# MORTALITY.

The census returns of mortality were in 1890 derived from two sources—the registration returns in those states and cities in which a registration of deaths is maintained and from the returns of the enumerators.

In most of the large cities of the country and in the states of Connecticut, Delaware, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont, and the District of Columbia there is a registration of deaths which is fairly accurate and complete. In these regions, which contain about 21,000,000 people, or nearly one-third of the population, the returns can be depended upon as fairly reliable.

Throughout the rest of the country, comprising more than two-thirds of its population, where the mortality returns were obtained from the enumerators only, it is probable that more than one-half of the deaths were not reported. Moreover, these returns differ in fullness with the age, sex, race, and nativity of the people reported upon. The omissions were doubtless greater among females than among males, among children than among adults, among negroes than among whites, and among foreign whites than among native whites. Necessarily, therefore, the report of deaths from diseases incident to childhood, or those diseases to which females, negroes, or the foreign born are peculiarly subject, are affected in like manner. The result is that the conclusions derived from the returns of the enumerators in the regions not covered by the registration records are more or less unreliable, and should be accepted with caution.

The death rate derived from the registration records, that is, the annual number of deaths per 1,000 of the population, is 22.27. This, however, is not a fair average to apply to the entire country, because the registration record includes a far larger proportion of urban population than there is in the country at large, and the urban death rate is well known to be in excess of the rural death rate. The death rate in the various registration states is shown in Diagram 205.
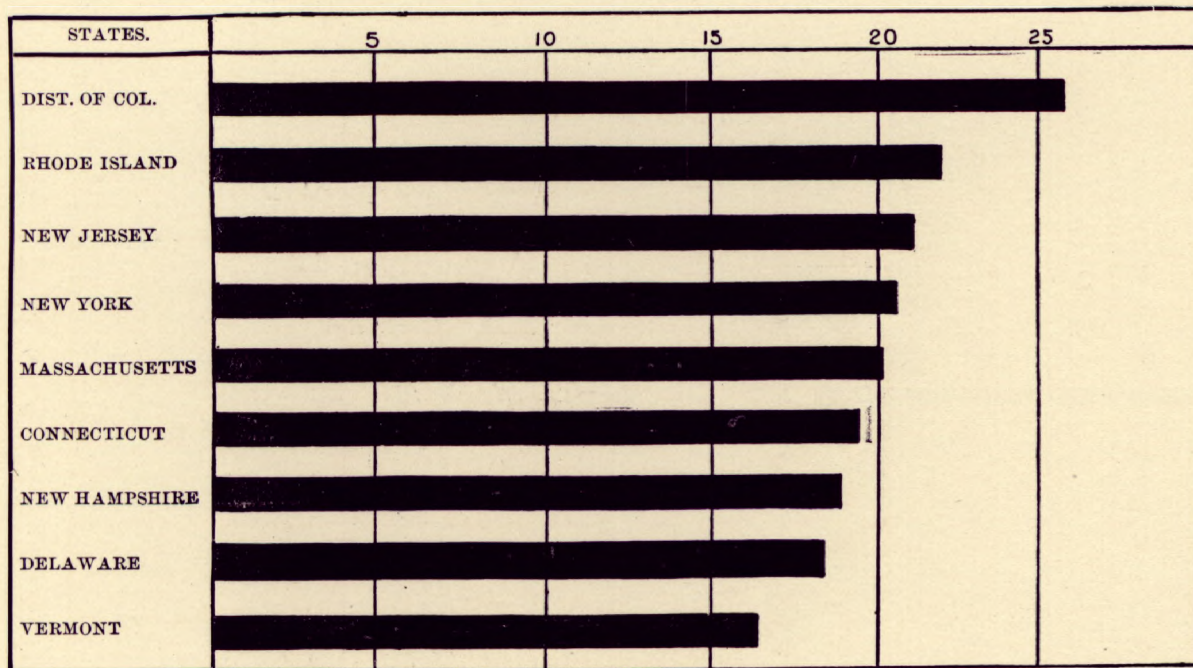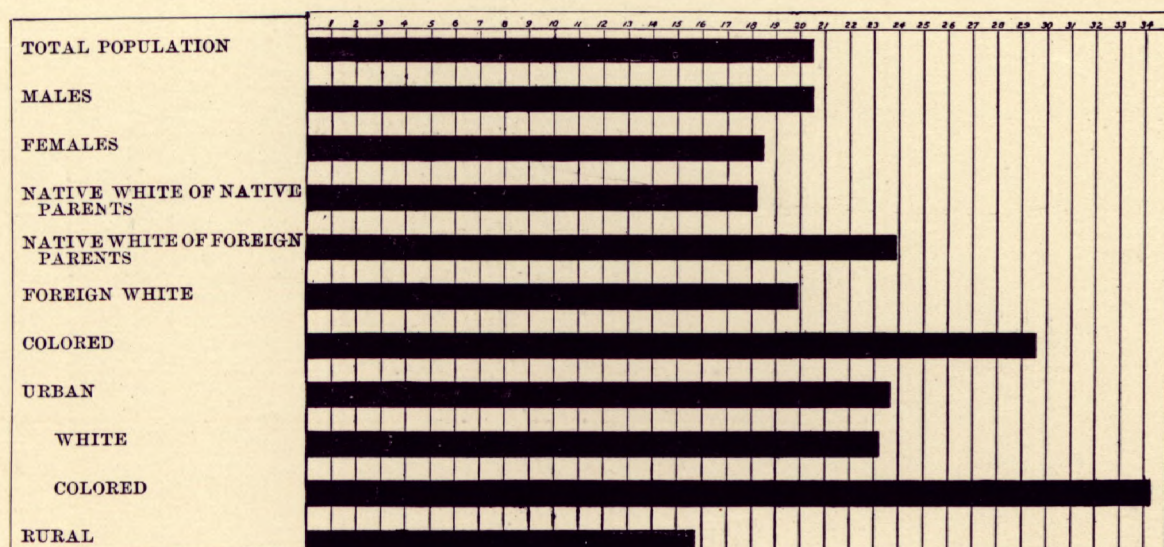
207. DEATH RATES OF THE WHITE AND THE COLORED, PER 1,000 OF POPULATION, IN CERTAIN CITIES: 1890.
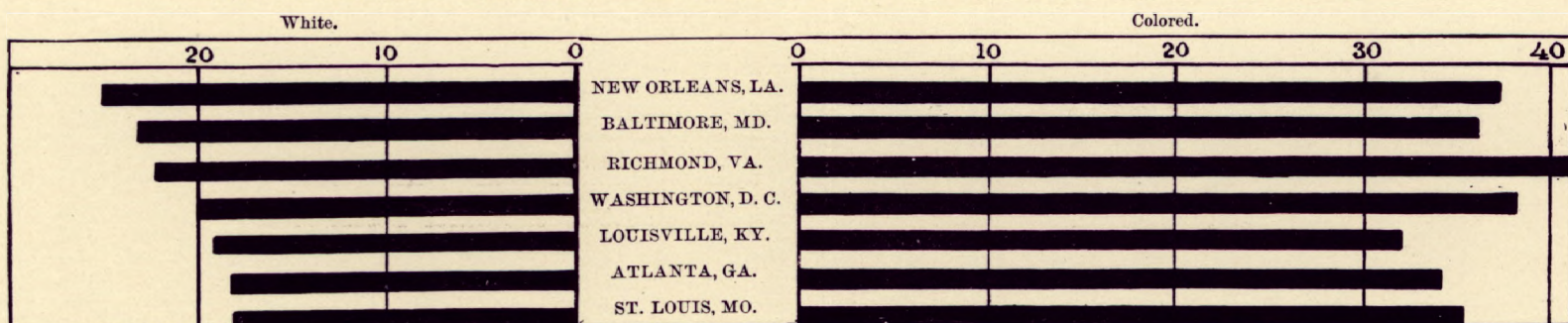
From this it appears that the death rate of the District of Columbia is far larger than that of any other subdivision of the country, but in explanation of this large death rate it should be said that it includes the deaths among the colored as well as among the whites, and that the death rate of the colored is about double that of the whites.

