should be efficiently managed by an expert high-school librarian. It is not a disadvantage but a real advantage to have it partially departmentalized and to combine the reading-room features with the study hall. The librarian should be under the immediate authority and direction of the principal and coordinate with the heads of departments.

It is a pleasure to testify to the efficiency of the office secretary and to the competent manner in which the office records are kept.

We recommend that at the earliest possible occasion the present custom of assigning pupils to classrooms for study while recitations are being carried on be discontinued, and that the school be organized on the study-hall plan. We do not recommend large study halls. A hall containing more than from 80 to 100 pupils is too large to be efficiently managed. There should be several study rooms, and they should be distributed on the different floors. The adoption of the work-study-play plan of organization would solve this difficulty adequately.

A combination of the study-hall plan for the juniors and seniors, with the directed study plan for the ninth and tenth grades, is regarded as the best arrangement. This plan has been successfully carried on in the Township High School at Joliet, Ill., and elsewhere, and is strongly recommended by excellent school men; but directed or so-called "supervised" study has proved to be unsuccessful with many teachers who either are not in sympathy with the plan or do not thoroughly understand its purposes, its advantages, and the technic of handling it.* If it is introduced, its workings should be carefully watched and directed by the supervisors or the teachers, and teachers who can not learn to conduct it successfully should not be assigned to such duty. It would be best to have the

* See Memphis Rep., pt. 2, loc. cit., p. 184.

teachers unite in a careful study and discussion of the plan before adopting it. We suggest that such study be made during the coming semester, with a view to its introduction next fall, at least by those teachers who are especially desirous of trying it out. There is no doubt but that the plan is theoretically right but difficult of administration in a large school.

We recommend that in organizing sections for the next semester careful study be made in order to devise means of avoiding undersized and oversized sections so far as this is feasible in view of the suggestions heretofore made.

We recommend that teachers of English and science be relieved of seat-room and study-hall duty in order that the former may have more time for theme examination and conference criticism and the latter more time for preparing demonstration and laboratory experiments and for the care of apparatus. This need not apply to those science teachers who unfortunately at present have no laboratories and little or no apparatus to care for. The athletic coach should be assigned competent paid assistance, as he is loaded beyond all reason and fairness to him and his pupils. We recommend that such additional teaching force be provided as may be necessary to carry out these recommendations.

The entire administrative work of the Howard High School is carried on by the principal, who is a new man in the school. He has the school well in hand. He has secured the loyal and enthusiastic support of the teachers and the good will of the pupils. His knowledge of secondary education and of the needs and capacities of the colored children inspire confidence. At present, due to the small enrollment of the school, he can get on well without clerical assistance; but when the school goes to a new building, which it soon must do, it will surely grow, and he will need a stenographer-clerk.

This school has no library. It should be supplied with two or three hundred much-needed reference volumes, which might be placed in the assembly room along with a reading table and a supply of well-chosen periodicals. If this is done, the library should be placed under the charge of the principal emeritus, assisted by voluntary pupil librarians.

IS THE SUPERVISION EFFECTIVE?

From the teachers' questionnaire we learn that supervisory visits by principal and heads of departments have been frequent in most of the classrooms of the Wilmington High Schools, and that they have been helpful in many ways. Six teachers mention helpful cooperation, suggestions, and criticisms; four mention help and encouragement in dealing with pupils; three, personal encouragement

and stimulus to greater endeavor. Five think that the presence of the supervisors reenforces teaching, and influences pupils to cooperate better. One mentions help in the solution of difficult situations; one, help in understanding records and clerical work. One mentions discussions of classroom methods in the school in connection with department meetings as being especially helpful. One says that the pupils comprehend that the office is on the alert. Six teachers either received no supervisory visits that they can recall or can think of no particular benefits derived from them. It is quite clear from the answers that with few exceptions the teachers feel that the supervision has been satisfactory and helpful.

According to the testimony of the teachers, departmental and general teachers' meetings have been frequent, but are not regarded as burdensome. The testimony as to the direct helpfulness of these meetings is not so strong and positive as that regarding the class visitation.

In the Howard High School visits from both principal and principal emeritus are reported by some teachers, and some emphatically state that they have received benefit and encouragement from such visits. Nearly all the teachers suggest that supervision from experts in their special subjects would be helpful to them. They report that their relations with the administration of the schools are personally satisfactory. They all report that their greatest difficulties arise from the lack of a suitable building and adequate equipment. There can be no doubt whatever that they are right about this.

From the answers given by the teachers and from our own studies of the situation we conclude that the supervision in the high school in both quality and quantity is considerably above the average of that found in schools of their class. It appears that the supervisors are especially successful in establishing a satisfactory working relation between themselves and the teachers whom they supervise.

As we have already indicated elsewhere, our opinion is that it is possible for the supervisors to extend and greatly improve the supervisory work they are now doing. However, this can not be expected of them unless their teaching and executive burdens, which are now very heavy, be reduced sufficiently in order that they may have more free time both to supervise more and to make more careful and intensive preparation for supervision. Thorough and intensive supervision requires analysis and scientific study of teaching problems. If carried on in a thoroughly modern way, it includes giving standard tests and making educational measurements involving statistical analysis. Such work consumes time and strength, but is productive of much good, for it locates difficulties and prescribes

cific remedies. But no person can do much of it if he is already burdened as heavily as the principals and heads of departments are now burdened. It is therefore pertinent here to emphasize the recommendation that the recitation schedule of each department head in the Wilmington High School be reduced to three sections per day, and that supervising halls and study rooms be delegated to others of whom planning and intensive study of supervisory problems are not required. With this and the other administrative changes that we have recommended above, the administrative and supervisory organization of the high schools might be placed on an unusually satisfactory basis at the beginning of the second half of the present school year.

Looking toward the future, however, the commission desires to make a recommendation which, if followed, would benefit all the schools as well as the high schools. This is that a man be engaged as an assistant superintendent of schools, whose duties shall consist in supervising the high schools primarily and acting as head of a department of educational research and efficiency for the entire system. The position would require the services of a high-grade man with special knowledge of the administrative and teaching problems of senior and junior high schools, and with expert knowledge of educational measurements, intelligence tests, and statistical methods as applied to school administration. The salary, rank, and authority of such an officer should be next below those of the superintendent, in order to attract to the position a man of the requisite attainments and ability. With such a person as the chief supervisor of the high-school teaching, not so much work and intensive study of supervising problems and not so much responsibility need be incumbent on the heads of departments in the high schools, and they might therefore continue to teach as many pupils as they are now teaching.

THE JUNIOR HIGH-SCHOOL TYPE OF ORGANIZATION.

The commission recommends that the beginnings which have been made in Wilmington looking toward a shift to the junior high-school form of organization be extended and that ultimately adequate provision be made for such schools suitably placed in respect to school population.

Congregating the seventh, eighth, and ninth grades in Wilmington, and placing them in buildings suitably placed and equipped, would go far toward relieving the present congestion and at the same time provide educational advantages the value of which it is impossible to estimate.

ADVANTAGES OF THE JUNIOR HIGH-SCHOOL ORGANIZATION.

By bringing the seventh, eighth, and ninth grades together at a central point it will be possible for the school department to offer to the pupils in such grades a choice in the subjects of study. In the usual ward school it would obviously be impossible to offer any option, for as one proceeds upward in the grades of the system the attendance falls off rapidly. The seventh grade, therefore, is always very much smaller than preceding grades, and in many schools it is barely large enough to maintain two classes. From the standpoint of expense alone, therefore, it would not be practicable to offer to the seventh grade, scattered as it is among a number of schools, a variety of choice in subjects to be studied. Such opportunity can be provided only where a sufficient number of pupils are grouped together to make each class large enough to justify the assignment of a teacher. There can be little question that by the time young people have reached the upper grades of the grammar schools their tastes, aptitudes, and abilities are sufficiently developed to warrant giving them an opportunity for the exercise of some preference in the selection of subjects to be studied. An organization of the school system whereby such grades are brought together in numbers is the only arrangement, within reasonable limits of expense, through which this variety can be secured.

By bringing together in this way a number of pupils of the ages and attainments of those of the seventh and eighth grades the principal and his faculty have an opportunity of initiating a splendid work through the student-body organization that can thereby be formed. Such an arrangement provides the opportunity for developing the social consciousness of the individual and through it teaching him how to conduct himself among his fellows, and at an age when the instinct for establishing social relationships runs high. Perhaps no lesson is of greater practical value to the individual than that of learning how to get on with his fellows without compromising his principles and standards. The activities coming naturally through participation in a live student-body organization provide unusual opportunities for teaching such lessons concretely, naturally, and therefore effectively. Furthermore, by means of a student-body organization high standards of conduct and character can be secured and a general school morale developed as in no other way. It has been found, too, that a measure of student government can be introduced in conjunction with such a plan with advantage to those who participate in the work and with beneficial reaction upon the tone of the school. It has been observed that students in the junior high school who by means of such activities develop confidence in them-

selves very quickly make their influence felt in the student body of the senior high school when that school is reached. Thus with such an internal organization of the students as this plan provides a hitherto unsuspected and undeveloped field exists wherein can be secured highly significant results of a very practical character.

MEN TEACHERS NEEDED IN THE SCHOOLS.

Again, a segmentation of the divisions of the public-school system, in accordance with such a plan, fully justifies the paying of high-school salaries to all teachers in the junior school group who have certificates of high-school grade. Where this is done, it becomes possible to command the services of young men who are college graduates and who are willing to enter these grades as teachers and to remain therein for a time. The customary arrangement, wherein the seventh or the seventh and eighth grades are grouped with the elementary division, and wherein the elementary school schedule only applies, offers no inducement to such men. In consequence, in most communities throughout the United States the sorry fact is that generations of boys and girls are passing through the entire elementary period of school life without at any time ever having come under the influence of a male teacher. It frequently happens, therefore, that a child is never under the instruction of a man until he reaches the high school, and as nearly three-fourths of the school population of the land never enter the high school, it is clear that the criticism that our school system is tending toward a feminization of the children is a just one.

THE SENIOR HIGH SCHOOL.

Then, through such a grouping as this plan proposes, it would seem that the work of the senior high school could be made more intensive than it usually is, with higher standards of scholarship and more rigid requirements than universally obtain, and this without working a hardship upon the young people who enter the school; for it would seem that if the work in the junior high school be carefully and efficiently done, the incoming students will develop a much more serious attitude toward their work, and will have oriented themselves better and more quickly in their subjects.

Moreover, the pupils entering the senior high school will have developed in the junior high school a greater cohesion than obtains under the old form of organization. Under the customary plan, pupils dribble into the high school in small numbers and from many schools. They are lacking in anything approaching community feeling or a feeling of group responsibility. They have had no experience in organized action and are not conscious of their in-

dividual responsibility in personally contributing to the establishment of a student-body sentiment that shall be high and lofty in its purpose and influence.

In consequence, it is difficult for the student body of the school to assimilate such pupils properly and completely, and if the existing school morale be low, these incomers are in no way fitted to lift it. With two or three years of community life at the junior high-school center wherein the administrative methods are shaped to develop this responsibility, the pupils would necessarily enter the senior high school at a much higher level with respect to school standards than obtains under the present procedure.

5. BUILDINGS AND EQUIPMENT.

WHAT SHOULD BE DONE WITH THE HOWARD HIGH SCHOOL?

As to the Howard High School only one statement need be made. The building is utterly unfit for occupation for school purposes, and the equipment is entirely inadequate. This school should have immediately a new, safe, and thoroughly modern building large enough to allow for a large increase in enrollment and so designed that it can be added to when still more space is needed. Nothing else should satisfy the people of Wilmington, both white and colored, and both should be equally proud of it when it has been provided. In such a building adequate facilities and apparatus should be provided for both prevocational and vocational instruction in manual and household arts, for biological, physical, chemical, and geographical laboratories, for a combined library and study hall, for a gymnasium and auditorium, either combined or separate, for a commodious office and rest rooms, for art and mechanical drawing rooms, and for a completely equipped cafeteria. The building should be placed in a favorable locality on a lot of sufficient size to give adequate space for organized games and free play. Space for instruction in gardening is also highly important; space for the gradual development of such short, intensive trade courses as we have recommended should be provided. In designing such a building particular attention should be paid to proper lighting, heating, and ventilation of the rooms; and the rooms should be specially designed for the purposes for which they are to be used.

IS THE WILMINGTON HIGH-SCHOOL PLANT SATISFACTORY?

The buildings of the Wilmington High School fall far short of being well adapted to the purposes for which they are intended. A colossal mistake was made in placing the new building alongside the older one. By this mistake, not only was the only available

playground space eliminated, but still worse, nearly all of the classrooms of both buildings that face the narrow court between them were at once rendered useless for school purposes, because each building shuts off the sky light from the other. It is a well-recognized law of school architecture that no school building should be placed nearer to any obstruction than twice the height of the obstruction. This would require approximately a distance of 150 feet between the two buildings. The actual distance is less than 20 feet. At least eight rooms in the older building and a corresponding number in the new building were found to be useless or seriously defective with regard to adequate access of daylight. They are good only for storage space, for rest or committee rooms, for night-school work, or for other such purposes where little light is needed or where artificial light may habitually be used. There is no remedy for this loss. Most of these rooms are now in use as classrooms, and even the artificial light is inadequate. A proper State building code, properly enforced, would prohibit their use as schoolrooms. Neither is there any remedy for the loss of space due to poor designing of the hall, cloakroom, and pipe-shaft space, and to the too great width of the classrooms in the new building.

In the future school-building enterprises of Wilmington the board should see to it that the advice of competent persons, familiar with school needs, is obtained and used by the architects employed to design buildings, unless the architects employed are themselves recognized specialists in school architecture. As a matter of fact, only the latter kind of architects should be employed. Even an expert school architect should be required to listen to the suggestions of the heads of departments and special teachers with reference to the arrangements and details of laboratories, shops, and special rooms. From the carefully guarded answers to our questions we are led to infer that neither the principal nor any science teacher was consulted or allowed to make any suggestion when the high-school annex was designed. There should be no repetition of such folly. If the local school men are not thought competent to give advice of value with reference to a projected new building such advice should be sought outside, and it should be the best obtainable.

Numerous bad defects about the building were noted. For example, the girls' gymnasium has no showers, a fact which cuts down the usefulness of the girls' physical training work 50 or 75 per cent. All of the laboratory rooms are too small for the number of pupils they are designed to accommodate, excepting the domestic-science kitchens and the sewing laboratory, which is too large. Physiology and geography are wholly without laboratory facilities; and the rooms in which they are taught are too small even for suitability as classrooms for those subjects. The lobby space and stairways to the

cafeteria, which itself is otherwise commodious and excellent both as to appointments and management, are inadequate to provide proper access and waiting space, a condition which results in congestion and consequent difficulties and wasted time in comfortably managing the pupils at the lunch periods.

There is only one covered passageway between the two buildings, that on the second floor. Further relief can and ought to be provided by building a second bridge above the first; but two double passages or one twice as wide should have been provided. As it is, many pupils may have to pass from the upper floor of one building to the upper floor of the other, and descend to the level of the bridge and back again in order to do so.

It is well known that much stair climbing is bad for many adolescent girls; and in addition to that there is much waste of time.

If the recommendation of the commission relative to the establishment of two junior high schools be adopted, the enrollment of the Wilmington High School will be materially reduced. When this is done it may be possible to make some changes in the building that will provide for supplying the deficiencies that we have noted. Certainly additional laboratory space should be provided, so that physiology and geography may be taught by laboratory methods and so that the overcrowding at least in the biological and general science laboratories may be remedied, and so that these laboratories may be equipped and operated efficiently.

IS THE EQUIPMENT ADEQUATE?

In no department did we find the equipment of the Wilmington High School fully adequate. There is a limited supply of good maps for geography, history, English, and foreign languages and literature, but in no case could either the number or variety be regarded as sufficient for a school of 1,300 pupils. Every teacher of these subjects should have wall maps at hand for instant use covering all the important localities and geographical features related to the subject matter of these studies. The same maps may be used by different teachers if their rooms are close together; but experience shows that if a teacher has to send to a distant part of a building for a map, she simply will not use it. It is hard enough to get most teachers to use maps anyhow; and for the sake of the pupils no obstacles should be thrown in the teachers' way.

There should also be a good number and variety of blackboard outline maps on which geographical relations can be shown with colored crayons. The observer was not able to find any of these in the school; and many of the teachers were not even cognizant of their great utility.

The equipment for chemistry is fairly complete; but that for physics is far below what it should be in quantity and variety, and there is not nearly enough cabinet space in which properly to house it.

The biology laboratory and the general science laboratory have tables crowded into them so thickly that it is almost impossible to get about in them. It is practically impossible for a pupil in the biology class to get to the blackboard if he happens not to be seated next to it. In neither of these laboratories is there a sufficient amount of apparatus and supplies to make efficient laboratory instruction possible, and in neither of them is there sufficient elbow room for the pupils to work effectively with it if they had it. Furthermore, there is not adequate cabinet space in which to store apparatus and materials; and if cabinets were provided there is no available space in which these might be placed.

In the rooms where physiology and geography are taught there are limited amounts of illustrative material, but not enough cabinet space in which to keep them, and no space in which to install such cabinets. Neither room has a demonstration table, so that experiments and demonstrations can not be made without the greatest of difficulty, and then not so that all pupils can see them. There is, of course, no possibility of individual laboratory work in these subjects under such conditions, although it is as necessary in these sciences as in any other.

The art room has no water supply, a condition which is obviously absurd; and there is almost nothing in it in the way of modern equipment for teaching the various phases of pure and applied art and art appreciation that are emphasized in our best modern high schools and technical schools. The room is also crowded with too many desks, and lacks cabinets for the preservation of the necessary supplies and for the pupils' work and tools.

The equipments and conduct of the departments of household and manual arts are discussed at length in the special parts of this report that are devoted to those subjects.

In the various rooms and the halls of both schools we were glad to observe an unusually generous and well-selected assortment of good pictures and casts. This feature is very creditable to the community.

We found on questioning the teachers of science that it has been very difficult for them to get equipment. They make requests for needed materials year after year without getting them. One teacher ordered a certain kind of equipment for five years in succession before she got it, and has been asking for two years for another kind of necessary equipment and has not yet secured it. One teacher sent

in a request for a case in which to keep specimens, and another teacher who did not order such a case got one and kept it. The first of the two teachers could not get another. In 1917 a requisition was sent through for 12 microscopes, a very modest request considering the school had none. Through some negligence or delay or haggling over prices the time went by when the microscopes could be obtained at any price. They were finally purchased and installed in 1920, but there were only 6 instead of the 12 asked for, and the 6 then cost more than the 12 would have cost if they had been promptly purchased when asked for.

These details are sufficient to show that there is something woefully deficient in the equipment of the high schools of Wilmington and also something radically wrong in the manner in which requisitions are handled and supplies purchased. The only hope for better things must lie in the possibility that the organization of the board of education and its methods of transacting business may be changed—fundamentally and placed on a business basis. Supplies for schools should be ordered and purchased according to business principles. With the present method of filling requisitions, no board members, even with the best intentions, can bring about the proper equipment of the schools.

Equipment should be budgeted and apportioned yearly. Deficiences should be made up. Worn-out and used-up equipment should be replaced annually. Department heads should prepare their requests for the annual budget, and these should be reviewed and adjusted by the principal. Specifications should be so made that the teachers will get in each case exactly the articles that they want and not some cheap substitute. Purchases should not be made by members of the school board acting as committeemen, but by a regularly constituted purchasing agent. The man appointed to such a position should be sufficiently intelligent and sufficiently sympathetic toward school needs so that he will act toward the school men as an agent and helper and not as a dictator, as business agents of school boards are too often wont to do.

Yet, whatever may be the character of the school-board organization, the board and the citizens of Wilmington can not hope to have their schools rank with the best institutions of their class unless they take measures to have them properly housed and equipped.

6. SUMMARY OF FINDINGS AND RECOMMENDATIONS.

1. The high-school enrollments are small relative to those of other communities where educational sentiment is at its best. Measures should be taken to create a better and more united sentiment in the community for the support of the public high schools.

2. There is a large amount of retardation and elimination affecting high-school pupils. Measures should be taken to better the schools with respect to both these conditions.

3. There are far too many failures among the high-school pupils. Remedies for this condition should be sought and applied.

4. Too many pupils who have not the mental stamina and ambition to go through a college course are entering the college preparatory curriculums and making a failure of it. The school should set up and maintain a system of educational and vocational guidance which should study the pupils and direct their efforts into the channels where success is most probable. The pupils do not exercise enough care and intelligence in choosing their curriculums.

5. The curriculums should be overhauled and reconstructed so as better to meet the needs of the various groups of pupils.

6. The high schools do not make a good showing on the educational qualifications of half their teachers; and in general the least effective teaching is most common in those departments where the average training of the teachers is lowest. Many of the teachers who are noncollege graduates have made commendable efforts to improve themselves, but usually by rather superficial methods. Evidently the scholastic requirements have been too easy in the past. More recent appointments show a tendency to stiffen the requirements. This policy should be continued with respect to all new appointments; and every teacher should be required to keep up with the times by a certain minimum of methodical study. Those not willing to carry on each year some definite study that is acceptable for college credit, either graduate or undergraduate, unless deterred by ill health, should be dismissed or retired on pension, as the circumstances and merits of the case indicate.

7. The majority of the high-school teachers are scheduled for too many or too large classes, or both, and are required to superintend study sections while teaching. Immediate steps should be taken to remedy these conditions.

8. Although the condition is not so bad as in some schools, there are in the Wilmington High School too many undersized and oversized classes. All the latter and as many as feasible of the former should be eliminated.

9. The administration of the high schools is very good, but the administrative and supervisory officers of the Wilmington High School should be relieved of some of their teaching duties in order to increase their efficiency.

10. The supervision is very good, but ways and means for further improving it are pointed out in the report.

11. The appointment of an assistant superintendent who shall be supervisor of high schools and educational efficiency expert for all the schools is recommended.

12. A special study of the art work is recommended in order that it may be determined how this department may be made more educative, more practical, more effective, and how it may be made attractive to more of the pupils.

13. The Howard High School should be housed in a new and modern building and provided with vocational as well as college preparatory courses.

14. The buildings of the Wilmington High School are in general not well adapted to their purpose. We recommend careful consideration of the facts and suggestions made in the report looking toward possible remedies for some of the defects of design.

15. The Howard High School has almost no equipment, and the equipment of the Wilmington High School is sadly deficient in nearly every department. We recommend that immediate steps be taken to supply these deficiencies.

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Chapter III.

SPECIAL DEPARTMENTS AND SUBJECTS.

