RETARDATION: ITS SIGNIFICANCE AND ITS MEASUREMENT

It is a significant thing that with all our pride in our public school system, with all our profest regard for this bulwark of our democracy, the American public should listen with such rapt attention to the voice of the destructive critic. A few well chosen phrases, such as "we are sacrificing the child to the system," will gain a respectful hearing for almost any kind of educational balderdash. Demonstration is not asked. Emphasis seems to be the only thing required to obtain prominent publicity in our newspaper press, and not infrequently the fervid plaudits of educational gatherings.

If the lay critic can thus evoke admiration, if not stimulate thought, how much greater attention should we give to the constructive criticism which comes from men engaged in school work and acquainted at first hand with its problems? If the study of elimination and retardation in our public schools has led to some startling conclusions, it has happily been free from sensationalism. It has been prompted by no desire to exploit evils, but by a serious effort to show some distasteful facts only in the hope that we may thereby discover something of their causes and so seek a remedy.

To some these problems which appear to involve the whole question of the efficiency of our public school systems, constitute the most important phase of present day educational discussion. Yet to the casual observer this discussion might readily appear as a curious compound of frantic assertion and calm indifference. On the one hand, it is said that few of our pupils reach the conclusion of the elementary school course, that in all stages of the school plan there is a large proportion of backward or retarded children who can never hope to finish even their elementary studies, and that in con-
sequence our schools are pouring out every year a horde of youngsters very ill prepared for the duties of life. When such statements receive any attention whatever—and too often they are received with an impressive silence—we are informed either that all this is nothing new or that its significance has been exaggerated.

What are the facts in the case? Simply that in all public school systems which have been thus far examined there is observed in every grade of a school system a considerable proportion of pupils who are too old for the grades in which they are found. A single case will exemplify the point, and I choose for this purpose some hitherto unpublished figures which have been courteously supplied me by the Superintendent of Schools of Springfield, Ohio.

SPRINGFIELD, OHIO, JUNE, 1908
AGES AND GRADES OF PUPILS IN PUBLIC SCHOOLS

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In this table a heavy line separates those who are of normal age and under from those of above normal age, the conventional standard used being to consider in the first grade all children of eight years and over as above normal age, and so on progressively in the several grades.

The table exhibits the cumulative effect of failure. While
in the first grade only sixteen and eight-tenths per cent. of the pupils are above normal age, this rises to forty-nine and five-tenths per cent. in the fifth grade. Or looking at the matter in another way, we may note that while eight-year-old children should normally be in the second grade, sixteen per cent. of them are below that grade, but that of the thirteen-year-old children who should normally be in the seventh grade, as many as fifty-four and six-tenths per cent. are below that grade. Similar figures have been gathered quite recently in a considerable number of places. Whenever they have been brought together, and whatever the basis of the enumeration (total enrollment, enrollment on a given day, etc.) they always show a considerable percentage of retarded, backward, or over-age pupils, which rarely falls below twenty per cent. of all the pupils and sometimes rises as high as sixty per cent.

But we are told that this is no new problem, that schoolmen have long been aware of this state of affairs. That the problem is not new may be readily conceded, but this does not make it any the less real. It may be an old truth which we are now really seeing for the first time because we have found in such tables as I have quoted a more vivid and forceful statement than we ever had before. If, moreover, schoolmen have long been cognizant of this state of affairs, it must be confessed that they have been strangely reticent both as regards its extent and its causes.

Far more important is the suggestion that erroneous methods have been employed to determine the amount of retardation, that certain pupils are termed retarded, who should not be so designated. There is a clear implication that such inclusion has resulted in an exaggerated and distorted view of the case. Such an implication warrants serious consideration. We should rejoice should it prove that the evil which we have described, does not in fact exist, but is merely a defect of our means of vision.

With such a possibility before us we may well review fundamental concepts, and ask the question "What is retardation?"

Technical terms are not always self-explanatory. They
acquire conventional meanings which modify their obvious significance. To express a certain result which we find in our schools we have borrowed the term "retardation" from one—the most important—of the processes by which that result is reached. So far as there is a difference of opinion among those who have thought and written on this subject, it arises from the fact that one emphasizes the result, and the other the process. The result referred to, however caused, is a disparity between the ages of pupils in the schools and the grades in which they are found. The process referred to is the failure of pupils to secure promotion and thus a slow rate of progress.

Commenting on some very excellent work of Dr. Cornman of Philadelphia, Superintendent Greenwood of Kansas City voices his dissent as follows: "The only correct way to estimate retardation or the slow movement of a pupil, is the length of time it takes him to do a year's work. It is not a question of age without respect to progress, but it is one of time required to do a given amount of work within a specified time without regard to age. Suppose two boys enter college, one sixteen years old and the other nineteen, and each one completes the four years' work on time. How would any one claim that the older one was retarded? So, if a child begins the regular grade work at eight and he does a full year's work each year till he completes the elementary course, that child is not retarded, and it would be puerile to class him as a backward pupil. The only clear cases of retardation are those in which pupils are kept longer on a certain unit of work than is prescribed in the course of study. Many intelligent, sensible parents, especially in the middle and western sections of the United States, prefer not to send their children to any kind of school until the age of eight, and where such children do enter school they go forward rapidly and easily in their studies, often skipping classes."