The death rates of most of the other states range from 18 to 22 per 1,000. Vermont, however, falls considerably below this. In this state there was a comparatively small proportion of children, among whom the death rate is very high, and a small proportion of urban population.

The death rates of the various elements of the population in the registration states are shown in Diagram 206. That of the total population is 19.6 per 1,000. The death rate of males is considerably greater than that of females. As regards race, the death rate of native whites of native parents is 17 per 1,000. That of the native whites of foreign parentage is greater, because this class contains so large a proportion of young children. That of the foreign white is less than the last, due doubtless to the large proportion of adults. That of the negroes is the greatest of all. The rural death rate is but 15, and is greatly exceeded by the urban death rate, which among the whites is 23 and among the colored 34.5.

Diagram 207 shows the death rate of the white and colored in certain southern cities where the negro population is large. From this it appears that while the death rate of the whites ranges from 18 to 25, that of the colored ranges from 30 to 42, being in each case nearly

208. PERCENTAGE OF DEATHS FROM CERTAIN DISEASES IN THE REGISTRATION STATES: 1890.
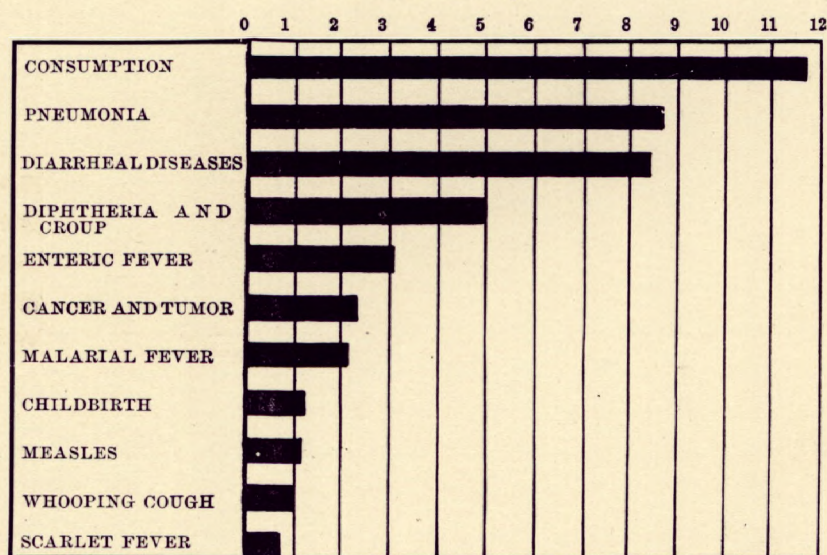
double that of the whites. It is not probable, however, that this proportion between the two holds in the rural districts, which are better suited to the development of the negro than the environment of large cities.

The proportion of deaths from each of the principal diseases to all deaths in the registration states is shown by Diagram 208. Consumption is responsible for nearly 12 per cent of all deaths; pneumonia and diarrheal diseases for 8.5 per cent each; diphtheria and croup jointly 5 per cent of all diseases; and enteric fever 3 per cent; while, on the other hand, measles, whooping cough, and scarlet fever are each to be credited with only about 1 per cent of all deaths.

The series of maps numbered 209 to 220, plate 41, represent the proportions of deaths from certain selected diseases to the whole number of deaths in different parts of the country. The units of area for which these data have been computed are uniform on all the maps, and represent regions which are uniform in character within themselves, but different in climate, elevation, and in other physiographic features from one another.