1. THE KINDERGARTEN.

In the fact that it has practically no kindergartens, Wilmington is an exception among the cities of the Eastern States. Of these, Philadelphia, Boston, and Hartford adopted kindergartens over 30 years ago; New York, nearly 30; Washington and Newark, over 20; and Baltimore, nearly 15. The State of Delaware makes an equally poor showing in this respect in comparison with its neighbors. Until recently New York held first rank and New Jersey second among the States in proportion of children of kindergarten age enrolled in kindergartens. Within the past three years California has risen to the first rank, with 32 per cent of the children of kindergarten age in kindergartens; New York second with 30; and New Jersey third with 29. Pennsylvania has kindergartens in all its large cities. In comparison with these, Delaware's 3 per cent makes but a poor showing, and even this is attributable not to public but to private kindergartens.

The city of Wilmington is not unfamiliar with the kindergarten and its value. It has had several good private kindergartens for years. The Tower Hill School, a new high-grade private school, has an admirably equipped kindergarten, because those who organized it believe a school to be incomplete without one. The three social centers in Wilmington each have a kindergarten, and each considers it invaluable for the carrying out of its program of social service. Because some of the public-spirited citizens believe that the schools should render a like service, they have taken a step toward the establishment of public kindergartens by paying the salaries of two kindergartners, for whom the school authorities furnished the rooms. One of these has been placed upon the public-school pay roll the current year. One other public kindergarten has been opened, designated as a "Primary Circle." A beginning has been made, but a beginning only. In fairness to the other children of the city, the privilege now enjoyed by a few should be extended to all.

KINDERGARTEN INFLUENCE NEEDED IN PRIMARY GRADES.

To bring the Wilmington schools up to the level of the best schools of the country the authorities will need to take the kindergarten into far greater account than they have thus far done. One of the weak

spots in the work of the elementary school at the present time is the beginning work. Statistics show that 25 per cent of the children in the first grade throughout the country fail to pass on to the second grade at the end of the first year, the test being their ability to read according to the standards set. This indicates that the beginning work is not yet organized upon the right basis, and that the children are thrust into the work of the three R's too soon. To carry the work in these successfully they need such a foundation as the kindergarten gives. Children from 4 to 8 years of age are in a period of their development wherein they need much physical activity in the form of directed play and much opportunity to gain first-hand knowledge through investigation and experimentation and expression with materials of different kinds. To deprive them of this is to hinder their best development. The kindergarten meets the needs of this period, and it is not until these needs have been satisfied that children see any meaning or feel any real interest in learning the three R's.

Children who enter kindergarten at 5 not only run less risk of failing in the customary work of the first grade, but are capable of doing work of a much better quality. That the kindergarten prevents retardation has been proved repeatedly. No study has yet been made of the cost of the first-year repeaters as compared with the cost of kindergartens as a prevention of repeaters, but in view of the many problems to which a large percentage of repeaters give rise, there can be little question that the preventive measure would eventually prove to be the economical one. But whatever their cost, Wilmington can ill afford not to provide kindergartens. Its children need them that they may gain knowledge at first hand, and that they may have an opportunity to use eyes and hands in purposeful joy-giving activity. It needs them so that they may learn to play—to play cooperatively as a basis for true American citizenship later on.

The value of the kindergarten in a school system is by no means confined to the work done in the kindergarten itself, however, even as a prevention of failures later on. One of its greatest values lies in its suggestion for right methods in the grades to follow. Its methods are right because they are based upon the conception that education is something more than a mechanical system of training, that it is instead a process of development. Those who accept this view hold that the facts of children's development at a given period must determine the subject matter and method of education at that period. It is the acceptance of this principle that is revolutionizing the organization and methods of school work everywhere, particularly in the primary grades. The kindergarten has illustrated the new ideals and methods, but there are hundreds of primary schools throughout the country that have reorganized the customary work

in these grades in accordance with the principles implied in the conception.

If these principles were applied in the Wilmington schools to-day, they would occasion many changes. Placing less emphasis upon the mastery of the three R's at the beginning would be one of the most important of these. The advocates of the new education believe that children just entering school have more important needs than these, even though they enter at the age of 6. The three R's are important means to an important end, but children do not sense their value at the beginning. A second change would be the devoting of a greater amount of time to physical education in the form of play instead of formal gymnastic exercises, and the organizing of the daily schedule so as to require more active work and fewer periods of sitting. A third would be an increased emphasis upon the facts that have interest and value for little children—the planting, growth, and harvesting of vegetables, flowers, and fruit. Such observation is necessary to intelligent work in the customary school subjects. A fourth would be the devoting of additional time to the manual arts, and making the work in modeling, drawing, and constructing a real expression of the children's own knowledge. It is by working out such projects as the rooms in a house, the grocery store with its fruits and vegetables or the garden or farm, that children find real motives for art expression or for learning to read and write. Such projects afford opportunity for children to exercise their own initiative and therefore to do real thinking. The adoption of this method would therefore constitute still another change, one of great importance.

The points in which the principles of the kindergarten would improve the work of the primary grades in Wilmington are those in which the work at present has been rated weak. As at present organized the work that best meets the needs of beginners—physical exercises, nature observation, and art—receives but scant attention; and that least adapted to their needs, that of the three R's, is the work most stressed. Wilmington has therefore a double need for kindergartens. There are still some States where no legal provision has been made for the support of kindergartens by public funds, but this is not the case in Delaware. Any program for the improvement of the schools in Delaware's largest city should plan for the adoption of kindergartens, in order that the foundations of the school work may be strengthened. For a discussion of other aspects of kindergarten practice see Bureau of Education surveys of Memphis, Hawaii, and Winchester, Mass.

2. HOME ECONOMICS INSTRUCTION.

Home economics instruction is now accepted as an essential part of all public-school courses for girls. At present two-thirds of all

of the larger school systems require courses in this subject for girls in the upper grades of the elementary schools, and 8,000 high schools maintain departments of home economics.

Progress in the methods of teaching and choice of subject matter in home economics has been rapid. Experiences during the war period exhibited both the strength and the weaknesses of home economics instruction as previously given and resulted in many radical changes being made in home economics in the more progressive schools. Among the most marked modifications was a complete reorganization of all so-called sewing courses, and abandonment of the formal method of teaching by "models" and an adaptation of all projects to the actual home conditions of the pupils. In like manner food courses were changed and emphasis placed upon health and thrift. New stress was placed upon sanitation, home care of the sick, and household management. Hence home economics is now interpreted to include such instruction as develops a degree of skillfulness in fundamental household activities, aids in the formation of right health habits, promotes home helpfulness, and contributes to the establishment of acceptable standards of American home life.

Efficient home economics instruction also encourages a wise use of material, time, and money in securing physical comforts for the home, it stimulates an interest in all civic affairs that directly or indirectly affect the welfare of the home and its inmates, and it assists in creating among the students a social consciousness.

Broadly conceived and carefully planned courses of study, capable and well-trained teachers, competent supervisors, proper scheduling, and adequate and suitable rooms are all essential to successful home economics instruction.

EXISTING CONDITIONS IN WILMINGTON SCHOOLS.

Wilmington's progress in home economics education has not kept pace with that of cities of comparable wealth and population.

Sewing, which is taught in the white school from grades 4 to 8 and is elective in the high school, follows the old formal type of instruction. Children with holes in their stockings still darn holes cut in red flannel, and children without buttons on the backs of their dresses laboriously sew on a wash cloth which when completed will have taken an entire half year.

In the choice of projects no consideration is given to the social or economic status of the child or to her interests or needs. Every child in any certain grade does exactly the same task at a given time in that grade. Such exactions may entail hardships upon the home, obligate the parents to supply material for garments neither suitable

nor desired, and completely fail to establish an interest in and appreciation for the general subject of home economics. This kind of instruction is more easily given and more readily organized and supervised than the type which adjusts the project to the needs and interest of the student. A different and improved course would necessitate a trained staff of teachers, more time for supervision, adequate rooms, and modern equipment. This latter means that, together with other necessary articles, there would be one sewing machine for every four girls in the sixth grade and in classes above the sixth.

Food instruction in white schools is limited to the girls of the 8A grade and the ninth and tenth years, except that some 29 girls of the high school have elected the four-year home economics course.

Because but one double period per week is allowed for teaching foods, only actual cooking technique is taught, and no time is given to the discussion of the relation of food to health, or to the consideration of the economics of food preparation or service. Though the majority of the Wilmington schoolgirls do not reach the 8A grade, and though many come from homes where ignorance of the fundamental laws of personal hygiene, sanitation, and healthful food preparation prevails, yet the instruction in foods is limited to girls in the eighth grade and above.

To limit the instruction in foods to 8A and high-school girls, to reduce it to one lesson per week, to preclude the possibility of teaching the subject in its broader aspects places Wilmington schools in a class by themselves. All school health surveys prove that sickness among children could, to a great extent, be prevented if there were more general knowledge concerning foods and food preparation.

The special four-year high-school course in home economics compares favorably with similar courses in other cities, though it may well be doubted if the school authorities are justified in continuing to maintain this separate home economics course when so few students enroll in it and when its maintenance necessitates limiting food laboratory use for all other girls.

The night-school courses for white girls and women need not be discussed as to present conditions. They were at the time of the survey "feeling their way," and feeling it under rather difficult conditions so far as rooms, equipment, and teaching force are concerned. No night-school work had been arranged for colored women, though plans for this were being formulated when the survey was made.

In the colored schools sewing begins in the third grade, food work in the 7B, and both extend through the high school. Efforts have

been made to adjust this work to the needs of the children, but the equipment is so poor and the time allowance so small that the instruction is not what it should be.

TEACHERS AND SUPERVISORS.

In general, all sewing in the elementary schools is taught by teachers regularly employed as room teachers. These women, because without specific training in home economics, must of necessity teach exactly the course outlined by the supervisor of sewing and must for the same reason follow the methods in which they have been coached. As a result of the scantily trained teaching corps in the sewing of the lower grades, no possibility of the adjustment of the project to the pupils' needs can be made. When to this lack of special training the teacher is further handicapped by overcrowding, inadequate lighting, poor seating arrangements, and insufficient equipment, it is not strange that sewing instruction fails to function in the home life of the child.

In the grammar school sewing is taught by special teachers, but not by specially trained home economics women. Because of special aptitude and interest, certain grade teachers have undertaken this special work. They are limited in their opportunity to develop the subject because of the rigid course supplied to them, because of excessively large classes, because of the long interval between lessons, and because of the hopelessly inadequate rooms and equipment. There is one exception to this last statement as to rooms, and that is that in building No. 21 the sewing room is fairly good.

Food work is taught by trained women, and a vigorous effort is made to adjust the instruction to the needs of the pupils.

One women trained in home economics has charge of the food work and one of the clothing work in the building housing the colored high school. All teaching of sewing given in the other colored elementary schools is in charge of the regular teachers. The condition is not so regrettable as in the white schools, since all of the colored teachers have had some home economics training in their normal-school courses.

The clothing teacher in the colored high school is overburdened with responsibilities, as she not only carries a full teaching load but also supervises all other sewing work. The teacher of food teaches all classes in this subject for all colored pupils and also oversees the preparation and service of lunches to 200 children daily.

In the white schools the supervisors of both sewing and cooking teach as well as supervise. The head of the food work carries a full teaching load, supervises as much as possible, and also adjusts the relation of the laboratory supplies to the lunch-room conditions.

The natural and inevitable result is that the requisite amount of supervision is not given to this subject.

As in the white schools, so in the colored. The so-called supervisor is too busy with her own teaching to visit and render any considerable aid to the elementary sewing teachers.

ROOMS AND EQUIPMENT FOR TEACHING HOME ECONOMICS.

That Wilmington schools are not abreast of the most progressive systems in the place accorded home economics and that the type of work given is not that which is most approved can not be gainsaid, but much of the weakness of home economics instruction in the schools of the city is directly traceable to the extremely bad school buildings, which are so common a factor in the school situation. In building No. 24 the room used for sewing as now given is fairly satisfactory, but were the amount of time assigned to home economics that is considered desirable and the kinds of instruction supplied that are considered essential, this room would utterly fail to meet the needs of this building. In buildings No. 1 and No. 4 the rooms allotted for sewing instruction are wholly unsuitable. They are so small that it is impossible for the teacher to observe student work properly, the children are uncomfortable, and the lighting is bad. The children from the fourth grammar school report to the high school for this instruction and have good rooms and equipment.

All fourth and fifth grade sewing and the sixth-grade work given in elementary-school buildings having a sixth grade are taught in ordinary classrooms with practically no equipment.

There are excellent sewing rooms in the high-school building. The high school also contains two well-equipped food-preparation rooms. These rooms are well located on an upper floor, are light, well ventilated, and agreeable. A small dining room connects the two kitchens and is admirably suited for practice in meal service.

With the exception of the very excellent rooms in use in the high school, and the one fairly good room in building No. 24, there is no real provision for home economics in the white schools of Wilmington.

Poorly supplied as are the white schools, the colored schools are in much worse condition. One room in a poor basement is all the provision made for teaching cooking to all colored girls, and this room is also used at the same time for the preparation of lunch and the serving of it to 200 colored children. There is only one room in this building in which sewing is taught to grade, high-school, and normal-school pupils.

In neither white nor colored schools is there provision for teaching housewifery or household administration, the theoretical work

connected with food and clothing courses, or the care of the sick and household sanitation.

The very first essential to the improvement of home economics teaching in the Wilmington schools is the provision of adequate and satisfactory rooms and equipment. So great is the need for this instruction that Wilmington's effort for improvement should not wait upon an extensive building program. Portable buildings for these special subjects should be purchased and placed within easy walking distance of schools Nos. 1, 4, 24, 25, 26, and 30 for white children. These need not be placed upon present school lots. In each case there should be two portables, one for sewing and one for food preparation, both to be used for lessons in housewifery and, in certain neighborhoods, until better conditions can be provided, both may be used in the service of hot food to the children whose mothers work or who for other reasons are in need of added nourishment. Similar relief should be provided for the colored schools.

In these portable buildings may be held the afternoon or evening classes in home economics which are so essential in any serious effort to Americanize foreign women. In certain localities it may be deemed desirable to rent a small residence in place of purchasing portable buildings.

The equipment for home economics teaching does not need to be elaborate. It should be of a type as good as can be secured through reasonable efforts by the people from whose homes the children come. It should be practical. In rooms to be used for food preparation there should be some utensils of the size needed in an average home, as well as individual equipment of small size. There should be provision for a constant and abundant supply of hot water; there should be enough sinks, so that there will be neither crowding nor wasted time in securing water; there should be a range using the most commonly used type of fuel, as well as a supply of gas stoves. It is now considered desirable to have for every four girls a four-burner gas stove, with an oven instead of a gas plate at each student's place. The stove gives experience easily transferred to home conditions. There should be stationary tubs, with wooden covers, in each kitchen, and an ironing board and an electric iron in order that the principles of laundering may be taught.

When new buildings are erected there should be provided in each at least one room for food-preparation classes, one for clothing classes, one small dining room, and one room in which there is a bed. The teachers' rest room and lavatory may be made a part of the housekeeping practice rooms for home-economics classes. All equipment should be of a type that is sanitary and attractive and of the most modern labor-saving construction.

Ample provision should be made for securing personal cleanliness for home-economics students and all other children in the school. All new schools should provide lunch-room space. This should not be below the first floor and should be so located as to make easy the transfer of cooked food from the class kitchen to the lunch room and also to facilitate the oversight of the lunch room by the home-economics teacher.

REORGANIZATION OF HOME-ECONOMICS EDUCATION.

To bring home economics instruction in the Wilmington schools to a desirable standard numerous changes are necessary. First among these changes is a readjustment of all courses and an increase of time allotted to those which are retained or established. Not all of the changes hereinafter suggested can be made during the year of 1921, and hence a three-year plan is included in these recommendations. The final accomplishment to be desired follows:

1. Drop the sewing from the fourth grade in white schools and in its place provide a standard industrial-arts course that will include grades 1 to 4. In this course the children will gain a control of the coarser muscles and become familiar with certain kinds of tools and certain fundamental processes. It is suggested that, together with other problems, there be those involving knitting, crocheting, basketry, raffia weaving, rug weaving, and canvas work. Children of the fourth grade may sew rags for rugs, but under no circumstances should they be permitted to undertake problems requiring close or strained use of the eyes.

2. Introduce cooking and housewifery in the fifth grade, but delay sewing for another year, because the child at this age should not be required to do fine needlework. The cooking requires greater activity, and through it the child may be taught something of the relation of right food habits to health. The foods chosen for preparation should be of the simplest character, and only plain and good recipes should be used. Small quantities and small utensils are easiest for small hands. Orderliness, cleanliness, neatness, and exactness of methods of work are among the objectives of this teaching. The housewifery should consist of such instruction as a well-informed and skillful mother would teach her daughter. For instance, the making of her own bed, nice methods of dish washing, useful dusting of furniture, and neat and dexterous table setting are some of the objects to be included in the fifth-grade home economics. Not less than 120 minutes per week should be given this work.

3. The sixth-grade home economics for the average student who will probably continue through the following two grades should consist of progressive projects in food preparation, clothing, and

housewifery. The food lessons should be keyed around the query, What should a child of this age eat in order to be well and grow strong and what may she do at home to lighten her mother's tasks? Her lessons in clothing will involve the use of the sewing machine in making articles needed either by herself, some smaller brothers or sisters, or by some institution child. Mending lessons should be a regular part of the course. The repair work should be done on actual articles of wearing apparel that are in need of mending. Stockings to be mended should be brought from home; so also should ginghams or other cotton garments in need of buttons or patching. Any alert teacher can secure a supply of garments to be mended by those who fail to bring work from home.

All projects should be adjusted to the home experiences and needs of the pupil. Home economics which does not function in the home life of the child is worthless. Not less than 180 minutes of school time should be given to home economics each week throughout the sixth grade.

4. The seventh, eighth, and ninth grade work should be organized into a junior high-school cycle. Not less than 225 minutes per week of school time and 90 minutes of home work should be assigned this subject in the first two of these years, and in the ninth year home economics may be a full credit subject with the time equivalent to five class periods per week scheduled for its teaching and for home practice. All food perparation in these three grades should be with quantities sufficient for an average-sized family and with time requirements comparable to home cooking conditions. Theory and practice should be kept to an even advancement. The meal sequence should be adopted, and meals should be frequently prepared and served approximately under home conditions. Where desirable these classes may, in part, prepare the food required for school lunches and by special nutrition classes, such as these for tubercular children. The pupils will be more interested and make better progress when such projects are arranged. It is often possible to secure materials from the homes and have the cooked product returned for family consumption.

It is recommended that the pupils' attention be centered upon food and its accompanying subjects for one short, definite period and upon clothing, art, and other subject matter relating to clothing for another period, rather than as is frequently the practice, the alternation of lessons in food and in clothing. Projects undertaken should be completed rapidly and without interruption. It is advised that nine weeks be given to one type of projects, then nine weeks to another. It is highly desirable that the teachers employed be interested in teaching all of home economics instead of one narrow line, and also be able to do it efficiently. Such teaching as is here suggested is more

difficult than when rigid courses are outlined with very small lessons and absolutely uniform pupil progress. Consequently more adequately trained teachers with smaller classes are essential to successful work. The work should not be alike in all parts of Wilmington. On the other hand, the course should be adjusted to the needs, social conditions, and racial or religious observances of the children from the various sections of the city.

5. The present four-year high-school course in home economics should either be dropped entirely or else beginning work should be offered each alternate year only until there is a demand sufficient to sustain full classes of 20 pupils. Wilmington can ill afford a teacher for classes of 5 or 6 students.

6. Special home-economics classes should be established for girls of 14 years of age and over who are in need of such instruction without regard to their academic standing. These courses should occupy one half of the pupils' school time, and the other half should be spent in opportunity rooms. The most devoted, resourceful, and thoroughly prepared teachers are needed for this type of work. No school instruction, if rightly given, will so affect the future welfare of the less fortunate homes of Wilmington, and none will tend to make better, more efficient, or more contented citizens. This type of intensive home-economics instruction is expensive, but it will well repay the city in the decrease of ill health resulting from badly kept homes, badly fed children, and uninterested and ill-trained young women, who because of lack of standards of wholesome home life become a menace to the moral life of the city.

7. What has been recommended for the white schools is also recommended for colored schools except that, because the colored girls so generally leave school while yet in the lower grades, home economics should begin as low as the third grade, and the time allotment should increase until the sixth-grade girl spends not less than 90 minutes per day in home economics. Opportunity rooms with intensive courses should be provided for the colored girls who are over age, and the instruction should be of a most practical nature, so that the girl finishing the work will be recognized as prepared for wage earning in housework, in child nursing, or in dressmaking.

So few wage-earning occupations are open to the colored girl that special training should be provided in the lines in which she may find remunerative employment. It is recommended that home economics be continued through high school and normal course for the colored girls, that every teacher may understand and sympathize with the efforts of the special home-economics teachers and that from among these pupils other special teachers be developed.

8. Intensive home-economics instruction is needed by many different classes of women. Home-management courses, courses in house-

hold and community sanitation, and courses in both the physical and mental care and development of children will appeal to intelligent home makers. Short unit courses in certain phases of household furnishing, household linens, and garment making will meet the need of those expecting marriage. Very practical and personal instruction offered in the afternoons in their own sections of the town will reach the foreign women who are struggling to meet American conditions of living while still clinging to the Old World traditions and customs. The work should be taken to these women and may well combine with the Americanization work now being done.

If every dollar of Federal money for home economics in Delaware were spent in Wilmington it would be well spent if it resulted in the Americanization of the many foreign homes of the city.

SPECIALLY TRAINED TEACHERS NEEDED.

To teach such courses as have been suggested women must be employed who are well trained in all phases of home economics. It is not usual for elementary-school teachers to be either interested or trained in special lines of education, nor is it ever desirable to require such instruction of them. Therefore it is recommended that all teaching of home economics subjects in the Wilmington schools be put in the charge of trained special teachers and that provision be made for adequate supervision.

Wilmington should have one supervisor of home economics for the direction of all instruction in home economics. She should have an office and clerical assistance that she may be freed from small office duties and be able to spend almost all of the time in actual supervision. Such a supervisor should not be responsible for any class work, but should be expected to do some substitute teaching for brief periods when emergencies arise. There should be an assistant supervisor for home economics for the colored schools also. She should not be expected to teach more than one-third of her time.

If intensive-home economics night classes or day part-time classes in home economics multiply, it may be necessary to employ an assistant supervisor to assume the responsibility for the vocational work, but for the present, at least, the supervisor of home economics should supervise both regular and intensive home economics courses.

Rooms and equipment have been discussed elsewhere. Too much can not be said in regard to the present hopelessly bad schoolroom conditions, nor in reiteration of the statement that no considerable improvements can be hoped for without provision of better working conditions.

RELATION OF HOME ECONOMICS TO SCHOOL LUNCH ROOMS.

