

HOMICIDE IN THE UNITED STATES.

Some remarkable results have been arrived at by Mr. H. V. Redfield, who has been investigating the frequency of homicide and the treatment of murderers in different parts of the Union. Purposely avoiding years of political excitement, he has endeavored to discover the relative frequency of "ordinary homicide" in the North and the South. In the course of his studies he tabulated the homicides occurring in one or more years in Maine, New Hampshire, Vermont, Rhode Island, Massachusetts, Connecticut, New York, Pennsylvania, Ohio, Michigan, Minnesota, Kentucky, South Carolina, Texas, and other States; also the number of persons charged with murder and manslaughter, and the number of indictments for the various degrees of this crime, for several years, in the States of Maine, Pennsylvania, Michigan, and Minnesota, thus getting the annual average in all these States with a degree of accuracy not previously attained. He selected these States as containing a fairly average population of the Eastern, Middle, and Western States. The average number of indictments annually in all these States, taking a series of years together, was 154. This, however, included the period of the Molly Maguire murders in Pennsylvania.

In like manner he studied the records of the Southern States since the war, finding the homicides in that part of the country from five to ten times more frequent according to population than in the North. The treatment of such crimes in the South, however, was quite unlike that which prevails in the North. In this his statistics amply bear out those furnished recently by the Clerk of the Criminal District Court of New Orleans, in response to the Governor's request. The report is dated September 6, 1880, and was published at length in the *New Orleans Times*. The grand total of crimes of this nature in New Orleans during the ten years ending December 31, 1879, stands thus:

Total homicides.....	303
Guilty of murder and sentenced to death.....	11
Guilty without capital punishment.....	46
Guilty of manslaughter.....	44
Not guilty.....	116
Nolle prosequi.....	59
Not a true bill.....	9
Fugitives from justice.....	3
Transferred to dead docket.....	12
Mistrial.....	3
Total.....	303

In the ten years eleven persons were sentenced to be hung for homicide: of these but five were executed—two Italian sailors, entire strangers; one friendless Malay, and two negroes.

Homicide by native whites is not usually punished by death in the South. It is to this circumstance that Mr. Redfield attributes the fact that the murders in the Southern States are greatly in excess of the number elsewhere among English speaking peoples.

Homicide occurs less frequently in New England in proportion to population, and in no part of the country do man-slayers so rarely escape punishment. Fully half the murders in New England are by foreigners. Among the native-born the homicides do not exceed 1 to every 150,000 inhabitants annually. For a period of eleven years the homicides in Vermont averaged less than two a year. In many years not a single homicide has occurred in the State. In 1870 the vital statistics collected by the census showed but one homicide in Vermont and New Hampshire. In Florida, with less than one-third as many inhabitants, there were forty-four homicides. For the State of Massachusetts the annual average is twenty-three, half the murders occurring in Boston, and the larger portion there among foreign born residents.

In the Northern States generally the largest number of homicides occur in the cities: in the South the number is largest in the rural districts. During the two years 1877 and 1878 there were forty homicides in Massachusetts and over two hundred in South Carolina, with less than half the population of Massachusetts. Almost all the South Carolina cases were "personal difficulties," or chance fights from sudden quarrels. To a very great extent the Southern murders are due to the general habit of carrying pistols and using them at the slightest provocation. Touching the benefits that would result from the repression of the habit of carrying concealed weapons, Mr. Redfield cites the example of England, where the number of murders, in proportion to population, has been decreased in the ratio of 18 to 1 in the past four hundred years, and in consequence of a vigorous enforcement of law, at one period going to the extent of affixing capital punishment to the crime of stabbing a person or shooting at him, whether with fatal effect or not. The result was a wholesome diminution of this barbarism. Under the English system a murderer is not allowed to roam around on bail, and the chances of his escaping punishment are very rare indeed. As a consequence, in England and Wales, among the twenty-six millions of population, there are fewer murders and manslaughters than in the single State of Texas, in our own country.

Texas is a large State, but the homicides there are decidedly out of proportion either to its size or the number of its inhabitants. During the census year of 1870 there were more homicides in Texas than in all the Northwestern States combined, with three or four other States thrown in. The census vital statistics show one homicide annually in Texas to about every 2,500 population; in Iowa and Minnesota there is one annually to about every 50,000 population. In this fatal superiority Texas does not greatly lead the sister States of Louisiana, Arkansas, Mississippi, Kentucky, and South Carolina. In one rural county in Kentucky (Madison) the homicides during 1877 and 1878 were more than in all Massa-

chusetts. In Edgefield County, South Carolina, as many men were killed in street fights and personal difficulties in 1878 as there were homicides in Massachusetts, outside of Suffolk County. In the Northern States homicide is least frequent, in proportion to population, in New England and New York (outside New York city) than elsewhere; and probably most frequent in the southern counties of Indiana and Illinois. Homicide is quite frequent in New York city and in the coal and oil regions of Pennsylvania. In Ohio it is very much more frequent in the counties bordering on the Ohio River than in the Northern counties. It is least frequent in the farming counties of the "Western Reserve," where the proportion agrees with that of rural New England.