Map 209 represents the distribution of deaths from consumption, showing that the greatest mortality from this disease occurs on the Pacific coast and in the eastern part of the upper Mississippi valley. Secondarily, this disease is more prevalent along the Atlantic coast from eastern Maine to Florida, and in the southern Appalachian region. The region bordering upon the Great Lakes, the entire Rocky Mountain region, and the region of the southern plains and prairies are singularly exempt.

Map 210 shows the prevalence of pneumonia. To some extent this map is a counterpart of the last. The greatest prevalence of this disease is in the Rocky Mountain region, in eastern Texas, and the states lying immediately north and east thereof. Secondarily, it is seen to be prevalent in the upper country of New England, on the Atlantic coast from New York to North Carolina, and to a great extent throughout the cotton region as far west as the Mississippi river. Its visitations are light on the south Atlantic and Gulf coasts and in most of Ohio, Indiana, and Kentucky.

Map 211, illustrating the distribution of diarrheal diseases, shows that they are mainly prevalent in the hot, moist parts of the country, and that the high, dry portions of the country are in great degree free from them.

Map 212, representing the distribution of diphtheria, shows this disease to be most prevalent in the most

205. DEATH RATES, PER 1,000 OF POPULATION, IN REGISTRATION STATES: 1890.

206. DEATH RATES, PER 1,000 OF POPULATION, IN THE REGISTRATION STATES, BY SEX, AND BY COLOR AND GENERAL NATIVITY: 1890.

sparsely settled regions, the entire Rocky Mountain region, with the plains and prairies, and the region bordering on the Great Lakes being those in which it is most prevalent.

Map 213 shows the distribution of croup. It is seen to be the most prevalent in the southern Appalachian region, in middle Texas, and the states lying north and east thereof, while, generally speaking, upon the seacoast there is little liability to this disease.

Map 214, showing the distribution of typhoid fever, develops the fact that this disease is least prevalent in the moist, thickly settled regions, and on the other hand is most prevalent in those sparsely settled.

Map 215 shows the distribution of deaths from cancer and tumor. This disease appears to increase relatively with the increasing density of population, its victims being in greater proportion in New England and the northern states of the Mississippi valley than elsewhere. This may, however, be due to the fact that in these regions there is a greater proportion of mature persons than in other parts of the country.

Map 216 shows the proportion of deaths from malarial fever. The region in which this disease is most prevalent is eastern Texas, Louisiana, Arkansas, Indian territory, and the southern part of Missouri, while the states lying east of these throughout the cotton region have this disease only in slightly less intensity. It is of little importance in the mountain region of the south, while in New England, and in parts of other northern states and on the Pacific coast, it is almost unknown.

Map 217 shows the proportion of deaths from measles. The proportion from this disease seems to be greatest in the southern mountain region and the Piedmont region outside of it. Second to this region is that of central Texas, while on the other hand, in New England, the disease, though a common one, appears to be by no means as prevalent.

Map 218 shows the proportion of deaths from whooping cough. On the south Atlantic and Gulf coasts, upon the Pacific coast, and over the Rocky Mountain region, this disease does not appear to be prevalent, but in the southern Appalachian region, together with northern Georgia and Alabama, nearly all of Kentucky and Tennessee, and much of Indiana, the disease is comparatively very fatal.

Map 219 shows the distribution of deaths from scarlet fever, from which it appears that the Rocky Mountains, the plains and the prairie region are those in which the disease is most prevalent.

Map 220 shows the proportion of mortality from heart disease and dropsy. This map shows that the greatest mortality is in the upland country of New England and upon the south Atlantic coast. In the former area the large proportion of deaths from this cause are doubtless due to the fact that the region contains a large proportion of mature persons.

Diagram 221 shows the proportion of deaths from certain leading diseases among whites, negroes, and Indians. It appears from this that deaths from consumption are far more numerous than from any other cause, and that the deaths from this cause among Indians are far in excess of those among the other races, being more than double that of the whites and nearly double that of the negroes. The deaths among negroes are much more numerous than among whites, although the negroes are found mainly in the southern states, where this disease has less power than in the north. From diseases of the nervous system it is seen that the whites suffer far more than the negroes or Indians, as is to be expected. From pneumonia the mortality of the three races is about equal. From diarrheal diseases the whites suffer more than the negroes, and the negroes more than the Indians. From accidents and injuries there is not much to choose among the races. From diseases of the circulatory system the whites suffer the most. From diseases of the respiratory system there is little to choose. From diphtheria the Indians suffer more than the whites, and both these races far more than the negroes. On the other hand, the negroes suffer vastly more from malarial fever than the other races.

Diagram 222 shows the death rate in cities in registration states among the children under 15 and from 15 to 45 years of age of mothers of different nationalities. The greatest mortality is apparently in the Italian blood, next to that among the Bohemians and Hungarians, while the United States stands quite low in the list. This diagram should be read in connection with Diagram 223, which represents similar facts in the rural districts of the registration states.

Diagram 224 shows that the death rate of married females is greater, as a rule, than that of single females, and that the death rate of the widowed is greater than that of either of the other classes. The first of these facts is probably due in part to the greater average age of married women over single women, and second, to risks of maternity. The latter fact is probably due to the greater average age of those widowed.