The present relationship exisving between the manager of the lunch room and the teacher in charge of food work is most excellent. This relationship is satisfactory because of the present personnel of the two departments and not because it is good per se. A change of personnel might completely wreck the present satisfactory working conditions. In general, all lunch rooms throughout the school system (and many lunch rooms are needed) should be under the direction of the home economics department. Such an arrangement has many advantages. It makes available expert advice as to healthful food and sanitary conditions and advantageous disposal of food-class products; it provides instruction in right food habits for all children; and it permits, to some degree, training in lunch-room management for vocational class students.

RECOMMENDATIONS FOR THE SPRING AND FALL OF 1921.

1. Drop fourth and fifth grade sewing in white schools.
2. Introduce food and housekeeping in fifth grade.
3. Omit formation of new classes in the special four-year course in home economics, and regroup the present students so that not more than two sections be maintained.
4. Provide a survey course in home economics for all ninth-grade girls and require this of all girls in the white schools.
5. Add 8B food work in the spring of 1921 and in the 7A and 7B in the fall of 1921. Increase the time and divide the instruction as suggested in the previous pages of this report.
6. Provide lunches in the grade buildings and place the administration of these in the hands of the home economics supervisor.
7. Employ trained teachers for the fifth, seventh, eighth, and ninth grade food work and have all sewing taught by special teachers.
8. Erect portable buildings for home economics classes and remove the classes from all grade buildings except building No. 24.
9. Increase the amount of home economics given in the colored schools.
10. Remove the present food laboratory from the basement in the colored high school and place it in a portable or rented building until a new high-school building is provided.
11. Add a woman trained in foods and one in clothing to the colored teachers' staff, thus freeing the time of the present food teacher for oversight of the lunch room and of the new food classes and giving time for the clothing teacher to supervise the grade courses and to organize additional work.

RECOMMENDATIONS FOR THE FALL OF 1922.

1. Reorganize sixth-grade courses in white schools and add instruction in foods.

2. Employ a full-time supervisor of home economics.

3. Increase the number of rooms and the equipment in the grade schools.

4. Establish intensive courses in home economics for girls over 14 years of age in sections now served by schools Nos. 10, 15, 3, and 4; in sections now served by Nos. 1, 6, 7, 8, 14, and 20; and in sections now served by Nos. 12, 17, 23, 24, 26, and 30. These courses are described elsewhere in this report.

5. Wherever possible, operate school lunch rooms in connection with these intensive home economics courses, that all cooking may be with larger quantities and that much practice may be offered.

6. Establish similar courses of intensive home economics work at at least one center conveniently located, that may be attended by colored girls.

7. Establish cooperation with homes of the better class so that colored girls may have experience in such homes.

8. Encourage and support courses for adult women and girls to be given at times and places convenient for them and under sanitary and agreeable conditions.

9. Abandon the present basement food laboratory and open new rooms on the upper floor of the present high-school, where food work is now given. It would be well to devote an entire floor to this work and add to the present type of equipment by arranging one or more kitchens of home kitchen size and furnishings and a bedroom in which to practice housekeeping and care of the sick.

By the fall term of 1923 Wilmington should inaugurate all the changes recommended. Newly organized courses should be in operation, all home economics should be satisfactorily housed, trained teachers should be employed, adequate supervision should be supplied, intensive courses should be maintained for girls and women, and a four-year course may again be offered.

Home economics where rightly supported and taught becomes health education. When cooperation is fully established between home economics departments and those of physical education and biology, health education may be attained and health habits established.

3. VOCATIONAL EDUCATION.

During the months of November and December, 1915, and January, 1916, a careful study was made of educational and industrial conditions in Wilmington, under the direction of the Commissioner

of Education, by Fred C. Whitcomb, professor of industrial education, Miami University, Oxford, Ohio. A report of this study was published by the Bureau of Education,[1] and included an analysis of the conditions affecting the schooling of boys and girls of 12 or 13 years of age and upward, the occupations open to or actually engaged in by these young people, and a description of provisions made for instruction in manual training, home economics, and drawing, courses of study, and shop and laboratory equipment. A careful study was made of conditions in the industries of Wilmington, the educational needs of workers, and existing opportunities for appropriate training. On the basis of these studies, "suggestions for a program of industrial education" were formulated, including suggestions for foundation work in manual training and home economics.

Although conditions have changed materially during the intervening months, due to the fact that certain of the recommendations made have since been adopted and carried into effect, and portions of the plan then suggested would need to be modified correspondingly, nevertheless, much of the analytical and descriptive part of the earlier report is still applicable.

Among the recommendations already adopted the following are of the greatest significance: (1) Appointment of a director of vocational education well qualified by training and experience to deal with the problem of vocational education as presented in Wilmington; (2) the opening of evening vocational classes; (3) the organization of part-time day continuation classes; (4) the organization of half-time cooperative continuation classes.

These special classes appear to have been organized upon a sound and efficient basis, and for the most part have been placed in the hands of enthusiastic and earnest teachers. In some cases it has been necessary to employ teachers who have had no special preparation for the work of teaching, but plans already on foot looking toward helpful supervision will serve to improve the quality of the instruction where needed.

For administrative reasons the present study was limited to what might be done in 10 or 11 days, and was necessarily of a character different from that of the earlier study.

It was possible even in this brief time, however, to visit all the school shops, the evening school, all the special classes, to visit a considerable number of manufacturing plants and other places of employment, and to confer with employers, labor leaders, and others in position to assist in securing a fairly adequate understanding of conditions. The present report discusses certain general principles

[1] Industrial Education in Wilmington, Del., Bul., 1918, No. 25, p. 104.

and policies rather than statistical studies and the details of equipment and courses of instruction.

SCHOOL ENROLLMENT AS AFFECTING THE PROBLEM OF VOCATIONAL EDUCATION.

The extent to which the schools retain the children or fail to retain them, has a twofold bearing on a program for vocational education: (1) It indicates whether the schools as now conducted are fully meeting the educational needs of young people, and, if these needs are not being met, it suggests something of the magnitude of the problem; (2) it indicates the amount of the educational equipment which young persons have upon entering wage-earning employment.

In both respects the enrollment figures for the Wilmington public schools give evidence of a grave problem to be met, as the following table shows:

Enrollment in public schools, by grades, 1919–20.

Grade.	White.	Colored.	Grade.	White.	Colored.
Grade 1	1,655	201	Grade 7	1,127	103
2	1,350	154	8	907	52
3	1,307	223	9	513	35
4	1,339	107	10	278	19
5	1,383	170	11	170	21
6	1,280	130	12	119	11

These figures show that there is a rapid falling off in enrollment after the fifth grade, when children of normal advancement are 11 or 12 years of age and over. While the average number of white children in the first five grades is 1,415, there are only 907 in the eighth grade—a dropping out of more than one-third. The enrollment of the seventh grade, 1,127, represents a reduction from this five-year average of over one-fifth, and yet there are more children in the seventh grade than in all four years of the high school combined, 1,120.

It appears, therefore, that only about two-thirds of the white children in Wilmington receive as much as eight years of elementary schooling, slightly more than one-third enter high school, and fewer than one in ten get as far as the fourth year in high school.

The conditions in the colored schools are even less encouraging. The seventh grade enrolls less than one-half as many pupils as the average number in the first five grades, the eighth year less than one-fourth, and the first-year high school less than one-eighth.

From these figures alone it is possible to argue that in order to give all of these white boys and girls the equivalent of elementary

schooling, of the kind now offered, it will be necessary to increase the present facilities of grades 6, 7, and 8 by approximately 50 per cent; and if all are to receive high-school training, existing facilities must be increased more than threefold. For the colored schools corresponding expansions would be called for.

However, as indicated elsewhere in this report, the character of the program now offered in the schools should be modified and enriched in various ways and the quality improved, so then the simple extension of present facilities would not adequately meet the needs. Additional types of schooling are called for, better adapted to those boys and girls to whom the present program does not make sufficient appeal to retain them in school. This, in effect, constitutes the problem of the vocational education program, including the preliminary stages of prevocational education and vocational guidance, and the foundation work in the manual arts instruction of the lower grades.

The other point emphasized by these enrollment figures is that, so far as the public-school system is concerned, the great productive army of workers in the commercial and manufacturing establishments of Wilmington must at present be recruited almost exclusively from a supply of boys and girls who do not have the advantages of high-school education and to a very considerable extent from those who have not even completed the elementary school. That this situation constitutes a serious handicap to the commercial and industrial interests of the community is now coming to be fully appreciated by those directly affected, both employers and workers. This is a most hopeful sign, for most young persons are influenced directly by public opinion in their attitude toward the value and importance of education.

Over and over again in conferences with both employers and workers the point was made that the industries of Wilmington call for considerable numbers of men and women with high degrees of skill and general intelligence. An adequate supply of young persons having the requisite educational foundation for these qualifications has not only not been assured by the public schools of Wilmington, but it has not even been made possible in the past. To assist in remedying this lack is the definite objective and goal of the vocational education program recently inaugurated.

THE PREVOCATIONAL EDUCATION PROGRAM.

The fact that only about one-third of the children get as far as the first year in high school emphasizes the importance of appropriate measures for the later years of the elementary schools. This phase

of the problem should be attacked aggressively, since by its solution the larger numbers of children will be reached. They can be reached before the first break from the influence of the school, and a larger proportion of them can be retained in school than now.

It is now coming to be recognized that the school must provide more definite guidance and direction for children who are likely to leave school at or near the time when they may legally do so, and thus to face at a very early age the demands of industrial and commercial life. It is evident that the public elementary school offers more and better service to the pupil who can use it as a stepping-stone to further training in high school, college, or professional school than it does to the one who must make the best of it as preparing for a life career without the higher aid.

It is not possible to determine which children will continue through high school, for many children and their parents when questioned will make declaration of intentions which are subsequently not realized. Nevertheless, an effective plan of prevocational classes will assist many of those whose plans for the future are unsettled to see the advantages of further schooling, and especially schooling which aims at preparation for definite life careers, and it will confirm many others in their determination to secure as much preparation as possible.

AIMS OF PREVOCATIONAL CLASSES.

These classes are designed for children of about 12 to 16 years of age, and should have a three-fold aim: (1) To promote a better understanding by each individual of his own abilities and qualifications; (2) to promote a better understanding of the meaning of a life career, and of the available opportunities and means of earning a living; (3) to encourage the best possible use of individual abilities and available opportunities.

When work with these objects in view is undertaken in a more or less formal way as a classroom study and through individual conferences between teacher and pupil, with or without visits to commercial and industrial plants and individual studies and researches, it is referred to as "vocational guidance." It is next to impossible to lay this sort of responsibility upon an overburdened teacher, by injunction, and expect valuable results to follow, although profitable beginnings may be made by qualified teachers even in the primary grades. Until such time as a general plan of vocational guidance can be developed by the division of vocational education, individual teachers who have the disposition should receive all possible encouragement and assistance in undertaking work of this kind with their pupils.

When the studies in vocations are developed to the extent of providing special shop and laboratory equipment, so that the pupil may engage in the actual processes and activities selected for their educational value from a number of typical vocations, with sufficient time assigned to such practical work, it is believed that the pupil may be able to form for himself an intelligent relative estimate of his fitness for the various types of vocations in which he thus engages, as the basis for the choice of a life career. To such special class has been given the title of "prevocational class."

The prefix "pre" implies a special kind of training that precedes vocational training, and hence is not itself vocational. It is designed for the person who has not yet made a choice of vocation, or a choice of school course in preparation for vocation, and who is presumed to receive therefrom definite assistance in the making of such choice.

The latter part of the term "vocational" implies a considerable variety of activity and a broad outlook into possible future careers. There should be something corresponding to the introductory phases of each of the main fields of vocational education (professional, agricultural, commercial, industrial, and home making), the opportunity to enter upon a definite vocational course in some one of which presumably would be open as soon as a choice can be made.

BASIS OF SELECTION.

Within reasonable limits it may be argued that the lines of work included in the program for prevocational classes should be substantially the same for all communities, since the mobility of our population prevents any strict limitation of vocational opportunities. The logical plan will at least include activities broadly typical of occupations which are of greatest significance to the community and the surrounding territory.

To assist in determining what these occupations are, the following tables have been prepared from figures obtained from the Central Labor Union and the Manufacturers' Association, respectively:

Approximate memberships of unions affiliated with the American Federation of Labor in Wilmington.

Bakery workers		75	
Building trades		3,110	
Carpenters	1,500		
House and shop	1,200		
Ship	300		
Bricklayers	250		
Sheet-metal workers	150		
Plumbers	150		
Electrical workers	200		
Plasterers, cement-finishers	100		
Building trades—Continued.			
Painters	350		
House	200		
Car and ship	150		
Lathers	40		
Slate and tile roofers	50		
Hod carriers, laborers	250		
Railroad shops		3,100	
Blacksmiths	200		
Sheet-metal workers	200		

Approximate memberships of unions affiliated with the American Federation of Labor in Wilmington—Continued.

Railroad shops—Continued.		
Carmen	900	
Carmen (Pullman shops)	600	
Boiler makers	250	
Electrical workers	150	
Machinists	800	
Railroad employees		2,800
Maintenance of way	2,200	
Signalmen	200	
Trolleymen	400	
Shipyard employees		4,000
Ship smiths	200	
Boiler makers, ship fitters	1,000	
Sheet-metal workers	150	
Marine plumbers	200	
Machinists	250	400
Pattern makers	150	
Iron, steel, and tin	50	
Leather workers		3,500
Miscellaneous		1,795
Bottling workers	150	
Clerks	150	

Miscellaneous—Continued.		
Moving picture operators	25	
Steam engineers	25	
Colored shipyard workers	100	
Insulation and asbestos workers	40	
Barbers	100	
Bartenders	200	
Musicians	100	
Stage employees	75	
Tailors	50	
Telegraphers	50	
Federal employees	150	
Men	50	
Women	100	
Railroad clerks	200	
Total		19,460
In State, outside of Wilmington		2,000
Railroad organizations, not affiliated		3,000
Grand total		24,460

Estimated number of employees in manufacturing plants.

Product manufactured.	Plants.	Employees.
Railroad and ship work	4	4,898
Railroad cars, wood work	2	1,165
Ships, railroad cars	1	3,113
Ships, paper machinery	1	620
Iron and steel	17	2,513
Machine shops	8	382
Castings, car wheels	4	1,101
Boilers	1	196
Steam fitters	1	90
Plumbers' supplies	1	191
Iron, steel	3	553
Leather (morocco)	10	3,072
Chemicals	4	1,451
Miscellaneous	19	3,485
Paper, wire	2	233
Vulcanized fiber	6	1792
Rubber hose, belts	2	517
Brewery	4	64
Bakery	2	25
Wood pulp	1	245
Underwear, textiles	2	480
Electric power plant	1	149
Total	51	13,419

The chief industries in Wilmington include the building of ships and railroad cars; tanning and finishing leather, especially morocco; manufacture of chemicals; building construction; certain phases of iron, steel, and machine manufacturing. In addition to the employees peculiar to the ship yards, tanneries, and chemical works, practically all of the usual building and machine trades are represented in considerable numbers.

These lists do not afford a complete list of the vocational opportunities in Wilmington, since the commercial and shipping interests are not represented, nor those occupations classed by the census as "professional service," and "domestic and personal service." Diligent search failed to reveal any definite information concerning these groups later than 1915.

In developing a plan for prevocational classes the following lines of work should all be carefully considered, and as many of these included as circumstances will permit: For boys—mechanical, architectural, and ship drafting; carpentry, cabinetmaking, pattern making; forging, machine shop, foundry; sheet metal, electrical construction, automobile maintenance and repairing; printing, salesmanship, business organization, and methods; gardening; agriculture. For girls—commercial subjects, salesmanship, and business methods; cooking, sewing, and home making.

ESSENTIAL FEATURES.

Experience in other school systems has shown that certain features are essential to success in the conduct of prevocational classes.

1. At least one-half of the time in school should be devoted to the various lines of practical and recreational activities. Sufficient time must be allowed to accomplish definite results in each occupational field. A 6-hour school day, with two sessions of 3 hours each, has found favor in a number of places.

2. One-half of the time should be given to related work in language, mathematics, elementary science, industrial geography, industrial history, and, in general, to preparation for intelligent understanding of and active participation in civic and social responsibilities.

3. The work should be offered, in the beginning at least, on an elective basis, but all boys and girls who are likely to profit by the instruction should be encouraged to take it. This department should be maintained on the same basis of dignified and serious endeavor as any other, and should not be considered as a special provision for incorrigibles or for pupils physically or mentally backward.

4. As already indicated, there must be variety to the practical activities undertaken in order to give insight into a number of typical vocational fields.

5. Teachers should be chosen who have had sufficient experience in the occupations represented in the course of study to relate the instruction to actual conditions in the industrial and commerical world. The closest relationship should be maintained also between the shopwork and the related work. The success of prevocational work is dependent in large degree upon the teacher's power to hold and interest the pupils and upon qualities of adaptability, originality, initiative, and keen interest in the successful handling of the problem.

6. There should not be less than one year, and preferably two years (the seventh and eighth), during which the pupil engages in several typical lines of shopwork or laboratory work successively,

followed by a period of one year or more in which he may specialize in a chosen line.

7. The pupils should be grouped in sections of not to exceed 15 to 18 each in order to permit a degree of individual instruction.

At least two prevocational centers for both boys and girls in the white schools and one for the colored pupils should be provided, and developed along the lines followed so successfully by the present director of industrial education in connection with the public schools of Seattle. Each center should provide facilities for practical shop or laboratory work in at least four lines, selected from those listed above. The centers for colored pupils should take special account of those occupations open to colored workers in Wilmington.

For example, Center No. 1 for white boys might contain the following units: (1) Woodworking shop, for carpentry, cabinetmaking, patternmaking; (2) machine-shop benchwork, sheet metal; (3) electrical construction; (4) automobile maintenance and repair. Center No. 2 might contain (1) machine shop; (2) forge shop; sheet metal; (3) printing; (4) commercial subjects, salesmanship. Each center should provide adequate facilities for instruction in related freehand and mechanical drawing.

It is impractical to estimate the cost of equipment in advance. It will hardly be less than $2,000 to $5,000 for a center for boys' classes, depending on the types of work selected, and somewhat less for a center for girls' classes.

THE VOCATIONAL EDUCATION PROGRAM.

After a system of prevocational classes has been functioning efficiently for a reasonable time, supported in turn on a foundation of appropriate manual training, the problem of the vocational program will be much simpler than it is now. Young people will come to the age of entering upon wage earning with some definite idea as to what they want to do, and what they are fitted to do, for a life work, as well as what opportunities are open to them, and most of them will have at least the beginnings of preparation for some useful service.

This ideal condition is perhaps far in the distance as yet. Meanwhile, the division of vocational education must address itself to the task of rendering the maximum of immediate service, as well as laying the broad foundations suggested in the preceding paragraphs. For this purpose the following funds are available for the school year 1920–1921:

State and Federal aid		
Salaries of teachers		$11,500
Teacher training and supervision	$7,500	
	4,000	

City school funds		$85,225
Manufacturers' Association		20,000
Equipment	$15,000	
Maintenance	5,000	
Total		36,725

These funds have been budgeted as follows:

Evening classes	$7,000
Part-time and cooperative classes	6,500
Day-trade classes	2,200
New equipment	14,850
Office of director	6,175

EVENING CLASSES.

For the current school year it has been very wisely decided to emphasize the development of evening classes, part-time classes, and cooperative classes. Undoubtedly the same policy should prevail for at least another year, for reasons that will appear in the following discussion.

The generous and enthusiastic response to the announcement of the evening vocational classes more than justifies the importance ascribed to this phase of the program in the report of the director. The new director, arriving upon the scene late in the fall, was confronted with the necessity of deciding whether to open evening classes almost immediately, without adequate opportunity to organize an efficient corps of teachers and to complete other necessary arrangements, or to delay the opening until after the Christmas holidays, when everything might be prepared on a more leisurely basis. Even a hasty review of the situation indicated that a real need existed, and the courageous decision was made to proceed at once, even at some risk of failure to meet all expectations in full. The first term's experience will justify this step, though at the cost of strenuous exertion on the part of all concerned. Within a few nights the enrollment exceeded 400, nearly double that of the previous year, and lack of accommodations made it necessary to discontinue receiving new students. The fact that this condition came about as the result of but a few days' effort and a very modest advertising campaign clearly indicates the desirability of further expansion.

It appears that no more funds are available for the current year for the payment of salaries of teachers. Except for this, the service rendered by the evening school could be doubled at practically no additional expense beyond that incurred for salaries. Classes are now held two evenings per week, Tuesdays and Thursdays, from 7.30 to 9.30 o'clock. By opening other classes on Monday and Wed-

nesday evenings the same rooms and equipment could serve a second school as large as that now at work. Unquestionably, next year's budget should provide for double the present year's enrollment in evening classes; indeed, the experience of the remainder of the year may dictate even further increases.

Two recommendations have already been made by the director of vocational education which should receive favorable consideration:

(1) The first relates to greatly enlarging the scope of the evening school. There is evident demand for general educational subjects, including such work in the common branches as is given in the upper grades of the elementary school, as well as many subjects offered in a good high-school course. Many persons who left school with only a meager common schooling, and who now feel the need, are unable to return to the day schools. In many cases they need instruction in general subjects before they can profitably undertake the special courses designed to advance them in their vocations.

The field of education for business should be entered also in an aggressive way. Courses in salesmanship, modern filing systems, office practice, use of calculating machines, mimeograph, and other devices, and commercial law, would meet a very real need. In view of the anticipated development of Wilmington as an ocean port, courses of instruction looking toward preparation for foreign trade constitute an inviting field.

In addition, there are many important industrial lines which have not yet been entered, because of lack of funds. These include at least the following: Automobile maintenance and repair; interior decorating, painting, sign writing; trade extension shop courses in the woodworking trades, machine shop, and others for which shop equipment may become available hereafter; industrial chemistry, for employees in explosives, dyes, leather, and chemical works, painters, and others; courses especially designed for women employed in industry, to be determined after further investigation.

(2) The second recommendation relates to the proper coordination of all evening-school work. "There is much in common in the evening class work of the department of Americanization, the elementary evening school, and the evening vocational school." Wherever possible these should all support and reinforce one another, and the same should be true of the relations between these and the day schools.

No lack or weakening of the spirit of cooperation should be permitted to embarrass any undertaking in any part of the school system. It should be regarded as extravagance, for example, to equip special shops and science laboratories for evening classes, to be used 4 to 8 hours weekly, if it is possible by reasonable readjustments and

mutual compromise to adapt these features of the day-school equipment to serve both needs.

One of the important arguments in favor of the evening school is its relatively low cost per student, due chiefly to the fact that it utilizes facilities that are already in existence, and that are necessarily a part of a school system, whether evening classes are maintained or not. Efficient administration of evening classes involves the use of every possible item of equipment already at hand before proceeding further.

PART-TIME CLASSES.