Dr. Cornman with many others has used the criterion of age. Mr. Greenwood would have us use the rate of progress only. Are there then defects in the age standard which disqualify it, and excellences in the progress standard which
make it alone applicable? If so, much of our recent discussion of this subject has been wandering in false paths, and it is high time to retrace our steps. But whether this be true or not can not be decided by an appeal to the primary meaning of the word retardation, but must take into account the conventional meaning which it has acquired.

The phenomenon of retardation however measured has been recognized as fundamentally important from two standpoints, that of the school and that of the child.

From the standpoint of the school the significance lies in what Mr. Greenwood has aptly termed the "spread of the ages." The "spread" is altogether too broad for efficient teaching. The classes are too heterogeneous. Age differences beget subtle differences in habits and modes of thought which impair the unity of teaching, and burden the teacher. Their ten-year-old child is out of place in the first grade, and because he is out of place he is a nuisance. He requires a different discipline, a different mode of teaching. Nor is it very material from this view-point how the older child came to be among the younger pupils, whether it was by a failure to be promoted, or because he was kept out of school by unwisely indulgent parents.

From the standpoint of the child the essential thing is his prospect of securing an education. Since so many children leave our schools at the ages of fourteen and fifteen years, the question how much education a pupil is likely to get resolves itself for the great majority into a question of how much they can get before reaching that age. If the law were the only force which brought children to school the amount each would receive would be measured by the number of years between the age seven or eight, as the case may be, and fourteen. But as children may go to school at the age of six, and in New England frequently enter the first grade at five, it is clear that such children have brighter prospects for an education, than those who wait till they are eight years old before going to school. A six-year-old child in the first grade will in all probability get more out of school before leaving it than one who is nine years old. Does it matter from this
point of view how the child came to be there at the age of nine—whether he failed to advance, or whether he was nine years old when he first came to school?

Many prominent educators would have us believe that it matters little when a child begins school. Some go so far as to say that even if there is an initial disadvantage for the child who enters late, he readily overcomes it and by rapid progress reaches his proper place in the school system. Mr. Greenwood has already been quoted to this effect. Elsewhere he has said: "There is not today an elementary course of study in the United States, but that a boy or girl nine or ten years of age, if turned loose on it and permitted to go ahead would not complete it in three or four years."

The general principle may or may not be true, but the fact is that a child who enters our graded system of schools is not turned loose upon a course of study, nor is he generally permitted to go ahead.

If the children who entered late in our schools caught up as Mr. Greenwood supposes, his objection to the age standard of retardation would, at least so far as the upper grades are concerned, fall to the ground. By his supposition three or four years in school would overcome any initial disadvantage, and the child who entered late would be as far advanced for his age as he who entered early.

But unfortunately there is little evidence that many children "skip" grades. If there is any such rapid movement of some of the pupils, the published reports of our schools do not reveal its existence. Rapid progress thru the schools is represented by promotions over more than a grade, and by promotions during the year. These constituted in Somerville, Mass., in 1907 exactly one and four-tenths per cent. of all promotions. Again in Springfield, Ohio, where we have a record of 4755 promotions, there were only seven pupils who were promoted more than one grade. In Philadelphia among 122,644 promotions, 2406 are described as incident. In the investigation conducted by the Russell Sage Foundation in New York City, Mr. Ayres found complete records for 946 pupils in the fifth grade. Of these only
fifty-one or a fraction over five per cent. had progress more rapidly than the course of study contemplated.

But the double promotions are only sparingly reported, we find a number of instances in which pupils are reported as finishing the course in less than the specified time. In Cambridge, Mass., in 1907 of all pupils who finished the primary course of three years four per cent. came thru in less than three years. In Somerville, Mass., in 1907 fourteen per cent. of all pupils finishing the elementary course did so in less than the allotted time of nine years. In Boston in 1895 twenty per cent. of those who finished the grammar course of six years did so in less than normal time. In 1908 in Kansas City about nine per cent. of those completing the elementary schools did so in less than the prescribed seven years.

Concerning these figures it may be said in the first place, that assuming their correctness, they embrace only a portion of the pupils who enter school. If these graduating classes represent as many as half the pupils who enter, it is safe to say that they include practically all the pupils who made rapid progress. As these are the specially gifted ones, who are likely to continue their education, it is not probable that any of them are numbered among those who have left school. In comparison with all the pupils, therefore, the proportion of those who advance rapidly is materially diminished.

But can we accept these figures at their face value? Do they not in all probability include some who as young children went to other schools, which they have failed to count? Not infrequently children are sent to private school for a year or more before they go to the public school. Cases also occur which can not be neglected in this consideration of the specially gifted, of children receiving home instruction, and entering school above the first grade.