222. COMPARATIVE DEATH RATES PER 1,000 OF POPULATION UNDER 15 AND FROM 15 TO 45 YEARS OF AGE IN THE CITIES IN THE REGISTRATION STATES, BY BIRTHPLACES OF MOTHERS: 1890.
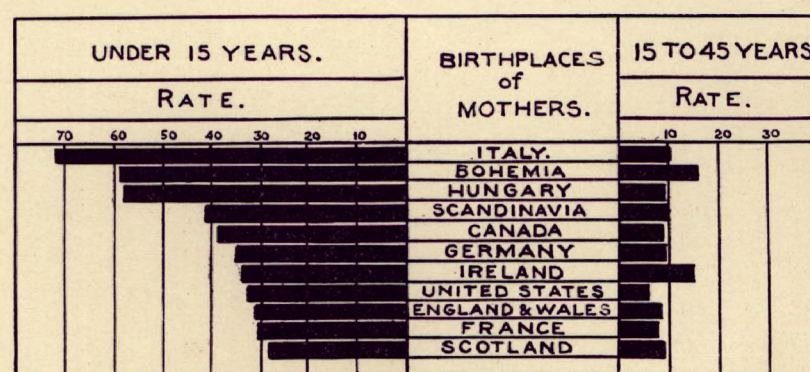
223. COMPARATIVE DEATH RATES PER 1,000 OF POPULATION UNDER 15 AND FROM 15 TO 45 YEARS OF AGE IN THE RURAL DISTRICTS OF THE REGISTRATION STATES, BY BIRTHPLACES OF MOTHERS: 1890.
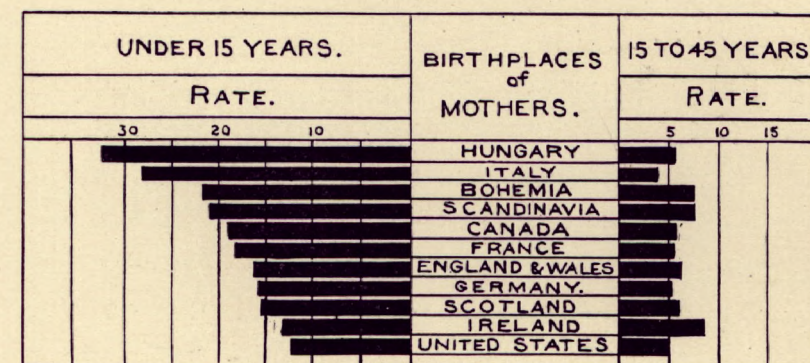
On the other hand, the death rate of the married males is not as great in either of the classes as that of single males, a phenomenon for which it is difficult to account.

Diagram 225 shows that the greatest mortality occurs in the late winter and in the spring months.

Diagram 226 shows that among children under 5 years of age, on the contrary, the greatest mortality occurs in the warm weather, especially in July and August, and the least mortality in the late fall and early winter.

Going to the other extreme of age, we see from Diagram 227 that the greatest mortality for aged persons is, as for the average of the population, in the late winter and spring.

Passing to specific diseases and the distribution of mortality from them throughout the year, we see from Diagram 228 that scarlet fever is most prevalent in the cities in June and least prevalent in the late summer and early fall, while in the country it is most prevalent in the late winter and in the spring months.

Diagram 229, relating to the distribution of deaths from measles throughout the year, shows that the three spring months—March, April, and May—are those in which this disease is by far the most prevalent and fatal, both in the cities and in the rural districts.

Diagram 230 shows relatively to one another the proportion of deaths from diphtheria and croup, showing that the latter disease is, in the main, confined to children under 5 years of age, while diphtheria is more prevalent at greater ages.

Diagram 231 shows the prevalence and mortality of whooping cough at different times of the year in the cities and in the rural districts. In the cities it is seen to be most prevalent in the late summer and late winter, while in the rural districts it is worse through the spring months.

Diagram 232 shows that the mortality from typhoid fever is not greatly different as between the sexes. The greatest mortality occurs at ages between 15 and 25 years, and below the age of 10 it is not of great importance. The distribution of this disease through the year in cities and rural districts, shown by Diagram 233, indicates that the greatest mortality is in September, while it is very prevalent from August to October.

Diarrheal diseases, illustrated by Diagram 234, are most prevalent in the late summer months.

Diagram 235 shows that the mortality from malarial fever is quite uniform in both sexes, and that the liability to it diminishes with increased age. The distribution of this disease throughout the year is illustrated by Diagram 236, whence it appears that the late summer and early fall months are those in which it is most prevalent both in city and country.
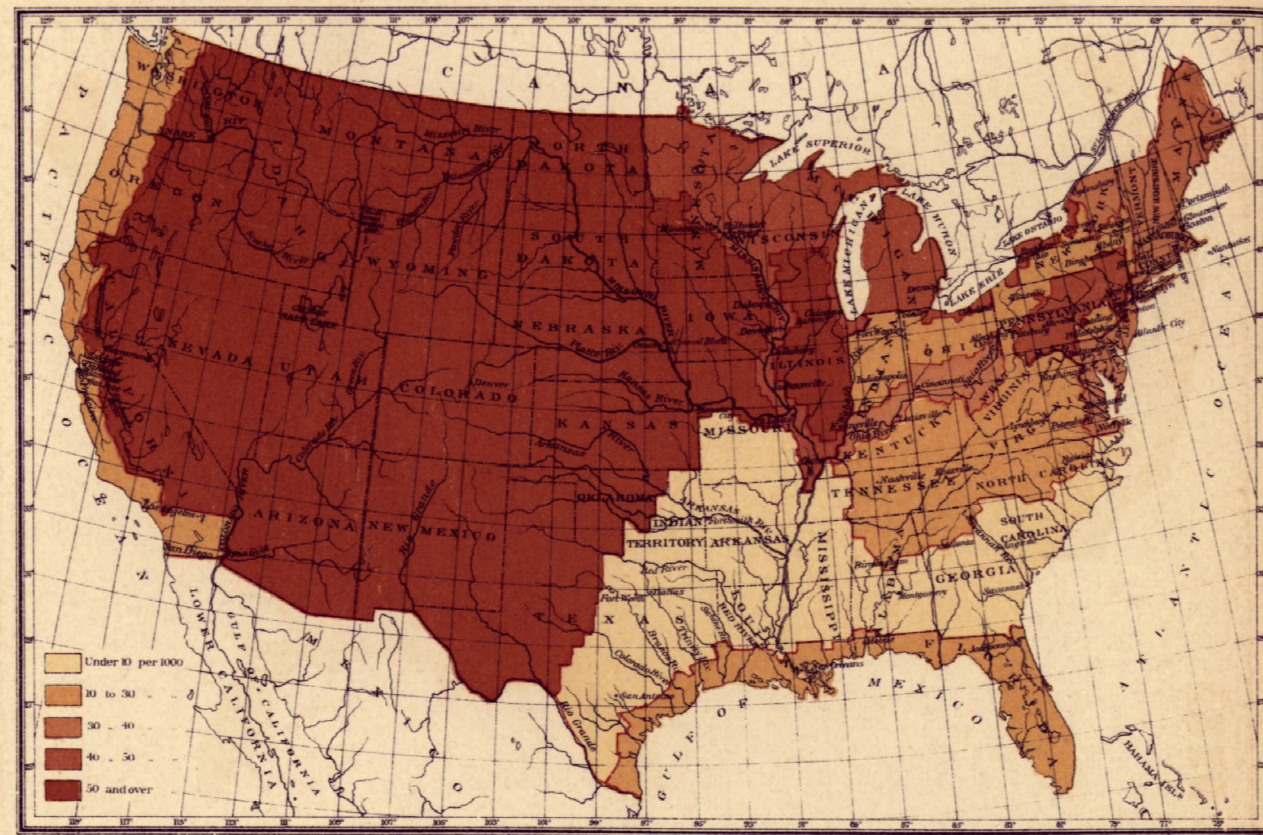