From the standpoint of rendering the maximum of service to the largest number of individuals at the minimum of cost, the part-time classes are probably the most important phase of the vocational education program. The plan has met with great favor in all parts of the country, and 25 States have now enacted legislation providing for compulsory attendance upon part-time classes, under varying conditions, by youths in wage-earning employment. The number of hours per week which the children are required to spend in school upon the employers' time varies in the different States from 4 to 8. Beginning with the age at which children may be legally employed, the period of compulsory attendance extends to 16, 17, and 18 years of age in different States.

In Wilmington at present part-time classes are maintained at the Harlan plant of the Bethlehem Shipbuilding Corporation, 92 apprentices, and at the Pusey & Jones plant, building ships and machinery for the manufacture of paper, 36 apprentices. These boys receive 4 hours of instruction in general continuation school subjects every Saturday morning in classrooms provided at the plants. Six part-time teachers and a supervisor are furnished by the public schools and two teachers by one of the plants.

The work observed here seemed on the whole to be of high grade, with an excellent spirit of earnest application prevailing. In one or two instances the classes are too large for the best results. In several classrooms the tables and seats are so arranged as to make it impossible for the instructor to get around among the students for individual attention. Under such conditions there is always danger of too much use of lecture and class demonstration methods.

The part-time plan should be extended as rapidly as possible to other industrial plants, and also to stores, office buildings, and other places where young persons are employed. To meet the probable needs in Wilmington for part-time classes and cooperative classes, to be discussed later, will require the full time of the supervisor for an indefinite period.

Much time and arduous effort are required to locate and interview the boys and girls and their employers, to perfect arrangements for classrooms, with their simple but necessary equipment, schedules of class meetings, and outlines of courses of instruction, to discover and employ properly qualified teachers, and finally to give the needed supervision after the classes are actually in operation.

COOPERATIVE CLASSES.

Closely related to that type of continuation class referred to above, usually designated "part-time class," is another type of part-time continuation class which for convenience is called a "cooperative class," in order to distinguish it from the other. In fact, cooperation by and between the school system and the employer, or group of employers, is an essential part of both schemes.

The essential features of the cooperative class include:

(1) A definite arrangement by and between the school system and one or more industrial plants, stores, or offices, in accordance with which the theoretical instruction is given by the school and the practical experience is given in the place of employment, and both are coordinated in a systematic and progressive educational program.

(2) Willingness on the part of the employer to make such adjustments in equipment and processes and methods as are necessary for the promotion of the educational ends.

(3) Willingness on the part of the school to eliminate nonessentials from the course of study and to base theoretical instruction on actual practice, and sufficient skill in organization to administer the plan successfully.

(4) Careful selection of employers, instructors, and student-workers who are capable of being inspired with a vision of the responsibilities as well as possibilities of the plan.

(5) Administration of the device of alternating periods in such a way as to secure continuous and progressive action on the process or job in the factory, as well as in the work of the student and the instructor in the school.

In brief, the plan provides that the students in any class shall be divided into two groups, one group being in school while the other is at work. At the end of each period (one week or two weeks) the groups exchange places, and thus alternate between school attendance and wage-earning employment. The student-workers are arranged, in pairs, so that the work in the place of employment is kept going continuously.

The special advantages of the cooperative plan may be summarized as follows:

(1) The safeguards thrown about the young people in their places of employment through the supervision exercised by the school and the cooperation of the employers show an almost unbelievable improvement over the conditions hitherto characterizing the employment of minors in many places.

(2) The cooperative plan makes it possible for some boys and girls to continue in school, because of wages earned on half time. Prolonging the period of active connection with the school and of contact with sympathetic teachers and advisers confers an incalculable benefit on growing boys and girls and should lead to a permanent impetus to better things.

(3) The plan doubtless induces some to remain in school, because the school work is thus made more interesting and the student can see a more direct relation between schooling and the promotion of his own interests.

(4) The experiences involved promote a more earnest and thoughtful attitude toward work and the responsibilities of life.

(5) The plan discourages idleness and unwholesome use of time, since the longer school day and year are fully occupied with interesting activities.

(6) The opportunity to engage in gainful employment of half time, under suitable auspices, has a definite prevocational value, assisting young persons to discover their tastes and probable aptitudes.

(7) The successful operation of a cooperative school or class affords a convincing demonstration that a reasonable amount of work, under proper conditions, can be made to contribute definitely to the development of youth instead of being, as frequently heretofore, a demoralizing, disheartening, and stunting influence.

(8) The plan gives the student, at the very least, a foothold in some industry or occupation, so that he does not feel lost when the time comes to leave school and take up the responsibilities of self support.

(9) It should be emphasized that this plan does not neglect the need for general education, but insures to each individual an amount of cultural and liberalizing education sufficient to serve as a foundation for further study, if he finds it possible to continue his education; he certainly gets more of the culture side of education than he would if he had left school entirely to go to work.

In a recent study Dr. George E. Myers has analyzed "the benefits which should be definitely planned for" in organizing part-time classes.[2] Since these are equally applicable to the cooperative class they are included here, in abridged form, as follows:

[2] The Compulsory Part-time School. Mich. State Board of Control for Voca. Educ., Bul. 212, May, 1920, p. 7.

(1) To increase the technical efficiency of young workers by providing, as far as practicable, instruction along the lines of their employment.

(2) To help boys and girls carry over and interpret in their employment what they learned in the regular day schools.

(3) To help employed boys and girls prepare for promotion in their places of employment, or elsewhere if their places of employment do not afford the opportunity.

(4) To help young workers adjust themselves to industrial and business life.

(5) To fix in the minds of young workers that education does not end when work begins.

(6) To provide training for better Americanization.

(7) To instill sound ideas of our economic and industrial organization.

(8) To help boys and girls find the kind of employment for which they are fitted.

The size and importance of the field ready for cultivation by the part-time and cooperative classes may be inferred from the figures already cited, which indicate that at each age from 14 years to 18 years there are in Wilmington from 2 to 10 times as many boys and girls idle or at work as there are in school. The authorities are to be commended for the creditable beginning already made in this branch of the work.

ALL-DAY TRADE CLASSES.

There remains one other type of vocational class which may be utilized in the cultivation of this field—the all-day trade class. The establishment of a day trade school at an early date was evidently contemplated by the Manufacturers' Association as a part of the program for which it contributed the fund referred to above.

Without hesitation it is recommended that the development of day trade classes be subordinated to the other phases of the vocational education program, outlined in the preceding pages, for the following reasons:

(1) Day trade classes are far more expensive per student enrolled than any of the other plans under discussion. A far greater service is rendered to the industrial and commercial interests of Wilmington as well as to the individuals concerned, with the expenditure of a given sum of money, by utilizing these other plans of instruction in preference to the day trade school.

(2) Experience of other cities with trade schools shows unmistakably that there is great waste of time, effort, and money involved

in providing all-day trade instruction to boys and girls who have not had adequate preliminary training upon which to base intelligent choice of the occupation for which preparation is sought. Discovery of lack of adaptability to the chosen trade after some weeks or months have been spent in the course is the experience of many boys and girls who come to the trade school with only vague notions as to what they can do or want to become.

(3) Sufficient data are not at hand with reference to actual industrial needs in Wilmington to afford a basis for planning a day trade school. More definite information than is yet available must be secured as to the trades in which there is an assured demand for the product of a trade school. The director is now gathering this information, and will be in position from time to time to make definite recommendations. Evidence has already been secured to show that a day trade class in machine shop will meet a real demand. On this showing a class will be organized as soon as the necessary arrangements can be made. Other classes should be started only when the demand is equally clear.

(4) Enrollment in two-year or three-year day trade classes should not be open to boys or girls who are so young that they will probably graduate before they reach the age of advantageous entrance into the trades for which they are prepared. Since this latter age is in some instances not less than 18 years, the organization of such classes would still leave a gap unprovided for below between the age at which many children leave the regular public school and the age at which they could be admitted to the trade school.

(5) Efficient and economical administration of the day trade school demands a carefully devised plan of preparatory measures, or "feeders," which will insure a supply of students who know definitely what they want and why, and which will sift out those who will probably not profit by the expensive instruction provided.

(6) The efficient development of part-time classes, cooperative classes, and evening classes will for the time being take care of a large part of the immediate demand for vocational instruction, while the development of the prevocational program, based on a sound foundation of manual training throughout the entire school system, will insure for the future a supply of boys and girls qualified for entrance upon day trade classes.

(7) Until such a fully coordinated school system is in effective operation, it is doubtful whether a sufficient number of applicants for day trade classes can be found. Promising candidates will not come in large numbers from the idle and the loafers, and not many who are employed can be induced to leave their jobs and their wages to enter an all-day school again.

(8) Finally, this is not a favorable time to enter the market for tools and machinery, nor to erect new buildings, except for operations which can not well be deferred.

For these reasons the all-day trade classes should be the last feature of the vocational education program to be pushed, and each such class should be organized only after securing evidence of a definite demand to be met.

VOCATIONAL EDUCATION FOR GIRLS AND WOMEN.

This discussion assumes that the vocational education program in Wilmington will endeavor to meet the needs of girls and women, as well as those of men and boys. In the country as a whole much more has been done for the latter than for the former. One reason is that vocational education for women is the twofold one of preparation for home making as well as wage earning.

A most significant and promising study of this problem is now being made by a committee of the National Society for Vocational Education, Miss Cleo Murtland, chairman. In presenting a preliminary report at the Chicago meeting of the society in February, 1920, the committee said:

> Vocational education for trade and industrial occupations for women should be greatly extended in order that each individual girl or woman may be assured the opportunity of doing the highest type of productive work of which she is capable during the period previous to marriage, or if she does not marry, for the period of her working life, or for the married woman who, because of widowhood, desertion, childlessness, or some other deviation from normal married life, returns to industry as a wage earner.

The further suggestions of this committee are recommended as a guide in the formulation of this part of the program for Wilmington.

THE MANUAL TRAINING PROGRAM.

Too much importance can not be attached to the development of a system of manual training throughout the schools, both for its general educational value and as an essential foundation for the subsequent vocational education program. Manual training is here used in the accepted sense of an educational agency involving not only a method of instruction, and a content of valuable subject matter, but a means of self-directed, purposeful activity.

The object in view should be a well-organized and articulated scheme of handwork, incorporating the best features applicable to local conditions that have been developed by progressive cities, with lines of work of sufficient variety and scope to meet the approval of modern educational thought and adapted to the capacities and needs of children at successive stages of growth.

To Wilmington belongs the distinction of being one of the earliest cities to introduce manual training into the high school, the date being 1889. After some years the forge shop was abandoned, but the woodworking shop, machine shop, and mechanical drawing remain. The equipment needs overhauling, as practically no additions have been made in 20 years.

The colored high school has one small woodworking shop, inadequately equipped, and badly overcrowded.

Two of the white elementary schools are provided with shops, and one other school has two workbenches. Pupils from schools not now provided with shops are accommodated in the existing shops at the other schools.

Elementary handwork is nominally carried on in the lower grades, and mechanical drawing and benchwork in wood in the upper grades. There has been no supervisor for the latter, however, and the former is under the direction of the supervisor of drawing, who had but recently arrived in Wilmington and had not yet organized her work.

For these reasons it is unfair to base a report on the work observed at the time this survey was made. Instead, the following general suggestions are offered to indicate the directions along which further development should take place.

ELEMENTARY HANDWORK.

Handwork in the elementary school should be employed in its various phases for the accomplishment of at least three distinct educational ends: (1) To develop manipulative skill, and the ability to "do" things; (2) to impart knowlege of materials and processes of construction; and (3) to vitilize the instruction in various subjects of study, such, geography, history, and language.

In the earlier grades the best results are secured when the handwork is taught by the regular grade teachers. It is much easier for these teachers to relate the work to the other studies and activities of the children. With the progress of the children through the grades, however, the work becomes more and more complicated, and the tools and processes more difficult of manipulation. In time the point is reached beyond which it is impracticable to expect the grade teacher to acquire the necessary technical skill and knowledge to carry on this work in addition to all the other requirements of her position. From this point, probably the fifth grade, the situation may be met by employing special teachers or by a plan of departmentalized teaching.

During the earlier grades the handwork should be substantially the same for boys and girls. With the beginning of departmental teaching a gradual differentiation in the work should be introduced.

In general, the interests of the girls will tend in the direction of sewing, cooking, and home making, and the interests of the boys toward shopwork and drafting. For obvious reasons the teachers of these special subjects for boys in the upper grades should be men.

In the lower grades not less than 30 to 60 minutes per week should be allowed for handwork, but a more liberal time allowance should be made just as soon as suitable equipment can be provided and teachers are prepared to do the work. Ultimately from two to three hours per week should be available. Supplies of materials in sufficient variety to make the work profitable and educational should be provided by the board.

IN THE UPPER GRADES.

Even more time must be allowed for manual training in the upper grades if the expected results are to be secured, and if boys and girls who now drop out of school in such large numbers are to be retained. With the right kind of equipment, properly qualified men teachers, and appropriately modified courses of study, from 5 to 7 hours weekly may be devoted to manual training in grades above the sixth; and in the prevocational centers, discussed elsewhere, at least one-half the school time should be devoted to practical activities in shop, laboratory, and drafting room.

Pending the establishment of prevocational centers, and for boys for whom such centers are not available, the manual training opportunities should be materially extended and enriched. Beginning with the introduction of departmental teaching, the lines of work should include thin wood, bookbinding, printing, clay, cement, plaster, and such other groups as further study of conditions may indicate.

Beginning with the seventh year the boys should carry still further the problems in printing and bookbinding, and to these should be added suitable work in copper, brass, iron, leather, cement and concrete, electricity, benchwork in wood, and mechanical drawing. The woodwork may well include some simple framing and carpentry. All the shopwork should be made as practical as possible.

The instruction in shopwork and mechanical drawing as now given in the high school could be improved and made more serviceable to the students if modified somewhat along the following lines: (1) The instructors should do less of the thinking and planning, and even in some cases execution, of the projects undertaken; (2) more self-directed activity should be demanded of the students; (3) more time and attention could profitably be devoted to study of sources and methods of manufacture of materials used in the shop and in industry, development and use of tools and machines, and kindred topics;

(4) the projects, processes, and methods of the manual-training shop could be considered in their relation to the best current practice in industry; (5) some of the present classes are too large to permit of these suggestions being carried out, or to permit of that degree of individual instruction which is an essential feature of the best manual-training practice.

SUMMARY OF RECOMMENDATIONS AND SUGGESTIONS.

The following recommendations made by the director of vocational education, which are now being carried out, are heartily approved and indorsed:

(1) Emphasis for the current year upon evening classes, part-time classes, and cooperative classes, and further extension of all of these next year.

(2) Addition of evening classes in home making for women.

(3) Addition as soon as practicable of evening classes in general elementary and high-school subjects, machine shop, woodworking trades, automobile mechanics, electrical construction, commercial subjects.

(4) Coordination of all evening-school activities.

(5) A conservative policy in the development of day trade classes.

(6) Organization, as soon as arrangements can be perfected, of a day trade class in machine shop, and possibly automobile mechanics and electrical construction.

(7) Recognition throughout the entire program of the needs of girls and women as well as of boys and men.

(8) Rearrangement of present wood shop and machine shop in order to facilitate both day and evening vocational instruction in these shops.

(9) Adoption of a plan of stated conferences with teachers for discussion of the problems of vocational education and ways and means of improving the quality of the service rendered.

(10) Organization of advisory committees for counsel and suggestion in the further development of the vocational education program.

(11) A continuous study of the industries of Wilmington, in which these advisory committees can render substantial assistance, for the purpose of securing data upon which to determine further action.

In addition, the following supplementary conclusions and recommendations are offered:

(1) The rapid falling off in enrollment of children after the fifth grade in the Wilmington schools calls for a type of schooling better adapted to those boys and girls to whom the present program does not make sufficient appeal to retain them in school.

(2) To assist in meeting this need constitutes, in effect, the problem of the vocational education program, including the preliminary stages of prevocational education and vocational guidance, and the foundation work in manual training.

(3) The great productive army of workers in the commercial and industrial establishments of Wilmington must at present be recruited almost exclusively from a supply of boys and girls who do not have the advantages of high-school education, and to a very considerable extent from those who have not even completed the elementary school.

(4) There is evidence that the industries of Wilmington call for considerable numbers of workers having high degrees of skill and general intelligence.

(5) Appropriate modifications of the work of the later years of the elementary school should be emphasized.

(6) For these years an effective plan of prevocational classes should be formulated, with an accompanying scheme of vocational guidance.

(7) At least two prevocational centers for white pupils and one for colored pupils should be provided.

(8) The aim in view should be to coordinate the manual training program, the prevocational program, and the vocational educational program, so that ultimately the latter may look to the first two for a supply of applicants qualified to receive the maximum advantages from the opportunities that may be offered.

(9) The service rendered by the evening school could be doubled at practically no additional expense beyond that for salaries of teachers, by opening four evenings per week instead of two.

(10) Existing facilities of the day schools should be made available for evening classes wherever this can be arranged without serious loss of efficiency in the day schools.

(11) The plan of part-time and cooperative classes should be extended as rapidly as possible to other industrial plants, and also to stores, office buildings, and other places.

(12) The development of day trade classes should be subordinated to the other phases of the vocational education program.

(13) A comprehensive, well-organized scheme of manual training should be developed in the school system, incorporating the plans and methods of the best modern practice.

(14) To carry into effect the suggestions of this report, further definite provision should be made for administration.

(15) The most efficient and practicable form of organization for the administrative staff can be determined only by the superintendent in consultation with the director of vocational education. With-

out venturing specific suggestion on this point, it may be helpful to call attention to certain details of the administrative problem which must be met:

(*a*) The director of vocational education should be relieved of at least part of the present burden of the evening classes. This might be accomplished by the assignment of part of these duties, with others, to an assistant director, or to a supervisor of evening vocational classes; or by the appointment of a principal, to have administrative responsibility for all evening classes.

(*b*) The full time of an assistant director, or supervisor of continuation classes, will be required for looking after the part-time classes and cooperative classes.

(*c*) The director should be relieved of much of the detail work involved in organizing and conducting—(1) the proposed day trade classes, (2) the prevocational centers, and (3) the manual training program. In each of these cases the need can probably be met in the early stages of development by appointing certain teachers having qualifications and training for administrative work, and assigning to them certain of these responsibilities with their teaching duties, on a part-time basis. The supervisor of drawing should doubtless be given definite responsibility for the elementary handwork.

(*d*) The appointment of a capable secretary to the director, who may in time be trained to handle many administrative details, is practically indispensable.

(*e*) In order for the vocational education program to succeed, upon which Wilmington has embarked with so much of promise, the director must be relieved of as much as possible of minor administrative details. To discharge his function he must be free to study the situation intensely in all its phases, to keep constantly in hand the many and varied activities, and especially to keep in close personal contact with the commercial and industrial interests of the community.

(16) Since there is required an immense amount of travel about the city, for the purpose of visiting schools, factories, and other places of employment, locating available supplies, interviewing prospective teachers, and for other errands, on the part both of the director and various subordinates, one of the wisest and most economical expenditures that might be made is the immediate investment in an automobile for the exclusive use of the vocational education department on official school business.

(17) In view of the many other needs of the Wilmington schools, discussed in other sections of this report, it is not to be expected that the vocational education program outlined herein can be carried out in full immediately, nor in all probability within five years.

4. MUSIC IN THE WILMINGTON SCHOOLS.

The statements made in this report rest upon observations made in 27 out of the 31 schools of all kinds that comprise the public-school system of Wilmington. In these visits almost all classes in elementary schools, representative classes in grammar schools, and all types of work maintained in the high school were heard. In addition inquiries were made into conditions in the State, the community, and the school system of Wilmington at large, in so far as these might affect the music specifically in the Wilmington public schools.

WHITE ELEMENTARY SCHOOLS.

AIMS AND PROCESSES OF INSTRUCTION.

No attempt need be made to define the large or ultimate aim appropriate to instruction in music. A measure of such discussion has been included in reports of surveys of music in other cities, as published by the United States Bureau of Education, and in other publications by the bureau. The reader is referred in particular to Bulletin, 1917, No. 46, "The Public School System of San Francisco, California"; Bulletin, 1917, No. 49, "Music in Secondary Schools"; Bulletin, 1918, No. 15, "Educational Survey of Elyria, Ohio"; Bulletin, 1919, No. 50, pt. 5, Music, "The Public School System of Memphis, Tennessee."

The near and partial ends that are obviously sought in Wilmington, judged by careful and extensive observations of what is actually being done in the schools, may be stated as follows:

1. To give every child the use of his singing voice and pleasure in song as a means of expression.
2. To give all children power to read (at sight) and to write readily the notational language of music.

The validity of these aims is not open to question. Much must be said, however, in favor of adding and actively furthering additional aims; and the methods adopted as necessary or helpful to the attainment of these two aims, and the degree of success realized in Wilmington in their attainment, must be subjected to analysis.

MONOTONES.

In order to give every child the use of his singing voice it is necessary at the outset, particularly with children 6 years of age who are just entering school, to correct the monotones. The number of these in the Wilmington schools is very large.

It should be understood that the monotone, especially at the age of 6, is usually not aurally defective. The pupil has, in all probability,

as correct an ear as the children who sing in tune, but lacks the ability to make the proper muscular coordinations necessary to produce the tones heard. Instead the pupil uses his speaking voice (which covers, generally stated, a range of little more than a major third, centered on middle C) for purposes of singing, with most unsatisfactory results. But an easy and usually speedy cure is quite possible. For practical purposes it may be said that the child merely needs to have revealed to him a new voice (which all children have) that is produced very largely over the arch of the palate instead of coming, as the speaking voice of such a child does, almost wholly straight forward from the throat below the arch of the palate. Unless the child belongs to the negligibly small group of those who are tone deaf, his acquisition of this other voice means his vocal emancipation.

Full allowance must be made for the fact that the music survey began with the fourth week only of a new school year. At such time the monotones would be relatively numerous. Yet after this fact is taken into consideration it still is true that much improvement may be made in the processes that are undertaken in Wilmington for their cure.

The children classified as monotones in 13 rooms usually constituted from 20 to 30 per cent of all the children in the room. In one or two cases only it ascended to 50 per cent, and in one extreme case in a foreign quarter, where most of the children did not know the English language, and were on half-day sessions besides, it was 66⅔ per cent. These extreme cases should not be thought of as representative, however. The uniformity of the lower percentage, which is still much too high, is of more serious nature.

By the regular method of procedure in Wilmington the monotones are brought forward in the room at the beginning of each music lesson, and formed into a group of "listeners." Such a plan is open to serious question. Its effect upon the child's evaluation of himself with relation to music may be lastingly unfavorable. Though every sympathetic effort was made to avoid wounding in the slightest degree the sensibilities of the children, it was impossible to avoid at times the feeling that they felt themselves segregated for somewhat uncomplimentary reasons. They did not have the atmosphere of success. Again, while a monotone must listen in order to learn, he must also practice singing. The amount of listening done by these children was excessively great; the amount of singing was negligible. They were therefore becoming reticent as well as a little self-conscious.

