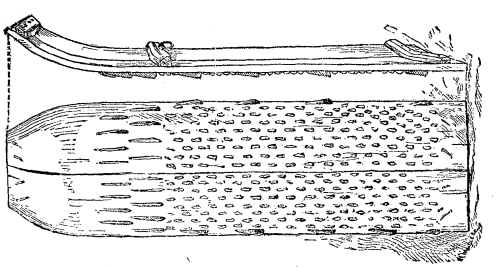
series of shore-deposits left by the receding ice of the last glacial epoch. Mr. Gilbert described minutely the manner in which these old beaches were built up by moving gravel one after another by a series of inverted imbrications or overlappings, and relegated the hearth in question to one of the first of them laid down in this particular series, roughly estimating the time at about seven thousand years ago.

Mr. Gilbert was followed by Mr. W. J. McGee, who described the finding of an obsidian spear-head or knife, four inches long and beautifully chipped, in Walker River Cañon, Nevada. The greatest care was taken in removing this find, and all the intelligent forethought which a trained geologist could exercise was used to mark the exact conditions of the case. Not the slightest evidence of intrusive burial or bank veneering appeared, and Mr. McGee was convinced that the weapon was deposited when the stratum containing it was laid down, the time being approximatively that of Mr. Gilbert's find.



THRESHING-SLEDGE.

Mr. John Murdoch reported at the same meeting the discovery of a pair of wooden snow-goggles, like those now used by Eskimo to protect the eyes from the glare of the sun and driving snow, in a shaft which his party dug at the depth of twenty-seven feet below the surface. Mr. Murdoch's discovery made an interesting connecting link in the interpretation of Mr. Gilbert's hearth.

Two of these finds were neolithic of the most advanced type, and located at the close of the last glacial epoch: they certainly start ten times more questions than they answer.

The national museum has lately acquired two specimens from different parts of the world, which introduce an element of confusion into archeological speculations. Both of them represent the use of stone implements of the very rudest type by peoples above savagery.