221. PROPORTIONS OF DEATHS DUE TO CERTAIN CAUSES PER 1,000 DEATHS FROM ALL CAUSES AMONG THE WHITES, THE COLORED, AND THE INDIANS IN THE UNITED STATES: 1890.
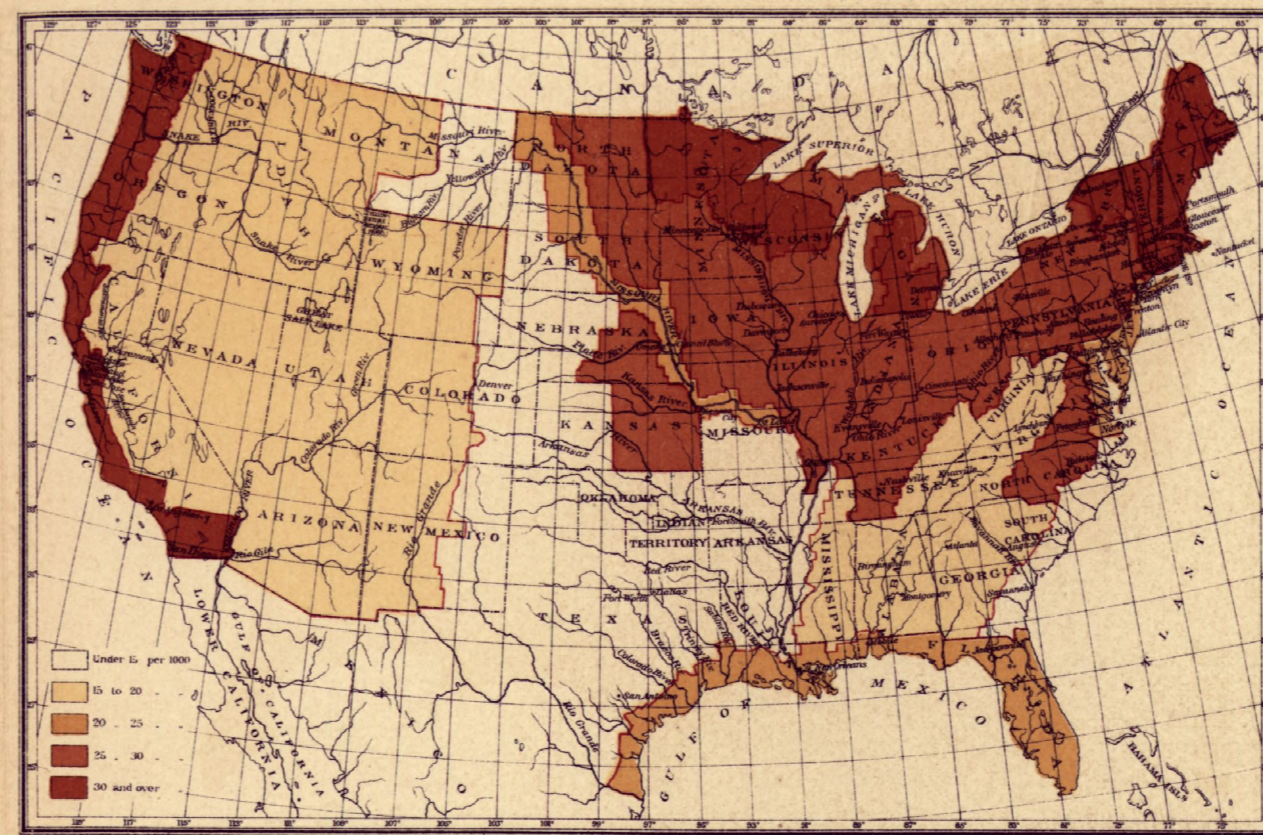
PLATE 41
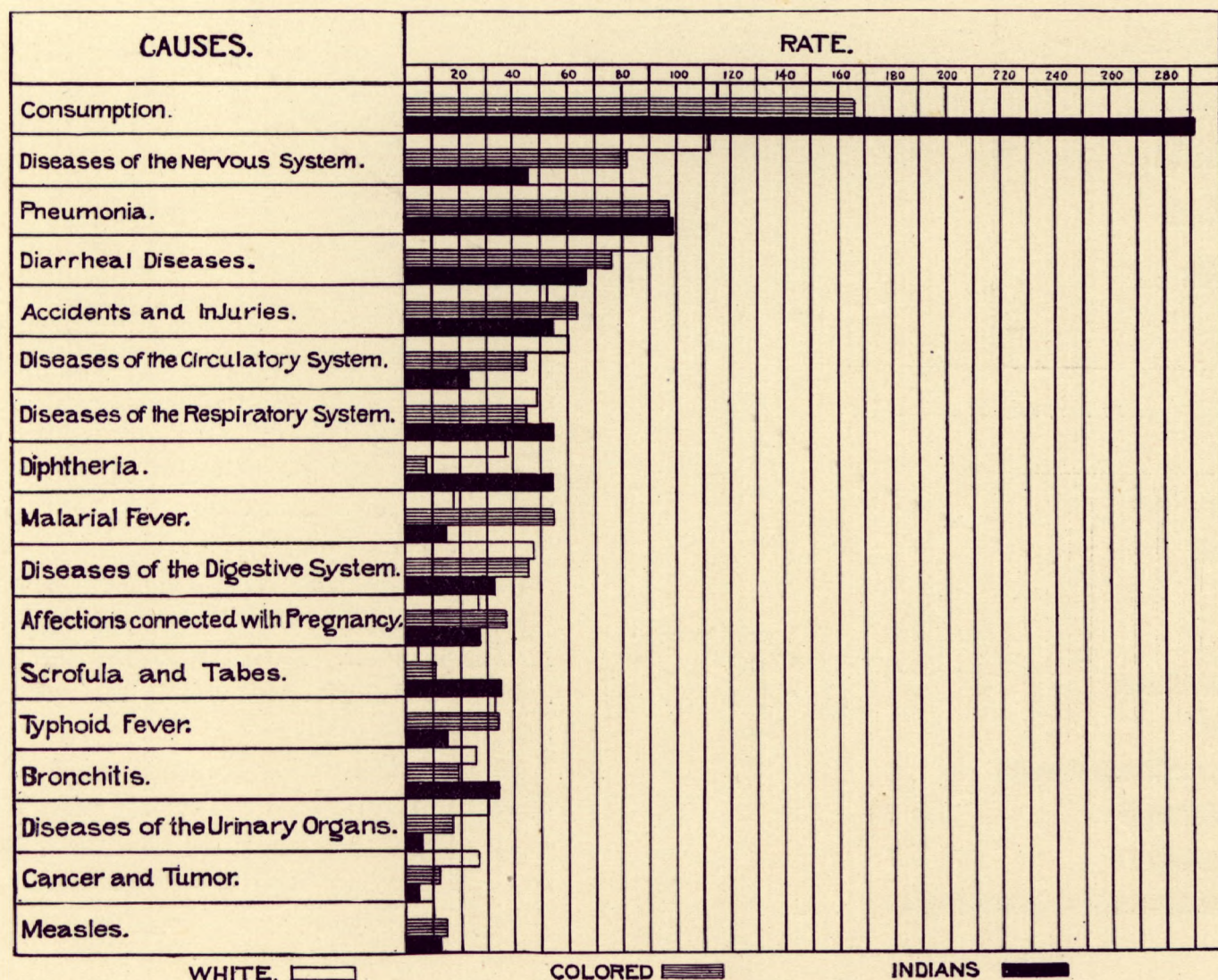
209. NUMBER OF DEATHS FROM CONSUMPTION PER 1000 DEATHS FROM KNOWN CAUSES.