The instruction observed was inadequate and not very successful. It was really a test or examination rather than instruction. The teacher would sound a tone to the syllable "loo," and the children,

each in turn, would try to match it. The tone was usually C (third space, treble clef), which is too low to convey the right sense of vocal adjustment to the child. Some one or two children in the group often imitated correctly, and occasionally these were tried further on bits of melody, and if again successful were returned to the company of singers. But the ones who failed were not improved then and there. They were often tried repeatedly on the same effort, perhaps with some injunction to sing or think high, but no new resources for their cure were exhibited. The impression gained from observation of many such lessons was that the monotones gradually cured themselves by imitating other members of the class rather than as the result of the teacher's instruction. Of course, they will do this if given time; but they should be given much more direct help by the teacher. Two-thirds of the monotones in first-year classes in Wilmington could be cured in six weeks. Meanwhile they should sit with their companions and sing as well as they can and daily receive definite instruction that helps them. The dissonance they create in the concerted singing may be minimized by asking them to sing softly (which they should do anyway for their own benefit), and the instruction should be of a nature that will make them feel that they have an unusually difficult accomplishment before them which they may well be proud to master, rather than that they are examples of subnormal capability.

CONCERTED SINGING.

In order to give children pleasure in song as a means of expression, not only must monotones be cured, but the children must sing interesting songs, of some degree of permanent charm, with voices that are easily and pleasantly produced and that will be pleasant to hear. By good example and instruction and by the use of good song material these requirements are admirably fulfilled in Wilmington up to the seventh or eighth year. The singing is free and buoyant, the tone clear and full without being forced, the spirit in singing songs is animated. The degree of artistic sympathy and corresponding nuance hardly deserves equally high praise, but is very commendable. It falls short of the excellence of the vocal practice partly because of the effect upon the musical conceptions of the pupils of much rigidly formal practice upon conventional exercises, and partly because physical delight in singing sometimes outweighs the pleasure that might be taken in the more quiet enjoyment of the artistic graces of the song. The singing is sometimes vocally exuberant without being sensitively artistic. Even the interpretation, however, is very good in most rooms and is never positively poor. In School No. 9 it is extraordinarily beautiful; and a group or two in School 30 sang but little less beautifully.

But in the eighth year, and to a lesser extent in the seventh, the voice work fails with one group of pupils, namely, the boys with changing voices; and the uncertain performance of these often threatens the vocal as well as the musical practice of many other members of the class. Nothing, indeed, can entirely overcome the excellent vocal habits and standards created in the lower grades, especially in the third, fourth, fifth, and sixth years. But the music textbooks throughout the entire school system are undergraded—a condition that will be dwelt upon at length when sight singing is discussed—and books of music for treble voices only are almost uniformly used with seventh and eighth grade classes that contain many changing and changed voices. Much comparatively unsatisfactory singing is the result.

In Wilmington the seventh and eighth grade pupils are grouped in four grammar schools, in which work is departmentalized. Such assembling of large groups of seventh and eighth grade pupils always results in exceptionally favorable opportunities for work in music. Pupils in these two grades are on the middle ground that separates childhood from maturity. In music they are completing the technical and theoretical instruction begun six or seven years before, but no less do they instinctively desire and deserve a type of music cast in larger and freer forms than those used in the short songs of childhood, and conceived in the spirit of the mass chorus rather than in that of the short exercise or song for unison sight singing. Congregated in large numbers they may advantageously be given ample opportunity to satisfy this proper and rapidly developing interest.

But this opportunity in the grammar schools in Wilmington, which contain all the seventh and eighth grade pupils, is quite lost so far as care of the changing voices is concerned. The ignoring of these leads to results much graver than the mere retardation of the vocal development of the small number of pupils directly affected. The development of their general musical knowledge and understanding also suffers. For six or seven years (in the grades below) these pupils have looked at notes on the treble clef and translated them into tones that represented a certain vocal adjustment on their part, and therefore a certain conception of the significance of the staff in its representation of pitch. As their voices change, the tones represented by the staff require quite new vocal adjustments, and finally they sing quite new tones (an octave lower than the tones really represented) in response to the old and familiar symbols. If the facts are not clearly explained to them and their voices are not interpreted in relation both to the old treble staff and the new bass staff on which their future experience must necessarily lie, they soon lose the power to sing from the staff and resort to singing ex-

perimentally "by air." The inevitable result of this is that they sing the "air," or soprano, an octave lower. But even the soprano sung in the lower octave will frequently ascend beyond their range and at such points they will either sing entirely out of tune or drop to a second octave below. Usually they fall between levels, for a few tones at least and frequently for long stretches, giving rise to muddy dissonance which embarrasses them and frequently brings upon them the suspicion and even the accusation that they are unmusical.

Since basses, especially undeveloped ones, can not sing satisfactorily on the light and flexible soprano parts written for seventh and eighth year trebles, music should be used which does not impose this impracticable effort upon them. Such music will be arranged for regular bass parts, to be sung in connection with two or three treble parts, or two treble parts and a tenor, or a so-called alto-tenor. Countless schools regularly use good music so arranged, and regularly obtain with it results of such excellence that they present to the public attractive concert programs by seventh and eighth grade choruses that sing three-part and four-part music.

Some of the evil results described that are likely to arise from neglect or mistreatment of changing voices are not present in the Wilmington schools to the degree that might be expected. Actual mismanagement of these voices, or any others by reason of the influence of these, is rare. But while tone production continues good, the ensemble in some classes was clouded by the uncertain efforts of these changing-voice singers to find the tones that would harmonize with the music the class was singing. The musical intelligence of the low-voiced singers and, to an extent, of all, must also suffer positively because of such juggling with the facts of the musical notation, and negatively because of failure to attain many broader and finer musical developments that are appropriate and possible. In particular, the natural broadening of both the general and musical intelligence of the pupils leads them to seek music that is written in parts. The training of the ear to appreciation of many values of musical structure and development of appreciation of music in general through concerted singing is possible only when such singing is developed to the point where the singers can hold independent parts in mixed-voice choruses. Yet at present unison singing constitutes almost the whole of the music practice in Wilmington throughout all the eight grades.

SIGHT SINGING AND NOTATION.

The first step toward sight singing is made in Wilmington by teaching the scale by rote, using syllable names, and then various successions of scale tones, before the printed notation is seen by the

learners. The result of this practice is to establish the necessary association of names with tones. It is equally evident, however, that attainment of this result will not carry with it commensurate ability to read from the staff, inasmuch as the third association, that of position, is omitted from the training at this time.

The second step in Wilmington is introduced only after the association of names with tones (in that order) has been firmly established by much thorough drill. It is intended to establish the association of *tones* with *names* (in such order). The teacher sings, to an indefinite or so-called neutral syllable, such as "loo," a series of tones in scale order (i. e., without skips), and the children respond by instantly singing the tones back to the teacher, applying the correct syllable names. This is known as oral dictation. The children do it very successfully. The only criticism that can be made upon the efficiency of the practice, leaving aside questions of its complete validity, is that, in all lessons observed, individual children, who volunteered by raising their hands, were almost invariably selected to make the response. The surveyor could therefore not feel sure that the great number who did not raise their hands were being adequately instructed. Individual response is certainly preferable to concerted work, but it should be systematized in such manner that every child is regularly called upon and his ability is so made known to the teacher, and the children who do not volunteer should probably be called upon more frequently than those who do. Nevertheless, the belief of the surveyor is that this instruction, like most of the musical instruction attempted, is extremely efficient. But again, it must be evident that this step, like the first step described, neglects the indispensable association of both tone and name with staff position.

With the third step practiced in Wilmington, however, we come upon a systematic effort to establish the third association upon which the sight-singer's technique must rest. It consists in the children writing upon a staff drawn upon the blackboard little scale successions first recognized and syllabized in the manner characteristic of the second step. The process is known as written dictation. Rhythm is properly entirely disregarded for the time, all the tones being represented by whole notes. The work is done by volunteers, all but a few children in a class thus having no opportunity, during one lesson, to do more than observe, criticise, and suggest corrections. All should instead be provided, at this stage, with music paper, specially ruled with a widely spaced staff, on which they might write simultaneously.

It might be thought that with the introduction of this last feature every factor necessary to a sound system of instruction in sight singing had been secured. But this association of position on the staff

with tone and name is too long deferred. This is an error. It leads to weakness in knowledge of staff notation as compared with tonal knowledge; and this weakness is, and will be, in exact proportion to the extent of such postponement or neglect.

The association of tone and name is rightly and beautifully developed by long drill, based upon imitation. But just to the extent that a child's ability to apply the right name to a tone heard is the result of having had this done for him, so will his ability to apply the right name to a note seen be the result of having had this done for him. By the process of instruction in Wilmington the child recognizes that certain tones hummed to him are *do, re, do, ti, do,* because he has heard them called so, times innumerable. When he sees these same tones represented upon the staff he does not know half so well that they are *do, re, do, ti, do.* His visual recognition lags far behind his aural recognition. Thoughtful and observant teachers have long since come to the conclusion that to use syllables thus in association with tones in advance of the presentation of these upon the staff is not only a waste of effort but is positively deterrent to establishing later the association of names and tones with staff positions.

Another error lies in the method of approach to staff notation when it is undertaken. Instead of leading the child to associate the correct names (and therefore tones) with staff positions by the same processes of direct affirmation and imitation that were employed in the first instance, he is asked to reckon the names rather than to learn to know them. Because the child at this stage knows the order of succession of the scale tones by syllable names, ascending and descending, it is thought that he should know *re* upon the staff by reflecting that, as it is in the next position above *do*, it *must* be *re*. It seems to be forgotten that he learned that the *sound* above *do* was *re* by hearing it called so, and that he should similarly learn that the *staff degree* above *do* is *re* by hearing it called so. If instead of *re* he is confronted with *mi* or *sol* (following directly after *do*), he enters upon quite an arduous calculation. Indeed, the only hope of success in singing from the staff in the first two or three grades in Wilmington lies in rigid adherence to tonal successions that make no skips.

There is still another systemic error of instruction. We have spoken of the imitative drill given on the scale and on various successions formed out of, and limited to, the successions found in the scale. These successions in conjunct motion are in a comparatively few set forms, which are repeated until they are memorized entire by the children, as tunes. Not only do they fix the scale-track in the pupil's mind, but they come to form so many brain-tracks there. As the child, when he tries to read from the staff, is not equally well

drilled on conventional forms in their visual representation, it often happens that a brain-track and a melodic outline upon the staff interfere with each other. A melody may begin with a few notes that accidentally follow one of these conventional tracks, and then diverge from it. Again and again the surveyor heard the children, under these circumstances, continue along the brain-track in placid disregard of the printed notation. The very exercises that were supposed to aid in giving them competence in sight singing proved their undoing.

By the system of instruction in Wilmington, children begin to write notes before they endeavor to read music at sight. In this is found another root of the difficulty.

As was said above, in describing the third step in instruction in Wilmington, the approach to the problem of staff notation, when it is introduced, is through written dictation. The scale, recognized and syllabized by the children, is written by the teacher upon a staff drawn at the time upon the blackboard for the purpose. The teacher then sings the scale, the pupils following the notation closely, and the pupils sing it in turn, imitatively, while the teacher points to the notes. Other successions of tones in scale formation soon follow, under a similar plan of presentation.

So far, the method of presentation is not pedagogically unsound so much as it is excessively restricted in application. In other words, the process begins with imitation of a direct, affirmative example, but the example is a restricted, conventional, musical form. But we must note next that the process is restricted by being sharply curtailed in point of continuation. After a small number of exercises have been done in this way the teacher ceases to write the examples upon the staff, and instead the children, after first recognizing by ear and syllabizing the tones, as before, go to the blackboard and write them. Their success from this point on no longer depends upon direct instruction and imitative drill, but upon reflection and deduction. They are supposed to write, *do, ti, la, sol, do,* for instance, by reckoning staff degrees in terms of the scale-track. The plan is unsound pedagogically in exactly the same way that the alphabet method of teaching reading was found to be unsound. It teaches the children (in so far as it does teach them) to spell notes instead of to read music. It is likewise inconsistent: for if names are to be linked with sounds by use of direct affirmative example, they should be linked with notes on the staff by the same process, and for exactly the same reasons.

The pupil in Wilmington identifies notes upon the staff by computation. These notes are in conjunct series and can be readily computed. Skips are supposed to be employed early in the first year in oral dictation, but are not introduced until later in written

dictation. This again reveals the underlying fallacious thought that the brain must *know* with relation to aural matters, but must *reckon* with respect to visual matters. The overwhelming preponderance of practice in Wilmington, however, for the first two or three years, and with respect to both oral and written dictation, is restricted to scale-track melodic bits. Practically the only skips employed during these years are those between tones of the tonic chord and those in one of the conventional patterns so insistently taught, which requires a return to *do* from each tone of the scale-tones in turn: e. g., *do, ti, do; do, ti, la, do; do, ti, la, sol, do; do, ti, la, sol, fa, do*, etc. This, of course, does not give practice in skips so much as it demands retention in memory of the sound of *do* with which each fragment begins." Meanwhile the great variety of skips found in real music, even of the simple grade appropriate to children of these years, such as skips of thirds everywhere in the scale, skips of fourths in most places in the scale, and skips of fifths, sixths, and octaves in their more familiar usages in simple music, are not presented or prepared for in any form.

But such skips as are formally studied are presented at the point of their introduction wrongly. *Do, mi, sol, do* (the tones of the tonic chord) are more closely related than are four successive scale tones. Experience teaches that they are much more readily sung in tune and recognized aurally by children than are scale tones—a natural result of acoustic law. Even upon the staff, falling, as the lower three do, upon three successive lines or three successive spaces, they are more readily recognized. But instruction in Wilmington rests upon practice in conjunct motion and the belief that notes on the staff are to be reckoned, not known. Skips are, therefore, introduced as scale passages from which some notes are missing. This method of presentation is such that the child sees skips rather than hears them. It is surely hardly necessary to point out the error of this method.

EAR-TRAINING AND ELEMENTARY THEORY.

From what has been said it is evident that ear training and theoretical knowledge of staff notation must be better developed in Wilmington than sight-singing ability. With reference to ear training, there is, indeed, but one criticism to be made. Its processes are entirely good (except for the important fact that only individual volunteers receive the full benefit of instruction in any one lesson), but its material is too abstract and formal. Ear training is not a separate branch of study, requiring separate and abstract material, but is a form of reaction of the mind to the musical experiences that it meets. These musical experiences should be such as we desire for the child because of their musical value, gauged to appropriateness

to the age and stage of musical development of the child. The songs we wish him to read and learn at any time therefore present the material to be grasped by ear as well as by sight, and just as instruction in sight singing, if conducted by means of exercises that contain only general features that might be in countless songs, may lead to helplessness in the face of any one particular song, so ear training, conducted by means of similar material, may yet permit negligence or inability in aural grasp of the real musical experiences that represent the true aim of instruction in music. This has happened in Wilmington. We have said that the ear and eye were largely trained along certain formal tracks, and that musical brain-tracks were the result. By experiment the surveyor found that a tonal series that adhered closely to the form of the conventionalized exercises in which they had been drilled could be readily syllabized by the pupils, just as it could be but a little less readily written by them on the staff; but departures from those conventional forms, such as might be represented in any real song suitable for their study at the time, were likely to result in unsuccessful efforts. However, the results in ear training are far from bad. In fact, it may be said that many school systems more advanced in music generally might well emulate the results in ear training found in Wilmington.

The outcome of the painstaking theoretical instruction given is not so favorable as that of the ear training. Pupils are very generally able to give a satisfactory statement of facts about features of staff notation (with which elementary theory is almost wholly concerned), but are very generally incapable of making practical use of their knowledge. Very many times the surveyor heard children state that a certain symbol was a half note and should receive two beats, and then sing and give it one beat. A painstaking quiz, indeed, preceded most attempts at sight singing. The questions included the key, the measure, the kinds of notes and rests and their length, chromatic signs, etc. Often the questions were purely perfunctory, it being certain that the children knew all they were asked to state. The time spent on such questions and answers might usually have been spent much more profitably in practice at sight singing.

The result, then, of all these methods, is that the children read music as an intellectual exercise and with very little real power. What power there is functions only upon artificial exercises rigidly restricted to the usages previously drilled upon in the sequential exercises. In the presence of real music the children were found to be almost helpless, so far as sight singing is concerned.

Pedagogically considered, the entire system represents the old endeavor to work from the abstract to the concrete, from the general to the specific. A thousand formal preparatory practices are taken

up with the thought that they will prepare the child for the happy day when he will be confronted with a real song, which he will then be able to read. When the day comes it is found, as usual, that he can merely do the thing he has been doing—which is to repeat his exercises and theoretical statements.

NATURE AND GRADING OF TEXTBOOK MATERIAL.

The music textbooks used in Wilmington contain many beautiful songs wisely adapted to the voices and musical and literary needs of the pupils for whom they are designed. They contain, also, very much material designed for technical instruction, and this material is very carefully outlined, and methods of presenting it are prescribed in teachers' manuals that accompany the textbooks. Blank music-writing books are also supposed to be in the hands of all pupils as an indispensable feature of the instruction.

The material is excellent in its gradation, but not irreproachable in its methods. The amount of formal technical material included seems disproportionately great. Nevertheless, the books could be used in such manner as to produce excellent results, if the prescriptions as to methods of presenting their material were somewhat altered.

But while the textbooks, with the reservations noted, are well designed, they are not assigned in Wilmington to the grades for which they were intended. Instead, the material is undergraded. This undergrading, which applies over the entire elementary and grammar school system of the city, reaches an extent of one year to two years. The books of music used are ordinarily placed one year under grade; but the technical study and drill outlined in the teachers' manuals is carried, by the end of the fifth year, only through the work specified in the teachers' manual for second year. The books for fourth, fifth, and sixth years are used in the sixth, seven, and eighth years, but without rigid classification; and the technical study apart from the books is that outlined in a manual which treats of such work in grades 4 to 7, inclusive, with supplementary material for pupils beyond grade 7. It is evident that no very definite course is imposed upon these upper grades.

The first and second years are not undergraded in respect either to sight singing and song material or outlines of technical study. The undergrading has a tendency to become cumulative in the years beyond.

Without asking, for the moment, the cause of this undergrading, we will note some of its effects. Part singing is much delayed by it. Instead of introducing it in the fourth school year and adopting it as a standard practice in the fifth year and beyond, it is not only

delayed for one year or more, in harmony with the general undergrading, but it is held back far in excess of that point. Indeed, there is practically no part singing at all in Wilmington. Only in two or three classes in elementary white schools was any part singing attempted during the field survey. In one of these cases the results were admirable; in another they were fair. Yet part singing is absolutely essential to the development of a rich musical understanding.

Since musical practice in Wilmington, as derived from exercises, has not been progressive, it might be well now to begin with musical practice and derive the exercises from it in such kind and degree as may be indicated by the performance of the children. In the grammar schools, where the technical requirements are left very indefinite in the outlines provided, this latter method has at times been adopted. The results, as observed, were decidedly satisfactory with respect to the broad musical development of the pupils and the power that music seemed to be exercising in their lives, and their technical knowledge and skill did not appear to have suffered in the slightest degree.

COLORED ELEMENTARY SCHOOLS.

Since the colored elementary schools pursue the same course of study as the white, the greater part of the analysis made in the foregoing pages applies equally to both groups of schools. Some minor differences exist, however, and will not be devoid of interest. They arise chiefly, but not entirely, from differences in racial temperament.

The Negro has quite as acute an ear for pitch and rhythm as has the white. It is probable that his native aural capability is even superior to that of the white; but his greater freedom from self-restraint and self-consciousness, especially in singing, may account for this seeming superiority. Moreover, he develops physically more rapidly than does the white, and in early years, age for age, may readily surpass the white in all that rests solely upon physical development. Certainly the voice of the Negro develops more rapidly than does that of the white.

In relation to music these characteristics usually cause the colored child in primary grades to sing more freely and often with a better quality of tone and better voice control than the white child of the same age displays. In Wilmington the number of monotones segregated in primary rooms in colored schools was much smaller than the number in corresponding rooms in white schools. In other respects, however, there was much less difference than observations made by the surveyor in other cities would have led him to expect. The vocal quality was not better, nor was the singing freer. Indeed, the singing in some of the primary rooms in colored schools was

somewhat repressed—a surprising characteristic for such groups. This repression may have been due to extraordinary effort to avoid the too exuberant and hearty singing which is usually more likely to be heard from such children; but it was certainly excessive, and spoiled some of the joy in song which the children might have had.

The undergrading characteristic of the white schools is maintained also in the colored schools. We have discussed the results of this undergrading in white schools as related to part singing. The results are even more serious in colored schools because of two racial characteristics. The first of these is that the Negro has a quite extraordinary harmonic sense, and can either improvise or learn to carry independent parts far more easily than can the white. It is quite common in mixed schools to hear alto parts improvised by children in primary rooms, and such children are invariably colored. Such capability imposes upon every teacher the responsibility of developing it and developing the pupil by means of it. The undergrading in Wilmington therefore represents greater restraint among colored children than among white, so far as this particular form of development is concerned. Secondly, the voices of colored boys change earlier than those of white, and colored boys are, moreover, likely to be above-age for grades in which they are placed. Bass voices are therefore found in low grades and are abundant in higher grades. If part songs which use bass clef are not provided, the difficulties described in connection with white schools are certain to be met with in more acute form. In one eighth-grade room in a colored school a song for two treble parts was sung. The class included a large number of basses, most of whom could do nothing better than attempt the soprano part an octave lower, with occasional lapses in pitch when the soprano ascended beyond their range. A song for two treble parts and bass would have yielded better musical results and better educational results.

Undergrading is not equally unfortunate in its results in colored schools with respect to technical instruction and sight singing. The Negro loves to sing and has excellent musical endowments, but his tendency to study music scientifically is not proportionately great. It is true that the abstract technical study described in the foregoing pages seems more hopelessly remote from the needs and interests of colored children than from white; but on the other hand, the retardation of it due to undergrading is therefore correspondingly fortunate. The colored pupils in a majority of the rooms were unexpectedly found to be doing the technical work and sight singing surprisingly well. The best sight singing heard in any room in Wilmington, as well as the most advanced work on sequential forms, and in written dictation involving complex rhythms (metric dic-

tation) came from a colored school. On the other hand there is no greater uniformity in attainment in colored schools than in white schools (and in these latter, attainment varies greatly), and a number of colored classes displayed but small knowledge and ability. On the whole, however, music in the colored schools is equal to that in the white schools with respect to the quality of singing, knowledge of theory, power in sight singing, and interest on the part of the pupils. It may be, indeed, slightly superior. If so, that is due to a condition that must be discussed under the organization of the department of music.

WILMINGTON HIGH SCHOOL (WHITE).