It must, I believe, be granted that the child who starts late is at a disadvantage in our public school system, and that this disadvantage is rather permanent than temporary. Shall we, therefore, call him retarded? We have already seen that he produces in the school the same situation as he who fails to be promoted. His progress may be at the normal
rate. But progress means more than rapidity of movement. It means in many cases the ground which has been covered. Compared with his opportunities such a child has progressed little. He made a late start and is already behind his fellows in the race. Is it any twisting of words or violence of language to call him retarded?

But what of the implication that the age standard exaggerates conditions? If there were a reasonable doubt as to its propriety the question would mean how large a part of age retardation is ascribable to late entrance into school. Obviously this factor can not grow. It is fixed from the start and is found as an original proposition only in the first grade. Let us take an illustration from Kansas City. In the first grade there were in 1906-07 by the age standard twenty-five and two-tenths per cent. of the pupils retarded. There were also in the first grade 1232 pupils who had been there more than 200 days. If this is properly comparable with the total enrolment, it amounts to fifteen and nine-tenths per cent. who were retarded by lack of progress. Hence, in a total retardation of forty-eight and five-tenths per cent. in Kansas City schools by the age standard there is thirty-nine and two-tenths per cent. caused by failure, and nine and three-tenths per cent. by late entrance.

In New York City Mr. Ayres found that among 100 retarded children by the age standard such retardation was due to a late start in only about thirty cases. If there were any reason for eliminating late start as a cause of retardation, it would leave us with a volume of retardation about one-third less than is currently reported.

But suppose we apply the progress standard pure and simple. It is difficult of application because records of the number of years pupils have been in school are not frequent. In the hundred largest cities in the United States there are only five in whose reports I find the slightest information on the subject. In Cambridge we learn that thirty-five per cent. of the pupils fail to complete the primary grades in three years, the allotted time. There are no age figures for Cambridge, but in neighboring cities with similar conditions we
find the following percentages of retardation by the age standard in the fourth grade: Springfield, twenty-eight and nine-tenths; Boston, twenty-seven and six-tenths; Medford, seven and seven-tenths.

In Boston in 1897 there were forty-six per cent. of the pupils who took more than the regular time to finish the primary schools, while the age retardation in the fourth grade was only twenty-nine and three-tenths per cent. In the same city in 1894 thirty-four and five-tenths per cent. of the pupils took more than the regular time to finish the grammar grades, while the age retardation for the ninth grade in 1896 was twenty per cent.

Again in Somerville in 1907 in the graduating class thirty-six per cent. took more than nine years to complete the course. No age retardation figures are available, but it is doubtful whether they would differ greatly from those of Boston, where the age retardation in the ninth grade was sixteen and three-tenths per cent. in the same year.

Among 1517 pupils finishing the Kansas City schools in 1908 there were 719, or forty-seven and four-tenths per cent., who required more than the allotted seven years to finish the course, while the age retardation at the close of the seventh grade was fifty-one and two-tenths per cent. Here is a very slight difference in favor of the progress standard.

Figures are available in some places, e.g., Kansas City and Baltimore, showing number of children who have been more than a year in their present grade. If, as seems proper, these be added together for the first four years, to ascertain accumulated retardation at that time, the resulting figure gives a comparison not unfavorable to the age standard.

We therefore see that wherever there is an opportunity to test the relative results of the two methods the progress standard, with a single exception, gives higher percentages of retardation than does the age standard. This should absolve the advocates of the latter from the charge of exaggeration.

Moreover, those who have employed the age standard have been generous in its application. Very seldom has it been so rigorously applied as in Medford, Mass. In that city many
children enter the first grade at five years of age, and hence the superintendent takes five years as the normal age for the first grade. Calculating all above five years of age in the first grade as above normal age, and using corresponding figures in the upper grades, he discovers that out of 4036 school children, 3423, or eighty-four and eight-tenths, are retarded. But this is a strained and unusual application of the age standard. Generally any child under eight years of age in the first grade is considered of normal age, and those of eight years and upwards are considered as above normal age. For those who enter the first grade early, say at six, this allows for one failure, or by half-grades for two, before the child begins to be counted as retarded. On the other hand any pure progress standard makes no such allowance. Hence the percentage of retardation as measured by the age standard as commonly applied instead of being greater is apt to be less than when the progress standard is used.

Moreover, it is clear that the age standard is of easier application. It can be applied at any time. Perfect accuracy in the progress standard assumes perfect records of past school history. If these do not exist, but must first be established, we must wait eight or nine years before we can secure trustworthy results. This is a practical consideration which speaks loudly in favor of the age standard.

To sum up: the amount of retardation has not been overstated in current discussion. It is prevalent everywhere. Because of the impediments which it offers to the forcefulness and effectiveness of teaching, it is one of the most serious questions of school management. Because it is depriving our children of a part of the education which the state provides for them, it is most serious for the prospects of our future citizens. It is an old evil, newly stated. Every effort made to diminish it will redound to the benefit both of the schools and the children. Concerning its causes we are yet much in the dark, but who can doubt that out of the continued study of this greatest of problems of our school administration, will arise practical measures which will not abolish the evil, but will greatly lessen it?

Washington, D. C. 

Roland P. Falkner