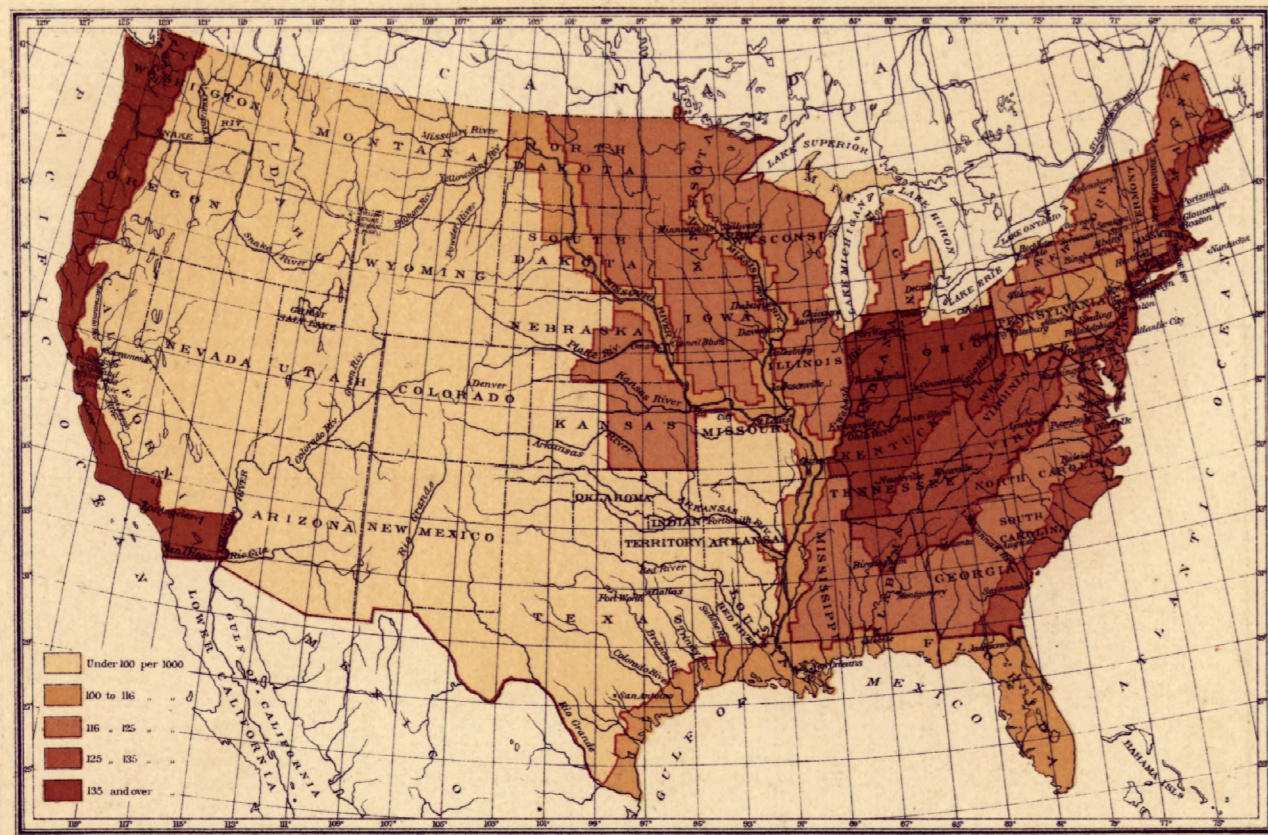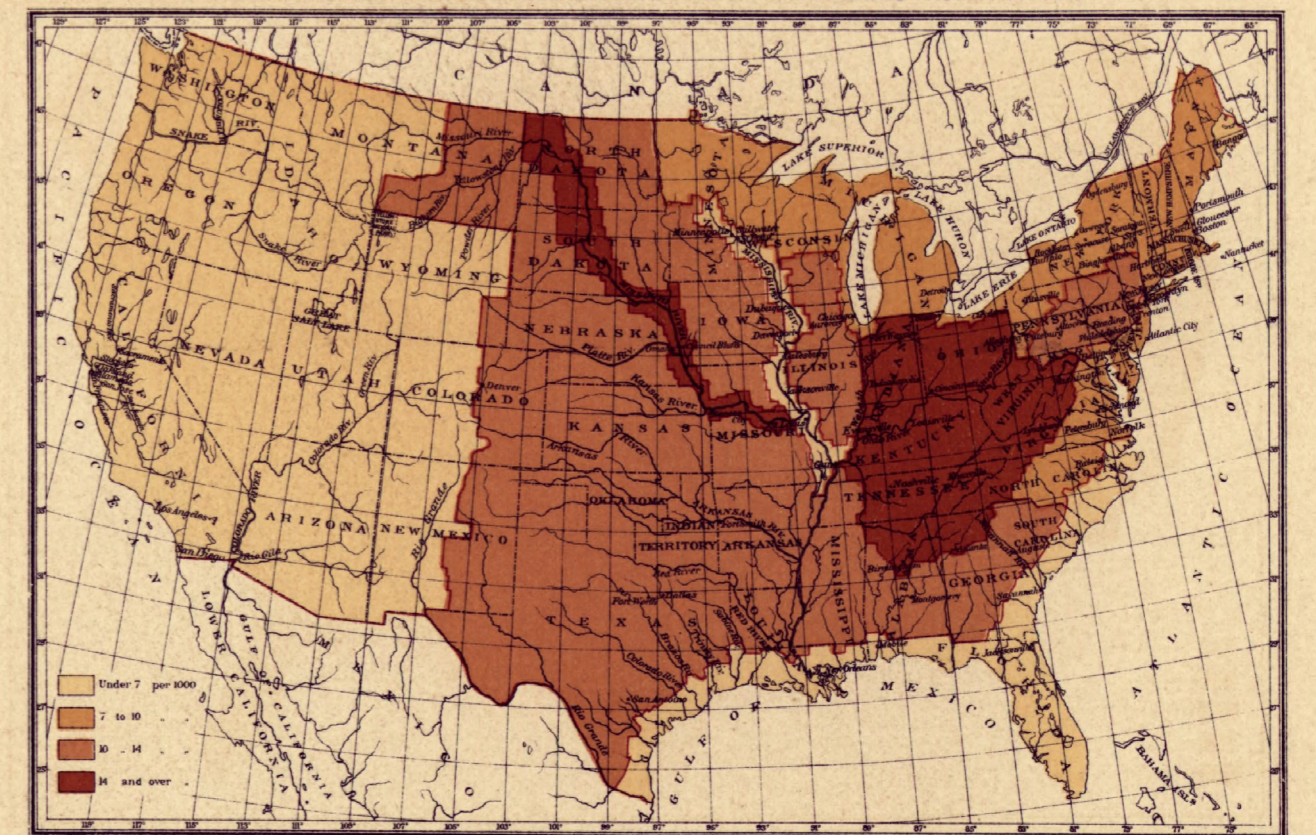
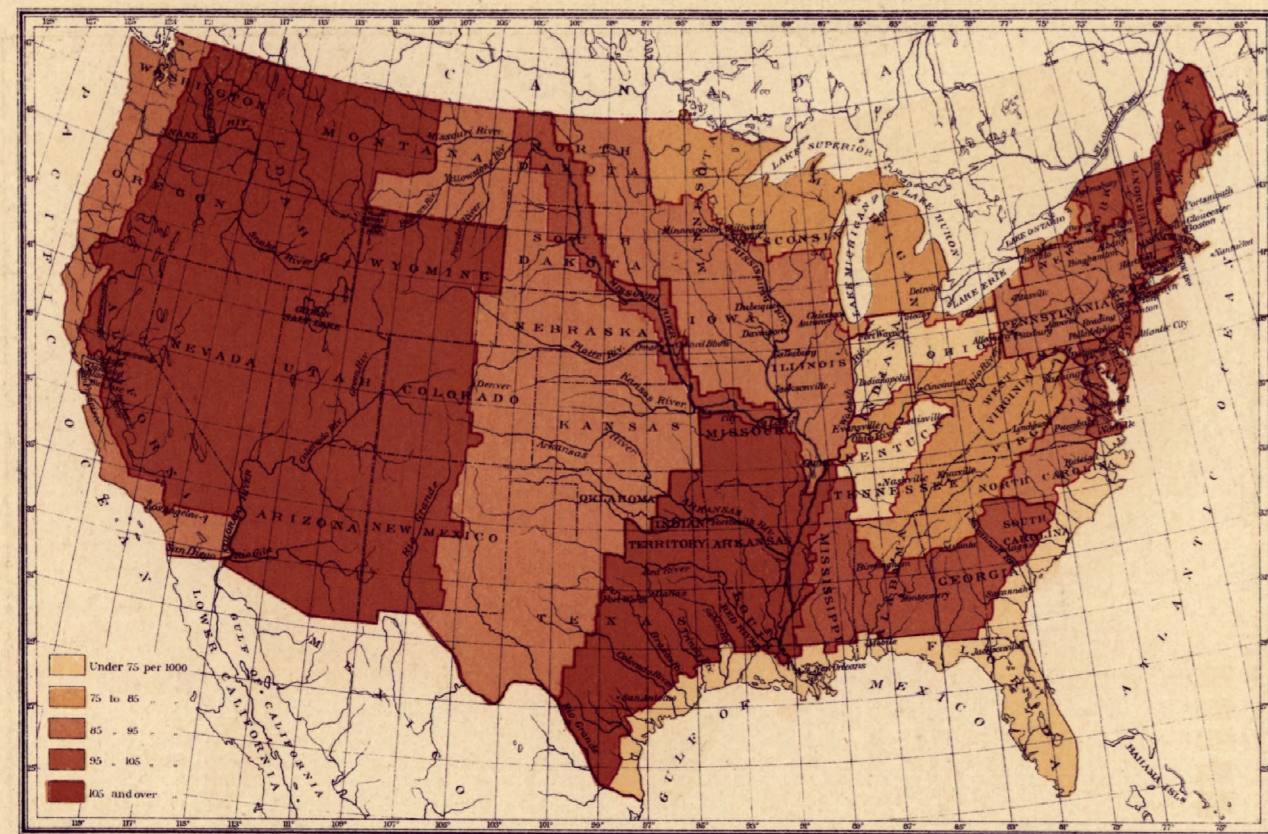212. NUMBER OF DEATHS FROM DIPHTHERIA PER 1000 DEATHS FROM KNOWN CAUSES.