Almost no instruction is given in music in Wilmington High School. In assembly programs once each week the Lord's Prayer is chanted and a hymn is sung. The singing of the latter sometimes develops into a brief chorus practice upon it. An orchestra, trained and directed by a local musician not otherwise attached to the school system, plays for assembly exercises.

One assembly program of this type was attended by the surveyor. The singing was much more spirited and general than might have been expected under such conditions, but the pupils were not divided according to voices, and the singing was congregational in type. The excellent training in use of the voice given pupils in the grades below the high school was manifest in the interest displayed and the good vocal quality that was heard.

The orchestra which played numbered 19 members. The instrumentation was as follows:

6 first violins.	2 second cornets.
5 second violins.	1 trombone.
1 bass.	1 drum and traps.
2 first cornets.	1 piano.

The members of the orchestra individually had very fair technical ability, but their concerted playing was not what it should and could have been. The compositions used were flimsy, and they were played in both a blatant and perfunctory manner. If any effort had been made to teach the players to love the finest beauties and purest effects possible to their respective instruments, it was not in evidence on this occasion. Orchestral playing, like all school music, should be used to advance the student into closer sympathy for musical beauty. The spirit of respect and reverence for an ideal of pure tone and refined style should be inculcated. The music, however simple it may be technically, must have pure quality in order to elicit this sort of response from the players. If such spirit does not permeate all musical effort, its value as an art, which is the value

that justifies its place in the world, is lost. The most modest effort in this spirit is valuable; the most elaborate effort, lacking it, is comparatively poor.

HOWARD HIGH SCHOOL (COLORED).

Conditions in music are better in this high school than in Wilmington High School, due chiefly to greater effort being made and to the fact that small enrollment gives opportunity for a high degree of concentration of this effort.

Assembly exercises, 20 minutes in length, for high school and 8A pupils, are held every morning. The entire period was devoted to music alone until just at the time of the survey, when Scripture reading was added by wish of the board of education. The music consists of chants and hymns, Negro spirituals, chorus practice, and orchestral playing. It is under the personal direction of an assistant to the supervisor of music, whose field is exclusively the colored schools.

The students were grouped according to their voices on the occasion of the surveyor's visit. They chanted the Lord's Prayer and a psalm. The voice quality and expression were very good. The soprano, alto, and bass parts were excellently carried; the tenor only was weak and uncertain. Upon inquiry it was learned that the harmonic parts were extemporized by the singers, yet they were carried as firmly as though they had been read and carefully rehearsed. This is but additional evidence of the remarkable harmonic sense of the Negro, mentioned in connection with our observations on music in the colored elementary schools. Additional discussion of the same topic may be found in the Memphis survey report (Bul. 1919, No. 50, pt. 5, Music), previously referred to.

In addition to the singing just mentioned, the students sang a Negro spiritual. Too much can not be said in favor of this practice. Only increased richness and strength can result from developing in each race all its deep, native qualities that are good; and its own art and literature, sincerely developed, are powerful agencies toward such happy realization. The sympathetic attention being given by all Americans to-day to our Negro music, and the dawning consciousness of the Negro that he has here something all his own which is of high worth and deserving of high development, are fortunate auguries.

In this assembly exercise some choruses were also sung. These were from a late and extremely good high-school chorus book of advanced musical and technical grade. Although the supply of these books was only one to about every four singers, the results were again very good. If all singers were provided with books and given the

time for practice now accorded some notably good chorus work would result.

The orchestra consists of two first violins, one second violin (the music instructor), one cornet, one drum, piano. It played a good piece of music with good tone and in a musical way. It is proceeding along entirely right lines and is a most promising feature of the commendable work in the school.

The training school for colored teachers that is housed in this building will be mentioned in the next section of this report.

PAST AND PRESENT ORGANIZATION OF DEPARTMENTAL WORK IN MUSIC IN WILMINGTON, AS BEARING ON THE CONDITIONS DESCRIBED.

Music has been taught in the Wilmington elementary schools under the direction of a supervisor of music for at least 25 years. Although progress has been made, the days of Wilmington's musical majority, so to speak, have not been many. The reason lies in traditional standards in the State of Delaware at large. With respect to music, there have been practically no standards at all in the schools of the State. Teachers in the State and in Wilmington specifically have been untrained in music, and often most meagerly trained in general and professional subjects. The supervisors of music, when they have been in advance of the general school-music standards, have consequently had to work against a dead-weight of traditional indifference and ignorance as to what school music should be. At times and in specific cases this indifference has developed almost into positive opposition. Music has not, therefore, had merely to grow, it has been under the necessity at the same time of creating an environment which would not stifle it.

The present supervisor of music in Wilmington was appointed less than one year ago. In the six years preceding the foundations of the present modern system of musical instruction were laid. Before that the ground was but being prepared slowly and unconsciously for the builders.

Besides the supervisor of music for the entire system there is an assistant who attends directly to the musical instruction in colored schools exclusively. In each of the four grammar schools there is also a special teacher of music. In one of these schools the music teacher also gives all the instruction in penmanship; in another the music teacher gives part of the instruction in art. In the remaining two schools the music teachers give instruction in music only. There is also a special teacher who gives instruction in music and physical education in one elementary school in which all instruction in the fifth and sixth grades is departmentalized. With the addition of the orchestra director in Wilmington High School, the list of special

teachers of music is completed. All instruction in music not given directly by this corps must be given by regular grade teachers.

The supervisor of music plans and outlines the work for all schools in the city, visits all schools, and gives or observes the instruction given to each class, holds meetings of grade teachers for the purpose of instructing them in teaching music, and conducts the singing in assembly exercises in Wilmington High School. Lower elementary schools are visited more frequently than the upper elementary or grammar schools, because the special departmental teachers in these latter are better prepared to carry on the work. Also, elementary schools are visited unequally, according to the needs for special help that may develop. However, most schools are visited once in each month or five weeks. Unless the regular grade teachers are extremely competent in carrying on the music during the interim this period is too long. The practice of the supervisor is to teach the classes visited, giving model lessons, rather than to observe the work of the class teacher. The practice is sound and is preferred by the majority of supervisors.

Grade meetings for teachers of each grade, from first to sixth, inclusive, are held by the supervisor at the beginning of each semester. A meeting with the special teachers of music in grammar schools, as mentioned above, is also held at the same time. An excellent feature of the supervision is a teachers' class, held in addition to the grade meetings. This is for new teachers and all needing help in the special methods of the course outlined. Teachers from all elementary grades are combined in the group, and meetings are held weekly. While the call to these meetings has not been mandatory, most teachers whose attendance was requested have come willingly and even gladly. The kindly, cooperative spirit in evidence in the schools generally is manifest in this response.

The assistant who conducts the instruction in colored schools attends the grade meetings of the supervisor and visits each elementary grade class in colored schools once in three weeks. The closer supervision thus given colored schools (impossible for one supervisor in white schools) is one factor conducive to superior work in these schools. In addition, the assistant teaches and directs all the music in Howard High School, and in the teacher's training classes conducted in that school, and instructs at least one sixth-grade class and one seventh-grade class housed in the same building 40 minutes and 80 minutes a week, respectively.

Except for the special teachers in grammar schools and School No. 9 (an elementary school departmentalized) grade teachers give all remaining regular musical instruction. This does not mean, however, that each and every teacher gives instruction to her own

class. There is considerable departmentalization of instruction in the elementary schools. Wherever there are teachers who are weak in music and an exchange of subjects can be effected between them and a teacher of ability such exchange is effected. In the opinion of the writer variations in results are not in equal ratio to the variations in ability between teachers, e. g., a teacher who is 25 per cent better than the regular classroom teacher will get results that are hardly any better, some power being lost to the pupils through their changing from one personality to another. The wisdom of dividing work among the regular teachers in a school, unless some of these have comparatively very great special abilities, is therefore open to grave doubt. In Wilmington some teachers are totally unprepared to teach music, and variations in ability within any school are accordingly likely to be sufficiently marked to justify departmentalization.

But the question as to what training in music these teachers receive before entering the schools naturally arises. The truth is that they need not have received any. The State does not require music to be part of a teacher's equipment, and has taken practically no steps to encourage the study among prospective teachers. In this it is behind a large number of other States which not only require that music be taught in all their schools but prescribe a minimum number of hours which students in their normal schools shall devote to its study. For instance, the requirements in the State of Pennsylvania are as follows:

ART. 4.—MUSIC.

All groups, fourth semester, 4 periods, 2 hours' credit.

This course presupposes a knowledge of the elements of music. The purpose of this course is to fit students to teach music in the public schools. The salient features of this course are: A treatment of the child voice, a study of the tonal and rhythmic problems of each grade, ear training, melody writing, sight reading, and part singing, a study of the song material adapted to each grade, the use of the phonograph to develop musical appreciation, and the development of musical programs. Students are taught how to apply the standard musical tests to discover musical talent. Observation and practice teaching are a requirement of the course.

Wilmington should similarly safeguard the musical instruction of its children by requiring a knowledge of music on the part of teachers entering its schools.

Mention has been made of a department for training colored teachers, maintained in connection with Howard High School. Until recently the city school system maintained also a training school for its white teachers, but this has been discontinued. At present the members of the normal classes for colored students are pursuing an excellent two-years' course of study given by the instructor in music

in colored schools, and this plan has been maintained for years past. The ranks of the colored grade teachers in Wilmington are largely recruited from these classes. The result is that the percentage of colored teachers teaching their own music is greater than that found in the white schools, and much of this teaching is very efficient. This is the other factor that makes for any superiority in music that may be found in the colored schools.

The time allotted to music is, in general, 15 minutes per day for lower grades, 20 minutes per day for upper grades. This is not lavish, but is in accord with the practice in countless other cities. But in many rooms in Wilmington there is great deviation from this standard allotment. In many lower grades half-day sessions result in contraction of the entire program; and music is always an early sufferer in case of such contraction. In fourth, fifth, and sixth grades classes of mixed grade, such as 5B, 5A, and 6B (to take an exceptional instance), result in crowded schedules and consequent contraction of time for a subject like music, that requires the participation of all at once. The conditions in this last respect seemed very uneven in different schools, and it is possible that some redistricting of the city, such as may possibly grow out of the school survey, would alleviate the difficulty. The time assigned is so moderate that it should certainly not be decreased further. In grammar schools each group receives ordinarily two 40-minute lessons in music per week. This is not sufficient for the attainment of good results. It is made smaller than it would normally be by the pressure of the departmental 40-minute schedule. Between two periods, which is under the normal amount, and three periods, which is over the normal amount, the lesser is chosen. The mechanism of a schedule, however, should not be permitted to dictate the educational program. If a proper time for music in sixth, seventh, and eighth grades is 100 minutes per week, a schedule should be devised that will give them that amount. Pupils at this age need also, as was stated in an earlier section of this report, two types of instruction. They should be assembled in small groups, in which the individual voices can be heard, classified, and trained, and in which each individual can be taught to carry an independent vocal part, read at sight, review and strengthen his knowledge of musical theory, etc., and they should be assembled in larger groups in which their interest in mass chorus practice may receive recognition and their capability in mass chorus singing may be developed. These needs have often been met by a plan substantially as follows:

(*a*) One 40-minute period per week in small groups of 35 to 45 pupils each.
(*b*) One 40-minute period per week in groups consisting of 55 to 90 pupils each. (Each of these groups represents a combination of one and one-half or two groups of the kind specified in (*a*) above.)

(c) One 25 to 40 minute period per week in partial or general assembly (as all the sixth year pupils, or seventh year, or eighth year, or some two or all three of these combined); the pupils to be seated according to voice parts, and the period to be devoted largely to ensemble singing of songs previously studied in the smaller group rehearsals).

If this program is skillfully worked out, it will leave the assembly programs as enjoyable as before, will take no more time from regular subjects than music and assembly programs as now scheduled take, and will result in vast improvement in the work in music, as compared with the present plan.

SUPPLIES AND EQUIPMENT.

The course of study in all the grades calls for the use of but one book of music during any one period. No supplementary books of music are supplied, prescribed, or recommended. Blank music writing books in the hands of all the children are prescribed by the author of the system, and these are, indeed, not only desirable but indispensable to a proper presentation of the course. None of these blank books has ever been introduced in Wilmington.

It is unfortunate that no supplementary books of music are at hand; for while it is quite right to use one set of books as a basic text, supplementary music is essential to a rich or even adequate course of instruction. In seventh and eighth grades in particular, at least two complete sets of material are necessary. Many seventh grades contain a number of bass voices. All standard books nevertheless present only treble-voice music for these grades. Similarly, eighth grades often contain no bass voices; but all standard books present bass-clef music only for eighth grades. In such cases a double amount of music for both treble voices and mixed voices, but of the scope and quality appropriate to the pupils, should be supplied. We do not forget that at present the grammar schools in Wilmington are paying little or no attention to these vocal requirements, but they should do so, and the problem should be met by an adequate supply of music. The situation in colored schools demands even more careful consideration of the kind; for here bass voices are likely to appear in considerable numbers very early, and neglect of their requirements means the ruin of musical effects and musical education, even if it does not result in permanent impairment of voices.

The lack of the prescribed music writing books is equally unfortunate, perhaps more unfortunate. The author of the system truly says that written work is one of the best means of securing individual recitations in music. We have mentioned repeatedly the need for forms of recitation that would enlist all pupils at once in their individual capacities. The blank books, or, in default of those, blank music paper would be invaluable.

But infinitely more disastrous is the meager supply of the books that are provided. During the entire field survey there was a most distressing loss of time and accomplishment due to the fact that no music books whatever were in rooms entered for purpose of observation. One set of some 40 books would be used in several rooms successively, and would need to be gathered up and carried from room to room by pupils. Collections and distributions of books often consumed as much time as the surveyor could give to the recitation after the pupils were provided with books. It is small wonder that many rooms experience difficulty in securing the prescribed time for music.

Pitch pipes are adequately provided. Every teacher is supposed to be supplied with a pitch pipe, and hardly any shortage was noted. It should be said, too, that most of the teachers used them freely and correctly. Staff liners, teachers' manuals, a rote-song book for each teacher, and, in short, all equipments for teachers, were well supplied.

Almost every school is provided with at least one piano. The pianos are placed in classrooms, auditoriums, or halls, as the conditions may indicate. Those in grammar schools were used to the best advantage. The pianos in classrooms were not used half so liberally as they should have been, so far as the surveyor's visits revealed. A piano in a classroom is advantageous if used as nothing more than a superior pitch pipe. Used for accompaniments it enlarges greatly the musical horizon of the pupils and adds infinitely to their musical enjoyment; and it also provides an unrivaled means for ear training, explanation of scale composition, elucidation of rhythmic problems (as where two or more contrasted rhythms proceed at once, or where long notes are broken into shorter ones), support of one part against another, and so on. The full measure of its values did not seem, however, to be understood. It was nevertheless delightful to find pianos in such numbers. The day will surely come when a keyboard instrument (piano or one of the modern small portable school organs) will be regarded as an essential factor in every music lesson for every class.

The distribution of pianos is uneven. Some schools are richly supplied, some are destitute. The cause of this is that every piano in the school system (if information obtained is entirely correct) has been purchased out of funds not supplied by the board of education, but obtained by school entertainments and other forms of benefit performance. While the spirit and the disinterested efforts of those who worked arduously to obtain these instruments are deserving of the highest praise, there is much that is objectionable in this form of procedure. Pianos and other keyboard instruments should be regarded as necessary equipment for all schools and should be pro-

vided at public expense and equally for all the children of a city. The surveyor knows of at least two cities in which attempts to raise private funds for such a purpose were promptly suppressed by the school authorities, as representing violations of a cherished principle.

One or more phonographs are installed in most schools. They have been obtained by means similar to those used to obtain pianos. They add much to the enrichment of the schools, not only in connection with the music but in connection with physical training, marching, etc. As these instruments, notwithstanding their value, are ordinarily considered as less essential to fundamental musical training than are pianos, and as their cost is less and sufficient funds for their purchase can usually be secured by any school, it is customary for boards of education to permit them to be purchased from funds obtained by special means.

Table No. 1, which follows, shows at a glance the provision of books, pianos, and phonographs. The books ordered between June and October 15, 1920, had not all been received when the field survey was made. Their receipt would have alleviated the situation, but obviously would not have gone far toward correcting it. No further comments on the table are necessary.

TABLE 1.—*Report of music supplies, October, 1920.*

Schools.	Net enrollment 1919-20.	Books on hand.	Books ordered June to Oct. 15.	Pianos on hand.	Machines on hand.
No. 1	643	251	0	2	0
2	508	167	60	2	3
3	425	185	0	1	2
4	653	339	198	1	1
5	237	96	0	1	1
6	293	121	0	1	2
7	275	131	0	1	2
8	334	127	0	1	2
9	589	602	0	2	1
10	277	94	0	1	1
11	526	193	96	1	0
12	398	113	96	1	1
13	344	188	12	1	1
14	351	156	23	1	3
15	413	149	36	2	1
16	457	158	108	2	1
17	285	129	36	1	1
18	133	18	0	0	0
19	382	211	60	2	1
20	470	109	36	4	1
21	255	125	12	3	1
22	129	90	36	3	1
23	518	198	96	1	1
24	725	196	84	2	1
25	676	231	144	0	1
26	120	117	0	0	1
27	117	92	12	1	0
28	764	353	0	1	0
29	571	140	12	1	1
30	681	293	48	[1]2	2
Total	12,293	5,156	1,145	[1]39	35

[1] Also 4 pianos in high school, making 43 in all.

AIMS AND FEATURES OF PRACTICE THAT ARE LACKING IN WILMINGTON.

A most important aim for public-school music is to make it articulate with the musical activities and interests of the adult community and those of the adult musical world generally. While this aim is probably recognized in Wilmington as sound in principle, the most serious defect in the course is that the forms and spirit of instruction are such as will lead, by imperceptible divergences, away from its realization.

Any teacher who is a musician (and those who are responsible for the music in Wilmington are good musicians) will have a thousand associations called up by some rhythm that suggests the music characteristic of a certain race, or that characterizes some great composition. It is not right that this rich culture of the teacher should never be brought forth to lift and quicken the minds of the children. Yet the surveyor heard no single word in any lesson in Wilmington that hinted that there was any music in the world except that which was in the schoolroom. Instruction seemed totally absorbed in that.

The whole field of instrumental music, which is so strong and so salutary an interest with so many children, threw scarcely one vibration across the thresholds of the schoolhouses in Wilmington to betray its presence.

There is no musical-study club in Wilmington; but the fact that a series of concerts is given, usually by the Philadelphia Symphony Orchestra, suggests one more way in which the schools may be linked with the community.

It might be difficult to inaugurate immediately advanced musical courses in Wilmington High School, or to begin giving instruction in instrumental music under school auspices or at school expense. Some measure of study of musical instruments already exists, however, among pupils themselves outside of school. Sympathetic recognition of it and encouragement of it are at least possible to the school system. The lack of any echo of such study in the schoolrooms led the surveyor to conclude that there must be in Wilmington comparatively little of such study. An investigation was, however, made; and the results of the investigation, set forth and discussed in the next section of this report, will show whether his conclusion was accurate or not.

PRIVATE STUDY OF MUSIC AMONG PUBLIC-SCHOOL STUDENTS.

Two distinct inquiries are represented by the following tables. The first inquiry sought to ascertain the number of pupils engaging in private study, the cost of such study, and the distribution of it

with respect to the instrument or branch of music studied. The tables also present the geographical and perhaps the social aspects of the distribution in Wilmington, and the distribution with reference to the ages of the pupils. The second inquiry sought to ascertain the extent of the vocational, as distinguished from the purely cultural aim of the study undertaken, with similar related facts regarding the distribution of the study.

Neither inquiry was addressed to pupils below the fourth grade. There is considerable study of music in the aggregate below this grade, but a true conception of the amount of study can probably be arrived at more certainly by omitting those pupils, who constitute a small percentage. The inquiry as to the amount of vocational interest was addressed, it will be noted, only to pupils of seventh to twelfth grades, inclusive.

For convenience in tabulation, the terms "elementary" and "high" have been used in their ordinary significance. So used, the term "elementary" includes the grammar-school grades (sixth, seventh, and eighth grades) in Wilmington.

TABLE 2.—*Extent and cost of private instruction in elementary schools—White.*

School.	Pupils on register.	Taking lessons.	Reporting private instruction "free."	Reporting cost not known.	Reporting cost.	Amount paid for period.
No. 1	202	112	2	0	110	$3,713.67
2	248	81	6	7	50	2,002.00
3	151	11	3	0	8	250.00
4	336	125	1	2	121	1,111.00
5	89	9	1	0	8	274.00
6	87	11	0	0	11	330.00
7	121	11	1	1	9	41.00
8	111	13	0	1	12	90.00
9	225	20	4	10	15	1,220.00
10-A	122	8	0	0	8	181.00
11	263	22	1	5	16	192.00
12	158	36	7	0	29	922.00
13	157	33	2	3	30	1,250.00
14	156	19	2	0	17	380.00
15	165	38	2	0	36	964.00
17	81	9	2	0	7	214.00
19	197	22	1	0	21	670.00
20	133	11	1	0	13	108.67
24	112	38	1	0	47	1,176.00
21	652	172	2	25	145	5,020.00
25	271	48	5	3	30	951.00
26	107	12	0	1	11	314.00
27	71	10	0	0	10	285.00
28	203	197	7	0	193	6,064.00
30	257	106	2	7	97	3,741.00
Total	5,613	1,205	56	64	1,068	36,916.34

The percentage of the whole number taking lessons is 21.47 per cent. The average cost per lesson is 83.6 cents plus.

The percentage of pupils studying is high. How high it may be with relation to other cities can not be stated, for very few inquiries of the kind have been made. Only two are known to the surveyor, and these were made in Memphis, Tenn., and in Rochester, N. Y. The

percentage taking lessons in the same grades in Rochester, which is extraordinarily advanced in extent and quality of musical study, was 24.47 per cent. The average price per lesson in Rochester was 97.55 cents. The corresponding percentage and average cost per lesson in Memphis can not be stated for comparison, as the basis adopted for tabulation there was not quite the same. The reader will, nevertheless, find other comparisons with the Memphis report to be possible and of considerable value.

The next table gives facts of even greater significance regarding the musical interests of these pupils.

