higher grades of his profession. An examination is necessary before every promotion; so that he must not only teach well, but must keep up with what is going on in the branches which he is required to teach. He teaches about thirty hours a week for ten months of the year, receiving a salary ranging from twenty-five dollars to ninety dollars per month, and a house free of rent. Considering the price of living, this is better compensation than the average American teacher gets. The average salary of the 23,681 teachers in Pennsylvania is $34.35 per month, and the report from which these figures are taken does not give the lowest salary paid. In some instances it is probably not more than ten dollars a month. As showing the transitory nature of the teacher's occupation in this country, it may be stated, that, of the above twenty-three thousand teachers, over eight thousand had been in the work less than five years. To judge from a statement made some years ago by a prominent Ohio educator, the tenure in that State is still more unstable. Besides, the German village schoolmaster is socially the equal of any of his neighbors, and he and the pastor are the most important personages in the place.

After the German teacher has served ten continuous years, his salary is increased by a small yearly pension; and if he should, on account of age or for any other reason, be unable to continue his labors, his pension is so increased as to afford him a comfortable living. If he dies and leaves a widow, she is pensioned, as are also all children under the age of twelve years whom he may happen to have. The State thus recognizes the teacher in the public school as being of equal value with the soldier; for, if either is disabled in the service, he is pensioned; and if he dies, his family is provided for.

It must not be inferred, from what has been said above, that it is advocated to transfer, as a whole, the German public-school system to the United States. We must make our own system, not borrow one already made. The only object has been to show that in the way of public schools we have more to learn of some European countries than they of us. While it is freely admitted that we have many schools quite as good as any that can be found elsewhere, yet one need only keep his eyes open in order to become fully aware that we have many schools and school-teachers that could not exist under the system sketched above.

DO WARM SUMMERS FOLLOW WARM WINTERS?

ALMOST every newspaper of Boston has recently had something to say about what the weather is to be during the coming summer; and it seems to be an almost unanimous conclusion that the following summer is to be warm because the winter and spring have been warm, or because last summer was cool. This has led Mr. H. H. Clayton to examine the temperature observations made in Milton during the last forty years by Mr. Charles Breck. These observations have been made twice daily from the same thermometer, hanging in the same place since the beginning of the observations in January, 1849. During the forty years, nineteen winters have been warmer than the average, and eight of the following summers have been warmer than the average. There have been eleven cases in which both the winter and spring have been warmer than the average, and following these there have been five summers warmer than the average. There have been six decidedly warm winters, that is, winters whose mean temperature was three degrees or more above the average; and four of the following summers have been warmer than the average. It is seen, then, that only about half of the warm winters were followed by warm summers; or, in other words, cool summers have followed warm winters as often as the reverse. The number of times warm summers have followed cool summers is nine, while the number of times cool summers have followed cool summers is twelve.

In the above, what has been called a warm winter is one in which the mean temperature of the three winter months — December, January, and February — has been higher than the average of forty years; and what has been called a cool summer is one in which the mean temperature of the three months of June, July, and August has been lower than the average of forty years, etc. This, however, is evidently not the definition adopted by people generally in deciding whether a winter or summer is colder or warmer than usual, for a decided departure of the temperature of a single month in any direction may determine the impression people retain of the entire season. Thus it will surprise most people to learn that the mean temperature of last summer was slightly higher than the average of the last forty years. Both June and August were warmer than usual, and only July was very cool. It will probably be a still greater surprise to learn that the winter of 1887–88, which was generally thought to be a cold winter, was really slightly warmer than usual. December and February were both warmer than usual, and January alone was very cold. Thus people's opinion of a season seems to be largely moulded by the special character of what is usually the most extreme month of the season. If in winter January happens to be exceptionally warm or cold, the winter is decided to be of the same character; or if July happens to be decidedly warm or cool, the summer is thus characterized. It seemed, then, worth while to ascertain from Mr. Breck's record how many warm Julys followed decidedly warm Januarys. There were eight Januarys during the forty years whose average temperature was above 30°, and following these were five Julys warmer than the average of forty years; which indicates but a slight tendency for warm Julys to follow warm Januarys, since the law of chance would indicate that four warm Julys ought to follow eight warm Januarys. The number of times warm Julys have followed cool Julys is twelve; and the number of times cool Julys have followed cool Julys is eight.

Another method frequently used in predicting the weather of a coming season is based on the conclusion that during every year the average conditions remain about the same; and if the first part of the year is very warm, the latter part must be cool. This assumption, however, appears to be entirely unsupported. Mr. Breck's observations show that the mean temperature of one year may differ as much as five degrees from another. Eleven months of 1877 were observed to be warmer than usual, and nearly as great departures in the opposite direction were found in other years.

All of these facts indicate that no conclusion of any value greater than could be gained by mere guessing can be formed in regard to the character of a coming season, merely by knowing the character of a past season, until some law connecting these is worked out. This has been demonstrated over and over again in different parts of the world; but since, of course, people generally cannot keep posted in meteorological literature, there will probably continue to appear such forecasts of coming seasons, based on apparent scientific conclusions. Mr. Clayton feels sure there is a law of recurrence of meteorological phenomena besides the daily and annual periods, and also that it is not of the character usually supposed and discussed above.

NOTES AND NEWS.

IN an account of the Widdifield & Bowman Company's electric and automatic car-brake, in *Science* of May 31, p. 412, second column, 10 lines from the bottom, "in 11 seconds" should read "in 77 seconds." This company now have an office at Room 125, Temple Court, this city.

— Dr. Hellmann has published, in the *Centralblatt der Bauverwaltung*, a brief study of a cloud-burst, Aug. 2 and 3, 1888, in the Riesengebirge, in Silesia. The storm was on the west side of a storm area which was moving northward from Galicia. The rain fell from fifteen to eighteen hours, and in some parts of the Queiss valley its depth reached 200 millimetres, or 7.9 inches. Such a rainfall had not been known there before since 1804. A similar cloud-burst occurred in the region just south-east of this, in the Sudeten and Beskiden Mountains, in 1884, accompanied by a similar unusual progression of a storm area northward over Galicia and Polen.

— The governing committee of the Nineteenth Century Club of New York reports, that, notwithstanding the shadow cast over the club by the death of its founder and president, the last season has been a successful one. The meetings have been marked by a full and sometimes a crowded attendance, the membership is substantially unimpaired, and, so far as the committee can judge, the interest in the club's work remains unabated. The committee believes that nothing more is necessary than to continue on the same