Open Air for Consumptives.

Dr. J. Henry Bennet, in a communication to the *British Medical Journal*, on the influence of mountain air in the treatment of pulmonary consumption, asserts that the temperature which exerts the most favorable influence in the treatment of phthisis is a day temperature ranging from 55° to 65° or 70° Fah., and a night temperature between 45° and 50°; in other words, that the climate and temperature which are the most conducive to the physiological well-being of the Caucasian race are also the most favorable to the treatment of phthisis. He draws attention to the fact that phthisis is rare among the people inhabiting the high plains of Central and South America, although common in the neighboring seacoast towns. Dr. Comes, with whom Dr. Bennet has lately been in correspondence, states that during a residence of four years in Quito, where he was one of the professors at the medical school, physician to the hospital, and engaged in active private practice, he only saw two or three cases of spontaneous phthisis among the natives, and in all the cases of imported phthisis from the seacoast that he met with the progress of the disease soon appeared to be arrested. He also states that in a large room, without fire, and with doors and windows open day and night, he found the temperature to oscillate all the year round between 57° and 65° Fah.

Dr. Bennet relates the case of a young married lady, aged 26, whom he attended for two winters at Mentone. She was a native of Guayaquil, but educated and married in France, where she became a consumptive; and finding that her recovery at Mentone was only a partial one, she returned to her native country. She has now been two years at Quito, and has become quite well and robust. But then, at Mentone, she lived shut up, while at Quito she has lived in the open air constantly. He therefore thinks that the immunity, or comparative immunity, from phthisis enjoyed by the inhabitants of the elevated mountain plains of tropical and sub-tropical America, from Mexico to the Argentine Republic, cannot be owing to mere elevation—to barometric conditions—inasmuch as phthisis reigns at all elevations, even above 5,000 feet, on the mountains of Switzerland. It cannot, either, be attributed to mere dry cold, as the mortality from phthisis is greater in Norway, Sweden, and Northern Russia than in London or Paris. It must, then, be owing to the ideal physiological climate, which enables the entire population to live, as it were, out doors, in the open air, night and day. Why should not the Andes, with a delightfully mild, dry, and equable climate, which is unequalled in any part of the world, become the health resort of the future?

Characteristics and Properties of Good Vinegar.

H. Krätzer says the quality of vinegar may be detected by its taste, by its color, and by its smell; for instance, good vinegar must have a sour taste, which is not altered by free alcohol or other foreign substances. As to the color, may it be that of the water-clear or of the wine-yellow vinegar, it must always be perfectly pellucid, and when rubbed between the fingers the odor must be acid without having any similarity to spoiled liquors; but before all, vinegar, if brought to the lips, must not produce either an itching or burning, nor give to the teeth a feeling of bluntness, for if this should be the case we can be sure that the vinegar is adulterated.

Adulterations are sometimes produced by the addition of mineral acids, sometimes by vegetable matters. Of the former, especially sulphuric acid, muriatic acid, and sometimes even nitric acid are used; of the latter we mention cayenne pepper, bertram root, common pepper, etc. The method of detecting these adulterations is the following:

If sulphuric acid is suspected of being present we should pour some of the vinegar into a small test tube, and add some chlorate or acetate of barium, if by the addition of this a white color is produced or after a time a white precipitate is formed, then the vinegar has been adulterated with sulphuric acid. If the vinegar only becomes slightly turbid, the reason may be accounted for by the fact that the water which was used for the fabrication of the vinegar contained sulphate of lime. To be certain that the vinegar contains free sulphuric acid the following method should be employed: A small portion of vinegar is put into an evaporation dish and there evaporated until it is condensed to about one-tenth of its weight; the remainder is dissolved in alcohol, filtered, and diluted with water, and finally a solution of chlorate of barium is added. If now the vinegar shows a turbid white color the adulteration by sulphuric acid may be assumed with certainty. Recently, for the detection of mineral acids a new reagent has been devised, which can be well recommended, viz., methyl-aniline-violet. A diluted solution of this substance does not change color at all with pure vinegar, while if the slightest quantity of mineral acids is present it takes a blue-green color.