TABLE 3.—*Distribution of pupils studying various special branches in elementary schools—White.*

Grade.	Banjo.	Clarinet.	Cornet.	Drums.	Guitar.	Mandolin.	Melophone.	Organ.	Piano.	Saxophone.	Trombone.	Ukulele.	Violin.	Voice.	Not specified.	Total.
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

The story told by this table is not so favorable to Wilmington. The study is sharply narrowed, betraying limitations of musical activity in the schools and community, and consequent limitations in the interests of young people. The cello is not studied widely by elementary school pupils anywhere because of its size, but half-size cellos are readily procurable, and some study of this noble instrument surely might be expected in a city of the size of Wilmington. The almost total ignoring of clarinet is another striking feature; and even the cornet and the less-favored trombone are disregarded to an unusual extent. A systematic effort to establish and build up grade-school orchestras would in a term of years unquestionably change this condition greatly for the better. On the other hand, the attention given to organ (unless reed organ is meant) is very unusual and

highly gratifying, and it is pleasant to observe that little effort or money is being wasted on the banjo and ukulele. However, the mandolin, which has no literature and no artistic scope comparable to that of some of the instruments omitted, comes in for an undue share of attention. The great attention given deservedly to piano and violin is in accord with usage over the entire European and American continents.

TABLE 4.—*Extent and cost of private instruction in elementary schools—Colored.*

Schools by number.	Pupils answering.	Taking lessons.	Reporting instruction free.	Reporting cost not known.	Specifying cost.	Annual cost as reported.
No. 16	311	68	4	1	63	$1.53
18	22	1	0	0	1	.30
21	92	9	0	0	9	.10
22	20	0	0	0	0	...
29	188	19	2	0	17	.330
Total	633	97	6	1	90	1.928

The percentage of pupils taking lessons is 15.32 per cent plus.

The average cost per lesson is 53.55 cents plus.

In this table the much lower percentage of pupils taking lessons is notable, and also the much lower average price paid per lesson.

TABLE 5.—*Distribution of foregoing study among special branches in elementary schools—Colored.*

Schools by number.	Cornet.	Mandolin.	Piano.	Violin.	Total.
No. 16	3	1	60	4	68
18			1		1
21			9		9
22					0
29			18	1	19
Total	3	1	88	5	97

The limitations in variety of interest are much the same in this table as they were in Table 3. It will be observed, however, that the banjo and ukelele are not being studied at all.

In the next table both amount and distribution of study are included.

TABLE 6.—*Private instruction among students in Wilmington High School—White.*

Number answering	1,264	Reporting cost not known	24
Pupils taking lessons	302	Specifying cost	$272
Percentage taking lessons	23.89+	Annual cost as reported	$12.46
Reporting instruction free	6	Average cost per lesson	$1.11+

The distribution of the foregoing study is as follows:

Cornet	7	Organ	3	Violin	54
Drums	3	Piano	211	Violoncello	1
Flute	1	Saxophone	1	Voice	6
Guitar	1	Trombone	1	Not specified	2
Mandolin	10	Trumpet	1		

This table is extremely encouraging. The price per lesson implies serious, well-determined study. Although the pressure of academic school work, which often blights the study of music for the remainder of the student's life, is growing heavier, the percentage of pupils studying music is greater than in the grades. There is a slight growth, too, in the breadth of musical interest, as evident in the advent of flute and 'cello into the tables. If outside instrumental study were given school credit, and if the high school purchased and encouraged the study of all instruments necessary to orchestral completeness and richness, one can not but believe that Wilmington High School would very soon attain enviable place among schools that are achieving distinction because of their musical accomplishments.

The next table is one of similar content, but is in connection with colored pupils of the same age.

TABLE 7.—*Private instruction among students in Howard High school—Colored.*

Number reporting	104	Reporting cost not known	0
Taking lessons	29	Specifying cost	29
Percentage taking lessons (per cent)	27.88+	Annual cost so reported	$780
Reporting instruction free	0	Average cost per lesson (cents)	67.24+

The distribution of the foregoing study is as follows: Piano, 22; violin, 6; voice, 1.

The most significant fact in this table is the high percentage of pupils taking lessons. Coupled with the low cost per lesson, it reveals a story of strong impulse fighting against ill conditions. The variety of interest is reduced to a minimum. The implication of limited outlook and opportunity is here.

The final table, with respect to this phase of our inquiry, is of aggregates.

TABLE 8.—*Extent and cost of private instruction in all elementary and high schools combined.*

Total pupils answering	7,614
Taking private instruction	1,633
Percentage taking private instruction (per cent)	21.44+
Specifying cost of instruction	1,477
Reporting instruction "free"	68
Not specifying amount of cost	88
Average price per lesson, for those specifying cost (cents, nearly)	80.53

Annual outlay so reported	$51,121.21
Annual outlay of those (88) not specifying amount of cost, calculated at average price (86.53 cents) per lesson	83,045.81
Total amount of outlay for instruction	$54,167.02

The distribution of study among the 1,633 music students in all schools combined, with reference to the special branches pursued, is as follows:

Banjo	1	Mandolin	19	Trumpet	1
Clarinet	1	Melophone	1	Ukelele	1
Cornet	16	Organ	5	Violin	235
Drums	4	Piano	1,291	Violoncello	1
Flute	1	Saxophone	2	Voice	11
Guitar	3	Trombone	3	Not specified	4

There are several new features in this table: The annual outlay, now first computed, is reckoned on the basis of 40 lessons per year for each pupil. There are doubtless some who do not take so many; but on the other hand, there are many who continue lessons during the summer, and such lessons probably balance those lost. The cost for those pupils who reported taking private lessons, but did not know or failed to state the cost, is also calculated and added to the total.

The table reveals that more than 1 pupil in every 5 in all the Wilmington public schools, from fourth grade (inclusive) up, is taking private music lessons. He is doing this with practically no encouragement or support from the school system. The parents of these pupils are spending over $54,000 annually to give them such instruction. This equals a considerable percentage of the cost for instruction of all kinds given within the school system. No other subject has anything approximating equal attention given it outside of school; and few, if any, subjects have equally little attention given them in school. Wilmington is far from singular in this respect. But the situation is presented squarely here for consideration because, while Wilmington is not by any means at the bottom of the scale with relation to her school music, but is, indeed, doing a certain portion of musical work well and faithfully, she is still far below her possibilities. In view of the very exceptional interest of her school constituency in music, as revealed in this study of their out-of-school activities, the schools should make effort of greater breadth and degree.

VOCATIONAL INTEREST AMONG PUPILS TAKING PRIVATE LESSONS.

The second phase of the inquiry is of very different import. The greater part of private study of music represents, of course, a cultural interest. Supervisors of music in public schools, above all other classes of teachers of music, will agree that this is the more valuable interest to mankind; for dealing with the masses of people

as they do, they come to comprehend that to fit music into the lives of all is greater than to fit a few into a musical life. But to-day the educational world is paying large attention to vocational subjects, and in doing this, indeed, is making small discrimination between vocational activities that create wealth and those that produce wages or salary. To the extent that subjects receive attention because of their vocational promise, music deserves high rank; for not only does it stand quite near the top of the list in the numbers following it vocationally, but it produces an income that gives it good place, while insuring the musician of good surroundings and associations. And with all this it does, like literature and art and beauty of all kinds, create wealth—not of a material kind, such as the farmer creates, but of a kind more impalpable, which, for want of a more exact word, we must term spiritual.

This vocational aspect of music is but lately discovered. It is doubtful whether, in nine cities out of ten, it is even dimly suspected; yet these same cities are likely to be spending ten times as much money and effort on some subject that has small vocational interest as they spend on music, which has large vocational interest. In Wilmington we have found that the course in the schools tends to create little breadth of musical interest, and that that which is created outside finds little encouragement or field for expression within the schools. The expectation would therefore be that slight vocational interest would be found. The tables following should be studied in that light.

TABLE 9. *Vocational interest in music among public-school pupils (white).*

Music pupils.	Schools and grades.					Total.
	No. 1; 7 A B, 8 A B.	No. 4, 7 A B, 8 A B.	No. 21, 7 A B, 8 A B.	No. 28, 7 A B, 8 A B.	High school years, 9-12.	
Pupils answering inquiry	343	334	520	363	1,264	3,024
Have earned or are earning money through music	2	5	17	0	25	[1] 50
Expect to earn money through music	27	13	85	4	83	[2] 212
Expect to make music chief or entire source of income	31	6	40	4	25	[3] 106
Special branches of practice pursued or contemplated:						
Teaching piano	8	1	24	4	11	48
Teaching violin	1	1	1			3
Teaching voice			2			2
Teaching music(?)		2				2
Mandolin players			1			1
Playing in band or orchestra	6	1	2		13	22
Church organists	4	1			8	13
Choir singers	4		8		10	18
Concert performers	1		2		6	9
Composers					1	1
Not specified	11					11
Do not know					4	4

[1] Or more than 3.65 per cent of those reporting. [2] More than 7 per cent of those reporting.
[3] More than 3.5 per cent of those reporting.

The table needs much interpretation. It will be observed that it includes pupils only from the seventh to the twelfth year in school, inclusive. These reported past or present vocational activity, then future or prospective activity, and full professional intention, where there was such. It is impossible to estimate the number of duplications included in such a report. Thus a pupil may have earned money in the past, may expect to earn money in the future, and may expect this future earning to constitute his entire income, and may report all three times. On the other hand, to make inquiry only as to past activity, or only as to future intention, would give uncertain results. Each of the three queries has significance in itself, and each forms to a degree a means of checking on the others. There can certainly be no question as to the vocational aspect of music in relation to the more than 1.65 per cent of those who have already earned money through music. And, even allowing for some youthful dreams that may not come true, the 7 per cent plus expecting to earn money in the future through music is of outstanding significance. It will be noted that just half of these expect to make music their entire source of income. This is on the assumption, too, that those who declared full professional intention also answered affirmatively on the preceding question. A bright pupil who looked ahead through the questions might easily have postponed his answer until the point of "chief or entire source of income" was stated. In such case, some of those who replied affirmatively at the latter point would need to be added to the 7 per cent replying affirmatively to the question preceding.

Doubt as to the reliability of the answers, if there were any, or as to the positiveness of intention, is removed when one examines the list of specialized activities chosen. While all the 212 who claim a future vocational interest do not specify the line of activity they expect to follow, 119 are definite as to this line, and 4 say frankly they do not know. This makes a total of 123 whose intentions are certainly fixed; and this is more than the number (106) declaring a full professional intention. Intrinsic evidence on the papers justifies the belief that oversight or uncertainty as to the way to answer was much more effective than vagueness of intention in restraining the remainder of the 212 from specifying their prospective lines of endeavor.

Whether 7 per cent or 3½ per cent be the more reliable index, the vocational interest is large enough to justify a plea for its greater recognition. Few other highly specialized fields would, it is probable, be chosen by equal numbers. The school system owes more to these pupils than it has given them.

The next table holds even more interest of a special kind.

TABLE 10.—*Vocational interest in music among pupils of public school No. 16 (colored).*

Pupils.	7 A B, 8 A B.	B 1-2-3-4, A 1-2-3-4.	Total.
Pupils answering inquiry	160	104	264
Have earned or are earning money through music	4	23	[1] 27
Expect to earn money through music	27	18	[2] 43
Expect to make music chief or entire source of income	13	7	[3] 20
Special branches of practice pursued or contemplated:			
Teaching piano	11	4	15
Teaching violin		1	1
Playing in band or orchestra	1	3	7
Church organists	1	1	2
Concert performers	2	4	6
Not specified	1		1

[1] Or more than 10.22 per cent of those reporting. [2] More than 16.28 per cent. [3] More than 7.57 per cent.

The explanations made in connection with the first table apply equally well to this final one. The special feature that is of paramount interest is the greatly increased percentages of those who have earned, or expect to earn, all or a part of their livelihood through music. Instead of 1.65 per cent plus who have earned some money by means of their musical activity, we now have 10.22 per cent plus. The percentage who expect to earn some amount of money in future is considerably more than doubled; and similarly there are more than twice as many who expect to make music their chief or sole source of income. The natural aptitude of a race not yet moulded into conformity with our scientific and industrial type of civilization speaks here. Art does not prosper when a race grows absorbed in calculating in terms of material advancement. Elizabethan literature sprang from a comparatively simple stage of English life. Similarly the adolescent age of Germany, when men lived on the basis of human impulse, gave birth to that great musical art which that country has since so completely passed beyond and discredited. But out of Australia we have Percy Grainger; and from the colored race, before they reach their shrewd middle age, we may expect those frank impulses that lead into all forms of art expression, of one grade or another. Years of sophistication will be necessary to the final suppression of these native desires, and the substitution of economic ambition. It would be a mistake to try to suppress, or do aught but encourage, these natural tendencies. The world will profit by encouraging from all the best product which their special aptitudes can produce. If the Negro can earn his livelihood by producing music for his own race or for white races, no harm to any of them can come from full development of this racial capability.

MUSIC IN THE COMMUNITY OUTSIDE OF THE PUBLIC SCHOOLS.

We have said that musical development in the schools was not commensurate with that in the community. This holds true only

in respect to and in view of the private study of music just discussed. Music in Wilmington seems to be largely individualistic. In one sense this is entirely proper and desirable. Music is valuable when it is apropriated by the individual as something within his own breast to which he can turn and from which he may receive refreshment of spirit at any and all times. But just as religion, which in its ultimate nature is individualistic, extends its ministrations to more men by forms of public worship, so must music reach others and quicken its own tendency to service by forms of production in which many take part. In such socialized, community forms of musical activity Wilmington is comparatively lacking. It has no musical club, no large amateur or professional orchestras, or bands with a progressive musical aim underlying them, no regular and permanent series of concerts, under local management, seeking to bring the best in music to the general public. Its proximity to Philadelphia is doubtless a deterrent influence, but the great mass of Wilmington's citizens do not go frequently to Philadelphia to hear good music, and even if they did they would profit much more by making music among themselves, for themselves. The concerts given in Wilmington by the Philadelphia Orchestra are very valuable, but they do not reach the masses. One is discouraged when he thinks of the little opportunity the children of the city have to hear good music, and of the little stimulus they receive outside of the schools, as well as within them, to prosecute the study in which this survey finds them engaged. The Community Chorus directed by Mr. Harry Barnhart has, from information obtained as to the attendance, nature of the programs, etc., performed a most valuable service in a situation peculiarly in need of it. The Orpheus Club and the Westminster Glee Club also contribute toward the need for organized musical effort; and during the war a measure of community activity in music flourished. For the rest, the church music in Wilmington seems to be the phase of expression that is most influential in forming the musical aims and concepts of the rising generations. Doubtless this accounts for the number of school pupils, small in an absolute but strikingly large in a relative way, who announced that their vocational intention was to become choir singers or organists. It is doubtful whether an equally large percentage so intentioned could be found in any but a very few other cities. It is significant, too, that this tendency is more general among the whites, whose church music is comparatively outstanding, than among the colored people. It is admirable in itself, but should not stand by itself. It will be a happy day for Wilmington when the musical interest that is so strongly indicated by the amount of individual study shall realize itself in cooperative musical movements and give the city, musically speaking, a civic consciousness.

RECOMMENDATIONS.

It is recommended:

1. That monotones shall not be segregated, but be seated with, and participate in all singing by, their classes, though they should sing softly and with a small voice.

2. That the teachers be instructed in definite steps by which monotones may be cured; and that these steps be characterized chiefly by the use of syllables and vowels, such as *nee*, *noo*, *ing*, etc., that will give high and frontal placement to the voice, incorporated in tonal successions that begin on E flat or E, fourth space, treble clef.

3. That blank music-writing books, or at least blank music paper, be provided all pupils from second to eighth grades, inclusive; and that the books or paper so provided for lower grades be specially ruled with widely spaced staff lines.

4. That the books now in use be immediately regraded according to the intention of their author; and that a much larger part, if not all, of technical instruction be then specifically related to the song material found in the books, and be presented as correlated to the songs and helpful to their mastery.

5. That music textbooks of the kind now in use and so regraded be purchased by the board of education in numbers sufficient to supply each child with an individual copy of the book designed for his grade.

6. That music books issued to pupils shall, after all pupils are supplied, be kept in the pupils' desks.

7. That supplementary books of music containing many good songs of easy grade technically and arranged for two or three treble-voice parts be purchased for supplementary use in fifth and sixth years, and that books of songs be added for seventh and eighth years, such as will provide graded song material using bass clef in amount sufficient for those two years, and also with graded song material using only treble clef in amount sufficient for those two years; and that this song material, together with such similar song material as is now in use, be treated as sight-singing material, with such complementary technical instruction and elucidation as may be necessary.

8. That books or sheets of music containing bass parts be used for all seventh and eighth grades in which 8 to 10 per cent of the pupils in a music class have changed voices. (The technical grade of this music should be such as will enable the pupils to concentrate effort almost wholly upon maintaining independent parts correctly and gaining a knowledge of bass-clef notation as related to their vocal practice.)

9. That the voices of seventh and eighth grade pupils be examined as formally as may be necessary once each semester, and that each

pupil be informed of the range of his voice and be assigned a suitable part to sing.

10. That 75 minutes per week for first and second grades and 100 minutes per week for all grades above be recognized as the standard time allotted to music, and that every effort be made to give all classes, especially those of seventh and eighth years, such amount of time.

11. That pupils who play piano be sought out and requested to play accompaniments, marches, etc., whenever such service would contribute to the enjoyment of the pupils.

12. That pupils who are studying musical instruments be requested to play occasionally in their rooms, as for morning exercise; such numbers as violin or piano solos, violin duets, etc., being solicited.

13. That every effort be made to encourage in the grade schools larger and more permanent organizations of instrumentalists, of the nature of school orchestras.

14. That the board of education purchase music for any such organizations that may be formed, and also provide the instructor or director for each, if no teacher in the present staff can undertake such duty.

15. That in the high schools, credit toward graduation be given for specialized technical study pursued under teachers outside the school, on condition that this study is submitted to observation and examination by the supervisor of music in the schools and by such body of examiners as may be selected, and is found worthy.

16. That at least one piano in each school be considered as a fundamental part of the equipment of a school, to be provided at school expense; and that the board of education begin systematically, and as rapidly as possible, to supply all schools in Wilmington not now so provided with at least one piano.

17. That in Wilmington, as in Pittsburgh, Pa., where the board of education annually appropriates $1,000 for the purchase of orchestral instruments, a sum be set aside annually for the purchase of orchestral instruments that shall be the property of the school system and be loaned to deserving pupils so long as they take good care of them and study faithfully to prepare to enter the high school orchestra, or so long as they are satisfactory members of such orchestra; or failing in such appropriation, or in addition to any that may be made, that entertainments, such as school concerts, etc., be given, the proceeds to be devoted to the purchase of orchestral instruments, and that the instruments purchased be those necessary to orchestral completeness but not ordinarily owned by school pupils, such as bass viols, violas, violoncellos, clarinets, trombones, French horns, oboes, bassoons, and tympani.

18. That credit toward graduation be given by the high school for satisfactory playing in the high-school orchestra.

19. That vigorous encouragement be given immediately to the organization, in the high schools, of choruses and glee clubs of mixed voices and also of treble voice only; membership in such classes or groups to be elective or by selection, the work to be earnest and progressive, and to be credited, hour for hour of recitation, equally with any subject not requiring outside preparation.

20. That a course in musical appreciation be formulated and offered in high school, such course possibly to be, for a time, a popular course, appealing to large numbers, and designed to give a great proportion of time to hearing the best and greatest in music rather than to analyzing it minutely.

21. That songs for use in high-school assemblies be provided in sufficient quantities to give each pupil a copy; and that good and progressive chorus work be further aided by giving time for rehearsals and adopting a plan of seating that will permit of better voice groupings.

22. That earnest and unremitting effort be made in the direction of finally establishing in the high schools courses in music that shall at least include harmony (2 years), music appreciation (2 years), chorus, orchestra, and the crediting of outside musical study, according to some such plan of credit and hours as that represented in the following:

Courses of study in music.

Subject.	Length, in semesters.	Periods per week.	Remarks.
Harmony	4	5	
Do	4	3	Offered only as complementary to technical study.
Appreciation	4	5	
Do	4	3	Do.
Do	4	2	An elementary or popular course, to consist of more listening and less analysis.
Orchestra	1 to 8	5	
Do	1 to 8	2	
Chorus	1 to 8	(?)	"Any chorus other than the 'required.'"
Outside technical practice, with complementary theory in or out of school; the two aggregating 10 periods per week.	1 to 8	10	Minimum requirement for practice, 6 hours (60 minutes each). Theory, if in school, 3 periods; if out of school, not defined as to time or form of study, but only as to attainments required. See "Plan for crediting outside musical study."
Special courses. Outside technical practice.	2	5	

23. That another instructor be added immediately to the special departmental corps, and high-school and supervisory work be then so divided between the present supervisor and the new member that all the musical instruction in high school, including the orchestra, and a plan of supervisory visits that will cover all grade schoolrooms

once in three weeks at most, can be successfully undertaken by the two.

24. That the special instructor in music in colored schools be allowed a number of chorus books sufficient to supply every student participating in assembly exercises in Howard High School with an individual copy, and that adequate provision of orchestral music for the orchestra there also be made, in order that the excellent work under way in that school may be further developed.

25. That effort be made to articulate much more closely the music department in the schools with the musical interests in the community outside. As aiding toward this—

(*a*) Musicians, singly or in groups, could be invited to contribute numbers or entire programs to high-school assembly exercises.

(*b*) Professional singers and players on various instruments could give lecture recitals, explanatory of the technical or artistic characteristics of their medium of expression, to high-school students gathered for assembly exercises.

(*c*) Musical programs by high-school students, assisted by local professional musicians, could be given.

(*d*) A local manager might be induced to offer a series of good concerts, to which school students could secure admission at reduced prices.

(*e*) A vigorous campaign should be inaugurated to sell students and teachers tickets to the concerts of the Philadelphia Orchestra at reduced prices.

26. That some eligibility requirements in music for all grade teachers in Wilmington and in the State of Delaware be formulated and adopted, these requirements to specify that all teachers to be certificated must at least know the rudiments of music to an extent which would be represented by a course covering 30 semester hours, preferably distributed at the rate of one hour per week of recitation.

APPENDIX.

TABLE 1.—*Fall enrollment in 1916–1920, distributed according to grades and sexes.*

WILMINGTON HIGH SCHOOL (WHITE).

Grades.	October, 1916.			October, 1917.			October, 1918.			October, 1919.			September, 1920.		
	Boys.	Girls.	Both.	Boys.	Girls.	Both.	Boys.	Girls.	Both.	Boys.	Girls.	Both.	Boys.	Girls.	Both.
9	189	221	413	186	239	425	208	241	462	278	287	565	327	288	621
10	123	131	257	96	178	274	101	129	230	115	162	277	152	160	382
11	84	69	153	79	65	144	69	63	134	70	99	169	93	93	172
12	40	50	109	11	93	93	44	47	91	47	52	99	47	79	126
Total	146	186	932	65	471	536	432	481	918	510	600	1,110	615	650	1,301

HOWARD HIGH SCHOOL (COLORED).

9	9	22	31	10	12	22	3	20	23	9	20	29	13	29	42
10	4	18	22	6	12	18	7	30	37	4	21	25	10	11	21
11	5	8	13	4	11	15	4	8	12	6	20	26	2	17	19
12	4	3	7	2	11	13	1	10	11	1	4	5	5	16	21
18	0	11	11	0	3	3	0	6	6	0	2	2	0	3	3
11	0	1	1	0	1	1	0	3	3	0	6	6	0	2	2
Total.	22	63	85	22	50	102	15	77	92	24	73	93	30	78	108

The figures in the last three columns are for October, 1920, instead of September, 1920.