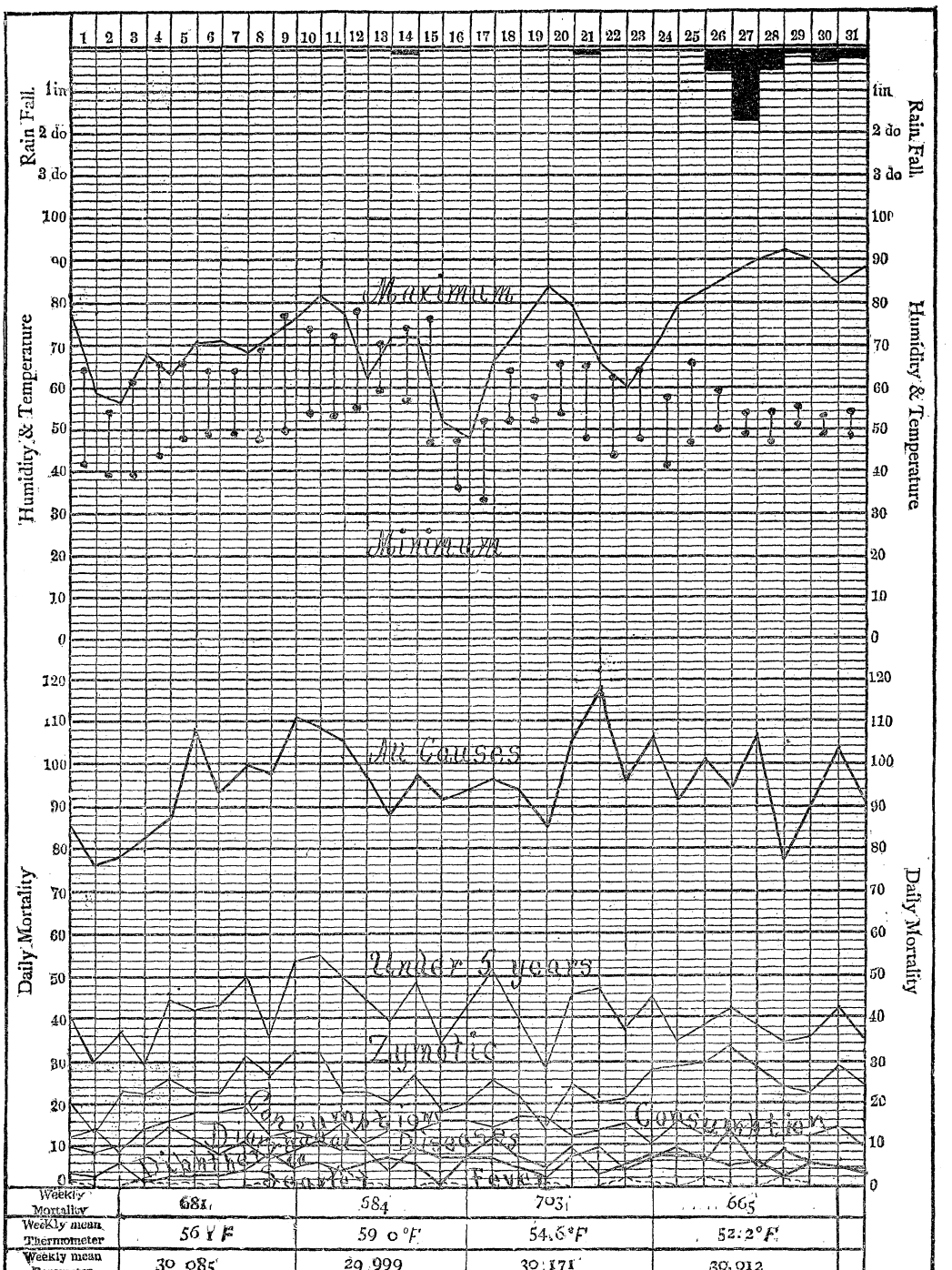
One of these specimens is a *tribulum*, or threshing-sledge, from Tunis. It is a low sledge or drag made of two planks, seventy inches long, nineteen inches wide, and ten inches thick, turned up slightly at the front, and narrowed like a square-toed shoe. Three stout battens across the upper side are securely nailed down. On the under side, just where the flat portion commences, are seventeen strips of iron, like dull knife-blades, arranged in two rows quincuncially. Along each margin of the under side are four similar dull blades. All the remainder of the bottom is occupied with sixteen rows of stone teeth, sixteen in a row, arranged quincuncially and projecting about an inch. These teeth are nothing but bits of jagged quartz, and, if picked up independently of their environment, would hardly be regarded as wrought by human hands.

The other 'paleolithic' civilized implement is a Spanish *Rallador*, or grater, from British Honduras. It consists of a plank of hard wood eighteen inches long and ten inches wide, into which have been driven nearly two thousand bits of quartz no larger than tiny arrow-heads, only they are not chipped in the least, and are less shapely.

With such material as the Gilbert hearth, the McGee spear-head, the Murdoch spectacles, the Tunis *tribulum*, and the Honduras grater accumulating around us every day, the question does not seem to be as to the antiquity of man, but whether or not archeology will help us in ascertaining his pristine condition on this continent. Dismissing the *tribulum* (the stone furniture of one of them would stock an African paleolithic cabinet), we have evidence which would satisfy some minds that at the end of the glacial epoch there lived men who built fires, chipped obsidian most beautifully, and wore snow-goggles, while in the nineteenth century A.D. men were still in the lowest story of the stone period. O. T. MASON.

THE HEALTH OF NEW YORK DURING OCTOBER.

THE health department estimates that on the 1st of October the population of the city of New York was 1,449,958. Of this number, 2,977 died during the month, which was an increase of 210 as compared with September: 1,275 of these deaths occurred among children under five years of age. There was a marked reduction of deaths from diarrhoeal diseases. The maximum mortality from this cause was in the month of July, when no less than 1,382 deaths took place; in August this was reduced to 705; in September, to 479; and in October, to 234, only about one-sixth the mortality of July. Fifty-eight more deaths are chargeable to consumption than in the preceding month, although the average for October is about that of other months of the year. But 18 persons died from scarlet-fever, — a small