If an adulteration of muriatic acid is suspected, some drops of a solution of nitrate of silver should be added to the vinegar; if a white, flaky precipitation is formed, which is blackened by the sunlight, and cannot be dissolved after an excess of nitric acid has been added, then the adulteration is proved.

To prove the presence of nitric acid a small quantity of potassium should be mixed with the vinegar, and after the liquid has been evaporated the remainder should be placed upon some glowing charcoal. If decrepitation takes place the adulteration may be taken for granted, otherwise the salt burns without noise and diffuses an odor similar to that of burnt sugar.

To detect the adulteration by sharp vegetable matters the following method may be employed:

A small quantity of the vinegar, having the weight of 150 grains, is slowly evaporated until some brown liquid remains. If it was adulterated, this liquid has a sharp stinging taste, while if this is not the case it will have only an acid taste.

A still more simple method is to moisten the upper lip with vinegar, the purity of which is acknowledged, while the under lip is moistened with the vinegar which is to be examined, and both are permitted to dry. If the vinegar has been adulterated in the manner mentioned a disagreeable itching or stinging is felt on the under lip, while the upper lip is not affected.

A third method for the same purpose is, to neutralize the vinegar by carbonate of soda; the acid taste of the vinegar is thus removed and the sharp taste of spices remains.

If vinegar is kept in copper vessels it is often dangerous to the health. In order to discover whether this has been the case sulphureted hydrogen is employed; if the vinegar first turns a brown color, and if finally a black precipitate is formed, the presence of copper is evident. Vinegar which has been kept in tin vessels gives a yellow precipitate when mixed with sulphureted hydrogen; such as has been kept in zinc vessels gives a white precipitate, and the presence of lead is indicated by a black precipitate.

If iron vessels have been used for the preservation of vinegar the latter loses its value for many industrial purposes. The presence of iron can be detected by the addition of ferrocyanide of potassium, which in this case produces a blue precipitate.

The strength of the vinegar is found in the usual way by means of an acetometer. That of Otto deserves to be recommended.

Recent Telegraphic Progress.

The laying of the new Atlantic cable for the Anglo-American Company gives occasion for a review of recent telegraphic undertakings in other parts of the world, not the least important of which is the laying of the cable between Hong Kong and Manila.

In Europe the most important work projected is, perhaps, the duplication of the Anglo-Danish means of communication by a cable from Newcastle to Arendal in Norway, and thence to Gothenburg in Sweden. Vienna is about to be supplied with underground telegraphic lines after the manner of London, Paris, and Berlin.

On this side the Atlantic several short cables are to be laid by the Canadian Government in the Gulf of St. Lawrence, so as to connect up the lighthouses on the Gulf Islands, notably Anticosti and Sable Island, with the villages of the mainland, and thus facilitate the salvage of shipwrecked vessels. These cables are being made by the Silvertown Company, and will probably be laid this fall. Canada is also bent on finishing her trans-dominion telegraph line, following the route of the Pacific Railroad, and Mr. Sandford Fleming, the engineer-in-chief of that work, has recommended the speedy erection of a line between Fort Edmonton and Cache Creek, so as to complete the communication between Winnipeg in Red River and British Columbia. He further advocates the extension of the Canadian system from Vancouver's Island to Japan by submarine cables via the Aleutian and Kurile Islands; and Mr. Gisborne, the superintendent of Canadian telegraphs, proposes to go still further and unite Japan to Hong Kong and Australia. In Australia itself there is a rapid spread of telegraph lines always going on. A new line is being built from Adelaide to Melbourne, and a cable is to be laid between Sturt's Lighthouse, Kangaroo Island, and Kingscote.

The Western Brazilian Telegraph Company intend to repair and put in working order their long inactive cables between Para, Cayenne, and Demerara. The latest projected work is the laying of a cable between Matamoros, in Texas, the southernmost point of the United States telegraphic system, to Vera Cruz, in Mexico. The line will consist of two sections, one from Matamoros to Tampico, and some two hundred and nine miles long, and the other from Tampico to Vera Cruz, a length of 256 miles. The core will be made of 107 pounds of copper and 166 pounds of gutta percha per mile. The main cable will be sheathed with 12 No. 6 galvanized iron wires and the shore end with 14 No. 1 wires. The insulation resistance of the cable, after five days' submersion, is specified to be 225 megohms per knot at 75° Fah. The temperature of the sea bottom will be tested every fifty miles of the route and one mile from shore at each terminus, the mean of these several observations being taken as the actual temperature throughout. The cable has been designed for the Mexican Telegraph Company, recently formed, by their engineer, Mr. J. B. Stearns, of duplex telegraph fame, and will be laid this year by the contractors, the India-rubber, Gutta Percha and Telegraph Works Company.