Summary showing per cent each grade enrollment is of total enrollment.

Grades.	Wilmington High School (white), 1920.	Howard High School (colored), 1920.	All United States, 1917–18.
9	47.7	40.8	39.8
10	29.4	20.4	25.9
11	13.2	18.4	18.8
12	9.7	20.4	14.5
Total	100.0	100.0	100.0

TABLE 2.—*Enrollment for October and June, according to years and grades.*

WILMINGTON HIGH SCHOOL.

Grades.	1916, Oct.	1917, June.	1917, Oct.	1918, June.	1918, Oct.	1919, June.	1919, Oct.	1920, June.	1920, Sept.
9B	251	241	248	189	267	220	335	266	375
9A	102	188	187	182	165	220	230	254	246
10B	159	117	128	144	137	128	209	198	223
10A	98	99	86	87	91	105	98	140	159
11B	95	64	89	77	79	108	100	71	115
11A	58	59	55	60	55	84	69	79	57
12B	83	55	64	62	62	60	74	75	102
12A	26	35	20	35	29	46	25	44	24
Total	902	857	876	824	918	969	1,140	1,127	1,301

TABLE 2.—*Enrollment for October and June, according to years and grades*—Continued.

HOWARD HIGH SCHOOL.

9B	21		24		15		18		28			
9A	10		28		8		11		14			
10B	13		9		22		14		13			
10A	9		9		15		11		8			
11B	11		8		7		13		8			
11A	2		7		6		13		11			
12B	2		7		6		4		12			
12A	5		6		5		4		9			
Total	73		98		83		88		103			

TABLE 3.—*Persistence in school of classes entering from September, 1915, to February, 1919.*

WILMINGTON HIGH SCHOOL.

Entering date.	9th		10th		11th.		12th.		Graduated.	Finishing date.
	B.	A.	B.	A.	B.	A.	B.	A.		
Sept., 1915:										
Number entering	274	223	159	99	89	60	62	36	32	June, 1919.
Per cent	100.0	81.4	58.0	36.2	32.4	21.8	22.6	13.1	11.7	
Feb., 1916:										
Number entering	200	162	117	86	74	55	60	25	25	Feb., 1920.
Per cent	100.0	81.1	58.5	43.0	37.0	27.5	30.0	12.5	12.5	
Sept., 1916:										
Number entering	251	188	129	87	79	64	74	44	62	June, 1920.
Per cent	100.0	75.0	51.0	34.7	31.5	25.5	29.5	17.5	24.7	
Feb., 1917:										
Number entering	241	187	141	91	108	69	75	24		Feb., 1921.
Per cent	100.0	77.5	59.6	38.2	44.6	28.6	31.1	10.0		
Sept., 1917:										
Number entering	258	182	137	105	100	79	102		71	June, 1921.
Per cent	100.0	70.1	57.4	41.0	42.0	33.1	42.7			
Feb., 1918:										
Number entering	180	165	128	98	74	57				Feb., 1922.
Per cent	100.0	91.5	71.0	49.0	39.4	31.6				
Sept., 1918:										
Number entering	297	259	209	140	115					June, 1922.
Per cent	100.0	74.1	70.4	47.1	38.7					
Feb., 1919:										
Number entering	259	230	198	159						Feb., 1923.
Per cent	100.0	89.1	76.6	61.4						
Average per cent persisting	100.0	80.8	62.8	44.3	37.9	28.0	31.2	14.5	20.0	
All high schools in United States	100.0		72.0		53.2		44.0		10.7	

HOWARD HIGH SCHOOL.

Sept., 1916:									
Number entering	21	9	8	4	9	June, 1920.
Per cent	100.0	42.8	38.1	19.0	42.8	
Sept., 1917:						
Number entering	24	22	13	12		June, 1921.
Per cent	100.0	91.6	54.1	50.0		
Sept., 1918:						
Number entering	15	14	8			June, 1922.
Per cent	100.0	93.4	53.3			
Sept., 1919:						
Number entering	18	13				June, 1923.
Per cent	100.0	61.6				
Average persisting	100.0	72.4	48.5	34.5		

TABLE 4.—*Enrollments and failures in the Wilmington High School, June, 1920.*

Classes.	Girls.			Boys.			Girls and boys.		
	Enrolled.	Failed.	Per cent.	Enrolled.	Failed.	Per cent.	Enrolled.	Failed.	Per cent.
English:									
9B	124	26	21.0	138	42	30.4	262	68	26.0
9A	123	10	8.1	125	25	20.0	248	35	14.1
Both	247	36	14.6	263	67	25.5	510	103	20.2
10B	105	24	23.0	91	18	19.8	196	42	21.5
10A	76	4	5.6	66	6	9.1	142	10	7.0
Both	181	28	15.4	157	24	15.3	338	52	15.4
11B	39	1	2.6	29	0	.0	68	1	1.5
11A	41	3	7.3	30	1	3.3	71	4	5.6
Both	80	4	5.0	59	1	1.7	139	5	3.6
12B	32	1	3.1	31	2	6.5	63	3	4.8
12A	14	0	.0	10	0	.0	24	0	.0
Both	46	1	2.2	41	2	4.8	87	3	3.4
Elementary algebra:									
9B	115	22	19.1	138	39	28.3	253	61	24.1
9A	114	25	21.9	125	25	20.0	239	50	21.0
Both	229	47	20.6	263	64	24.3	492	111	22.7
Elementary algebra (third half):									
9B	63	6	9.6	79	15	19.0	142	21	14.8
9A	5	1	20.0	4	1	25.0	9	2	22.2
Both	68	7	10.3	83	16	19.3	151	23	15.2
Intermediate algebra:									
10A				7	1	14.2	7	1	14.2
11A				1	1	100.0	1	1	100.0
12B	42	3	25.0	17	6	35.3	29	9	32.1
All	12	3	25.0	25	8	32.0	37	11	29.8
Plane geometry:									
10B	4	2	50.0	9	2	22.2	13	4	30.8
10A	44	11	25.0	15	19	42.2	89	30	33.5
Plane geometry, retarded:									
11B	20	4	20.0	17	4	23.5	37	8	21.6
11A	4	2	50.0	5	2	40.0	9	4	44.5
All geometry (11)	72	19	26.8	76	27	35.5	148	46	31.5
Solid geometry:									
10A				1	0	.0	1	0	0.0
11B	1	1	100.0	6	3	50.0	7	4	57.3
11A	18	2	11.1				18	2	11.1
12B	1	1	100.0	3	1	33.3	4	2	50.0
All				1	1	100.0	1	1	100.0
Trigonometry:	20	4	20.0	11	5	45.6	31	9	29.0
11B	2	1	50.0	10	4	40.0	12	5	41.7
11A	1	0	.0				1	0	.0
Both	3	1	33.3	10	4	40.0	13	5	38.6
Commercial arithmetic:									
10B	4	3	75.0				4	3	75.0
10A	19	4	21.0	9	0	.0	28	4	14.3
11B				1	0	.0	1	0	.0
All	23	7	30.3	10	0	.0	33	7	21.2
Elementary Latin:									
9B	57	19	33.0	88	53	60.2	145	72	49.6
9A	61	17	27.9	92	35	38.0	153	52	34.0
Both	118	36	31.0	180	88	49.0	298	124	41.7
Elementary Latin, retarded:									
10B	10	5	50.0	18	5	27.8	28	10	35.7
10A	1	0	.0	1	0	.0	2	0	.0
11B	2	0	.0				2	0	.0
All	13	5	38.4	19	5	26.4	32	10	31.3
Cæsar, Latin II:									
11B	51	24	47.1	49	19	47.3	91	43	47.3
10A	43	19	44.2	43	21	48.8	86	40	46.5
Cæsar, retarded:									
11B	5	0	.0	7	3	42.9	12	3	25.0
12A	1	0	.0				1	0	.0
12B				1	0	.0	1	0	.0
All Latin II	100	43	43.0	91	43	47.3	191	86	45.0
Cicero, Latin III:									
11 and 12	28	8	28.6	6	2	33.3	34	10	29.5
Virgil, Latin IV:									
12	19	1	5.3	5	0	.0	24	1	4.5
General science:									
9B	33	9	15.5	40	11	27.5	98	20	20.4
9A	52	4	7.7	23	4	17.4	75	8	10.6
Both	110	13	11.9	63	15	23.8	173	28	16.2

TABLE 4.—*Enrollments and failures in the Wilmington High School*—Continued.

Classes.	Girls.			Boys.			Girls and boys.		
	Enrolled.	Failed.	Per cent.	Enrolled.	Failed.	Per cent.	Enrolled.	Failed.	Per cent.
Physiology:									
9B	66	4	6.1	88	9	10.2	154	13	8.5
9A	4	0	.0				4	0	.0
Both	70	4	5.7	88	9	10.2	158	13	8.2
Physical geography:									
9A	78	10	12.2	83	20	24.1	161	34	21.3
10B	4	0	.0	3	1	33.4	7	1	14.3
Both	82	10	68.2	86	21	24.4	168	35	21.0
Biology:									
10-12	69	4	5.1	66	0	.0	135	4	2.9
Physics:									
10-12	57	10	17.5	65	15	23.1	122	24	19.7
Chemistry:									
11-12	9	2	22.2	34	13	38.1	43	15	34.7
Community civics:									
9-10B	127	29	22.8	81	13	15.5	241	42	30.0
Early European history:									
10-11	79	22	27.8	33	9	20.9	122	31	25.4
Ancient history:									
10-12B	46	7	15.2	39	8	26.3	95	15	15.8
Modern history:									
9A-12B	5	2	40.0	16	1	6.2	21	3	14.2
American history:									
10A-12B	25	2	8.0	19	2	10.6	44	4	9.1
Civics:									
11B-12A	13	0	.0	59	4	40.2	72	4	7.8
French:									
9A-12B	193	35	18.1	130	29	22.4	323	64	19.8
Spanish:									
10A-12A	61	2	.....	25	3	.....	86	5	.....
Free-hand drawing; art. mechanical drawing:									
9B and A	68	10	14.7	206	54	26.2	.....	.....	.....
10B and A	103	4	8.9	91	13	13.8	.....	.....	.....

TABLE 5.—*Enrollments, percentages dropped, percentages failed, and numbers of repeaters in five departments of the Wilmington high schools, distributed according to individual teachers.*

WILMINGTON HIGH SCHOOL.

Teachers.	Pupils enrolled.	Per cent dropped of those enrolled.	Per cent failed of those remaining.	Number of repeaters Sept., 1920.	Subject.
*No. 1	49	8.3	26.6	12	French.
*No. 2	120	.8	30.0	27	Do.
No. 3	96	3.2	12.7	9	Do.
No. 4	103	7.8	10.5	10	Do.
No. 5	131	10.4	27.5	21	Eng. 9B.
No. 6	133	10.5	21.0	17	Eng. 10A and B.
No. 7	124	5.7	17.9	15	Eng. 10 and 12.
*No. 8	40	.0	17.5	7	Eng. 9B.
*No. 9	106	12.3	18.3	4	Eng. and French.
No. 10	129	3.9	14.5	14	Eng. 9A and B.
No. 11	128	7.8	19.0	9	Eng. 10A and B.
No. 12	118	.0	5.1	6	Eng. 11A and B.
No. 13	114	.9	2.7	1	Eng. 9, 10, 12.
No. 14	156	11.6	25.7	35	Alg. 9 and 10.
No. 15	165	11.5	24.0	19	Alg. 9A and B.
No. 16	153	9.1	22.3	25	Alg. 9 and 10.
No. 17	165	10.9	21.2	29	Alg. 9A and B.
No. 18	82	11.0	31.5	13	Alg., geom., trig.
No. 19	136	12.5	26.1	23	Geom., alg.
No. 20	76	9.2	15.9	11	Pl. and sol. geom.
No. 21	155	6.5	43.5	38	Latin 9A and B.
*No. 22	116	2.6	36.4	28	Do.
No. 23	125	8.0	44.4	33	Latin 9A and 10.
No. 24	88	12.0	41.0	16	Latin 9, 10, 11.
No. 25	118	8.5	29.6	21	Latin 10, 12.
*No. 26	166	8.4	21.0	18	Com. civ., hist. 9, 10.
No. 27	90	8.9	17.3	9	Hist. 10, 12.
No. 28	106	10.4	16.8	8	Hist. 10, 11.
*No. 29	116	15.5	15.3	14	Hist. 10A and B.

*Not now connected with the Wilmington High School.

TABLE 5.—*Enrollments, percentages dropped, percentages failed, etc.*—Continued.

HOWARD HIGH SCHOOL.

Teacher.	Pupils enrolled.	Per cent dropped of those enrolled.	Per cent failed of those remaining.	Number of repeaters, Sept., 1920.	Subjects.
No. 1	81	12.3	21.3	8	French, Lat., SB.
No. 2	74	13.5	15.4	6	Spanish.
No. 3	88	14.8	17.3	11	Math., hist.
No. 4	49	.0	.0	0	Science.
No. 5	91	14.8	7.4	10	English.
No. 6	64	12.5	7.2	0	Phys., geog., hist., and civ.
No. 7	44	16.4	.0	0	Domestic science.
No. 8	31	18.4	.0	0	Domestic art.
No. 9	16	.0	.0	0	Mech. drawing, wood work.
No. 10	45	.0	.0	0	El. drawing and sewing.

TABLE 6.—*Number of units of the various subjects per week, Wilmington High School—Part I.*

Subjects.	Classical.	Latin-scientific.	General.	Commercial.
English	4.0	4.0	4.0	3.0
Mathematics	2.0	4.0	2.5	1.5
Latin	4.0	2.0		
French	3.0	2.0	2.0	
Spanish				2.0
Science	2.0	3.0	4.0	2.0
Bookkeeping	2.0	2.0	4.0	3.5
Typewriting				2.0
Shorthand				1.25
Penmanship and spelling				1.0
Manual training				.8
Home economics	.8	.8	.8	.8
Drawing	.4	.4	.4	.4
Elective	.4	.4	.4	.8
Total, for boys			15.0	
Units, for girls	19.2	18.7	18.7	17.85
	18.8	18.3	18.3	17.45

[1] Including first 2 periods per week for all tenth and tenth grades, in addition to the above.

TABLE 6.—*Number of recitation periods and laboratory or shop periods[1] per week in each grade—Part II.*

Grades.	Classical.			Latin-Scientific.			General.			Commercial.		
	Recitation.	Laboratory.	Total.	Recitation.	Laboratory.	Total.	Recitation.	Laboratory.	Total.	Recitation.	Laboratory.	Total.
9B boys	20	8	28	20	8	28	20	8	28	23	6	29
9B girls	20	6	26	20	6	26	20	6	26	23	4	27
9A boys	21	6	27	20	6	26	20	6	26	23	4	27
9A girls	20	6	26	20	6	26	20	6	26	21	6	27
10B boys	20	8	28	20	6	26	20	6	26	23	4	27
10B girls	20	6	26	20	6	26	20	6	26	22	6	28
10A boys	20	8	28	20	8	28	20	8	28	22	4	26
10A girls	20	6	26	20	6	26	20	6	26	20	6	26
11B	20	5	25	23	4	27	24	3	27	20	4	24
11A	20	0	20	18	4	22	18	4	22	20	10	30
12B	23	4	27	23	4	27	23	4	27	25	0	25
12A	23	4	27	23	4	27	23	4	27	25	0	25
Average for boys			26.4			26.9			26.9			25.9
Average for girls			25.4			25.9			25.9			24.9

[1] This list includes attendance in gymnasium.

TABLE 7.—*Enrollment of the Wilmington High School, September, 1920, distributed according to curriculums, sexes, and grades.*

Grades.	Classical.			Latin-Scientific.			General.			Commercial.			Household arts,[1] girls.	Cooperative,[1] boys.	All curriculums.		
	Boys.	Girls.	Both.	Boys.	Girls.	Both.	Boys.	Girls.	Both.	Boys.	Girls.	Both.			Boys.	Girls.	Both.
B 9th	18	50	68	100	14	114	35	4	39	28	106	134	6	14	195	180	375
A 9th	22	47	69	60	6	66	12	0	12	26	53	79	8	12	132	114	246
All 9th	40	97	137	160	20	180	47	4	51	54	159	213	14	26	327	294	621
B 10th	15	49	64	66	8	74	15	6	21	14	35	49	12	3	113	110	223
A 10th	13	41	54	33	6	39	24	5	29	5	24	29	4	4	79	80	159
All 10th	28	90	118	99	14	113	39	11	50	19	59	78	16	7	192	190	382
B 11th	8	20	28	20	12	32	17	6	23	7	25	32	0	0	52	63	115
A 11th	1	7	8	13	6	19	4	3	7	9	14	23	0	0	27	30	57
All 11th	9	27	36	33	18	51	21	9	30	16	39	55	0	0	79	93	172
B 12th	5	16	21	23	16	39	6	7	13	7	22	29	0	0	41	61	102
A 12th	3	8	11	3	4	7	0	2	2	0	4	4	0	0	6	18	24
All 12th	8	24	32	26	20	46	6	9	15	7	26	33	0	0	47	79	126
All grades	85	238	323	318	72	390	113	33	146	96	283	379	30	33	645	656	1,301
Per cent of all enrolled	....	....	24.9	....	....	30.0	....	....	11.2	....	....	29.1	2.3	2.5	....	....	....

[1] The household arts and cooperative curriculums have been in operation for two years only.

TABLE 8.—*Teachers in Wilmington High School (W) and in Howard High School (H), distributed according to years of training beyond elementary school or as to degrees earned.*

Years of training beyond elementary school.	Teachers holding no degree or diploma.		Holding diploma only.		Holding bachelor's degree.		Holding master's degree.		Total teachers.	
	W.	H.	W.	H.	W.	H.	W.	H.	W.	H.
Between 1 and 2 years[1]	2	.....	.....	.....	.....	.....	.....	.....	2	.....
Between 2 and 3 years	1	.....	.....	.....	.....	.....	.....	.....	1	.....
Between 3 and 4 years	4	.....	.....	.....	.....	.....	.....	.....	4	.....
Between 4 and 5 years	5	.....	.....	.....	.....	.....	.....	.....	5	.....
Between 5 and 6 years	2	1	2	1	.....	.....	.....	.....	4	2
Between 6 and 7 years	3	2	2	.....	.....	.....	.....	.....	5	2
Between 7 and 8 years	2	.....	3	1	3	.....	.....	.....	8	1
Between 8 and 9 years	1	.....	.....	.....	14	5	1	.....	16	5
Between 9 and 10 years	.....	.....	.....	.....	2	1	1	.....	3	1
Between 10 and 11 years	[2] 1	.....	.....	.....	2	.....	2	.....	5	.....
Eleven or more years	.....	.....	.....	.....	.....	.....	[3] 1	.....	1	.....
Total	21	3	7	2	21	6	5	.....	54	11
Percentages	38.9	27.3	13	18.1	38.9	54.6	9.2	.....	100	100

[1] But less than 2 years.
[2] Art teacher.
[3] Smith-Hughes cooperative teacher; has both B. S. and C. E.

TABLE 9.—*Salaries and experience of the teachers in the two Wilmington high schools.*

Teachers without college degrees.					Wilmington High School.	Teachers without college degrees.				
Teachers having the various amounts of salary and experience.			Years of experience.		Amount paid as salaries.	Years of experience.		Teachers having the various amounts of salary and experience.		
Total.	Women.	Men.	Extremes.	Median.		Median.	Extremes.	Men.	Women.	Total.
.....	.....	.....	.....	.....	$3,000	22	.....	[1] 1	.....	1
.....	.....	.....	.....	.....	2,500	14	22-4	[1] 3	[1] 1	4
.....	.....	.....	.....	.....	2,400	7	.....	[2] 1	.....	1
1	[1] 1	.....	.....	31+	2,300	11	.....	.....	[1] 1	1
1	[1] 1	.....	.....	17	2,100	.....	.....	.....	.....	.....
2	.....	[3] 2	.....	31	2,000	1	.....	[3] 1	.....	1
15	14	1	44-15	31	1,850	10	12-8	.....	4	4
1	1	.....	.....	7	1,750	.....	.....	.....	.....	.....
3	1	2	16-10	11	1,650	8.5	16-5	1	3	4
1	.....	1	.....	2	1,550	4	5-1	2	3	5
2	2	.....	4-2	3	1,450	4.5	6-3	.....	2	2
1	1	.....	.....	1	1,400	2	.....	.....	1	1
.....	.....	.....	.....	.....	1,350	1	.....	2	.....	2
1	1	.....	.....	31+	1,250	.....	.....	.....	.....	.....
28	22	6	.....	.....	.....	.....	.....	11	15	26
HOWARD HIGH SCHOOL.										
.....	.....	.....	.....	.....	2,430	8	.....	[4] 1	.....	1
2	[5] 1	[3] 1	23-13	18	2,000	.....	.....	.....	.....	.....
2	.....	2	27-15	21	1,850	9.5	12-5	.....	4	4
[5] 1	1	.....	.....	6	1,350	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	1,100	5	.....	.....	1	1
5	2	3	.....	.....	.....	.....	.....	1	5	6

[1] Heads of departments.
[2] Science and athletic coach.
[3] Smith-Hughes cooperative and manual training teacher.
[4] Principal.
[5] Domestic science teacher.
\+ Acting principal and head of history department.

TABLE 10.—*Number of recitation sections enrolling the various numbers of pupils indicated, distributed by departments.*

WILMINGTON HIGH SCHOOL.

Departments.	Number of pupils in sections.									
	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41 or more.	Total.
Number of sections in—										
English	.....	.....	5	10	10	17	5	.....	.....	47
Mathematics	.....	1	6	6	12	12	9	.....	.....	46
Latin	.....	.....	3	3	13	7	2	.....	.....	28
Modern language	.....	.....	5	4	10	2	1	.....	.....	22
History and civics	.....	.....	2	2	5	9	4	1	.....	23
Science	.....	1	3	5	9	5	5	.....	.....	28
Commerce	1	3	10	3	6	9	1	.....	.....	33
Household arts	.....	4	4	11	8	.....	.....	.....	.....	27
Manual training, drawing, gymnasium	.....	1	4	8	5	11	5	1	3	38
Total, all departments.	1	10	42	52	78	72	32	2	3	292
Per cent of all classes.	0.3	3.4	14.4	17.8	26.7	24.6	10.9	0.7	1.0	100.0
HOWARD HIGH SCHOOL.										
Total, all departments.	18	15	17	4	.....	5	.....	.....	.....	59
Per cent of all classes.	30.5	25.4	28.8	6.8	.....	8.5	.....	.....	.....	100.0