Rain Fall.
Humidity & Temperature
Daily Mortality
Maximum
Minimum
All Causes
Under 5 years
Zymotic
Diarrhœal Diseases
Diarrhœa
Scarlet
Fever
Consumption
Weekly Mortality
681
584
703
665
Weekly mean Thermometer
56 1°F
59 0°F
54.6°F
52.2°F
Weekly mean Barometer
30 085
29.999
30.171
30.012

number, considering the size and circumstances of the great metropolis: in fact, the mortality from this cause during the entire year has been remarkably low. Diphtheria, on the other hand, has markedly increased, there being recorded 165 deaths, as against 85 for September. This is the largest number of deaths since February, with the exception of the month of May, when exactly the same number of deaths occurred as in October. A corresponding increase in this disease is noticeable in the city of Brooklyn. Diphtheria is very prevalent in other cities as well, notably in St. Louis and Chicago. The largest number of deaths in any one day in the month was 118, on the 21st. The largest daily mortality of the year was 240, on the 8th of July.

The mean temperature for October was 54.90° F., slightly below the mean for the past ten years, that being 56.33° F. At 3 P.M. on the 12th the thermometer registered the highest temperature of the month, 78° F. The mean for the past ten years in October is 79.5° F. The lowest temperature was 33° F., at 5 A.M. on the 17th, the mean for the ten years being 35.3° F. The rainfall during the month amounted to 3.07 inches, the average for the decade being 3.34 inches. Taken as a whole, October of the present year may be looked upon as an average October, differing in no important respects from the same month in other years.

CO-OPERATION IN A WESTERN CITY.

THE American economic association is to be commended for the practical and educational value of its publications. This association has an object in view, and that object is, by historical and statistical inquiries and examinations into actual conditions, to reach conclusions which will aid in solving the social and economic questions now so prominent.

Following Professor James's admirable monograph on 'The relation of the modern municipality to the gas-supply,' which attracted such wide attention, the association publishes this history of co-operation in the city of Minneapolis, throwing light upon one of the most important phases of the labor problem. Dr. Shaw has had the opportunity of observing the development of the most successful examples of co-operation which this country has yet furnished, and in a clear and pleasing style has sketched their organization, growth, and results.

The most valuable part of this monograph is that giving the history of the co-operative coopers of Minneapolis. In the introduction, reference is made to the marvellous growth of Minneapolis, now the largest wheat-receiving market and flour-milling centre in the world; the daily capacity of the mills being about thirty-five thousand barrels. To supply the demand for barrels requires about seven or eight hundred coopers, a large majority of them working in co-operative shops.

The co-operative movement in this city dates from the spring of 1868, when several journeymen coopers informally opened a co-operative shop. This experiment, owing to the want of proper organization and management, was short-lived. A like attempt in 1870 came to an end for similar reasons.

In 1870 began those experiments which have made Minneapolis the milling centre of the world, and as a consequence this city became a coopers' Mecca. From 1871 to 1874 the journeymen cooper's were able, through their union, to secure good terms from the 'bosses.' But, owing to the constantly increasing number of coopers, employment became precarious, and wages were forced down. To escape the unjust and often tyrannical treatment of the bosses, a number of the journeymen decided in 1874 to organize a co-operative company upon business-like principles.

In November, 1874, the Co-operative barrel manufacturing company was incorporated, and business was commenced with a brotherhood of sixteen men, each making an initial investment of fifteen dollars. The most important features of the company's by-laws "are those which provide that all members must be equal shareholders, and that the gains or losses of the business are to be apportioned, not *pro rata* among the members, but in proportion to the work they have done. Losses and gains of a different sort — for example, those resulting from the work of hired help, from outside ventures undertaken by the association, gains from the appreciation of real estate, or losses from fire or from non-paying creditors — are to be apportioned equally among the members. The distinction between the two kinds of profit and loss — one kind affecting the men as capitalists, and the other kind affecting them as laborers — shows keen economic insight, and has great practical value."

From its meagre beginning in 1874, this co-operative enterprise has prospered, until, in March, 1886, the president of the company estimated the cash value of its assets at $58,000, its total liabilities not exceeding $13,000. In addition to this, the entire membership of ninety are estimated as property-holders to an average amount of at least $3,000 each. A majority of the members own homes, and of this number it is interesting to

Co-operation in a western city. By ALBERT SHAW. Baltimore, *American econom. assoc.*, 1886. 8°.