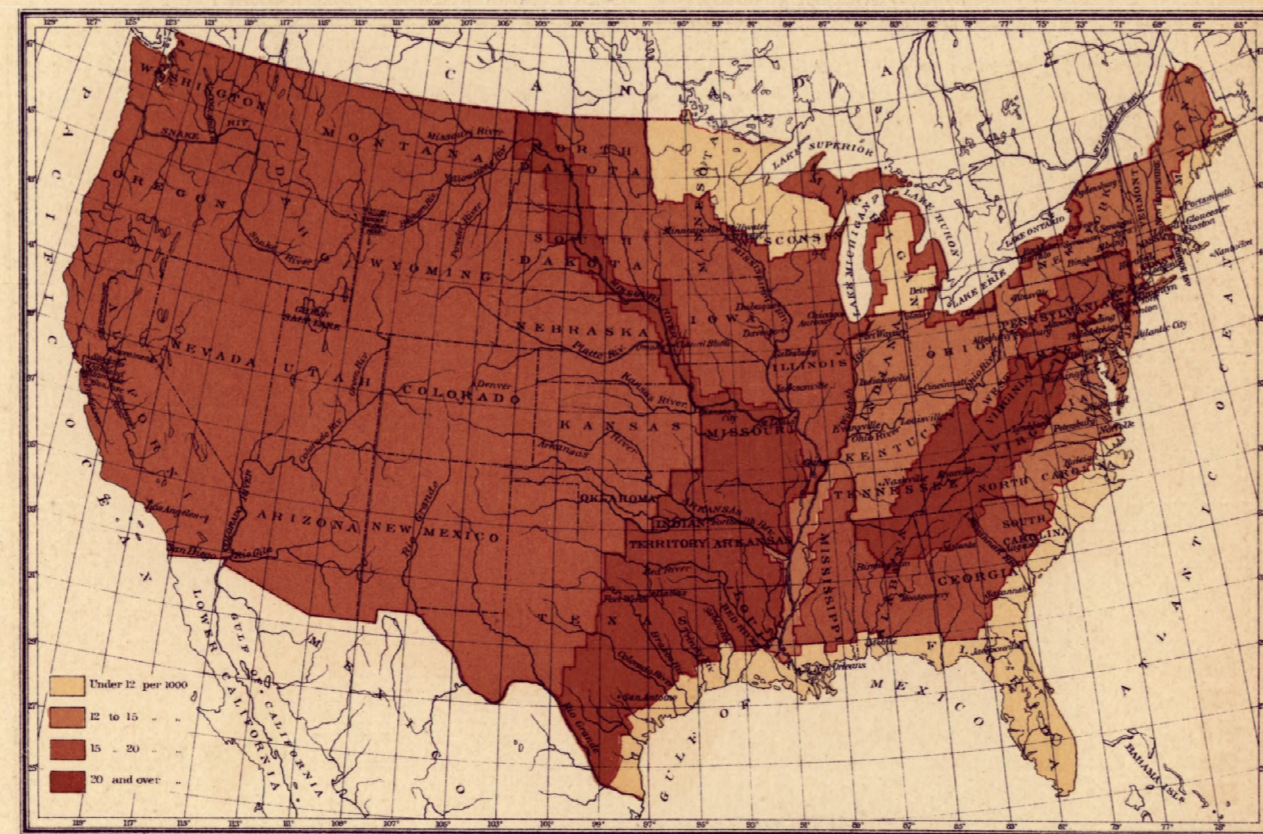215. NUMBER OF DEATHS FROM CANCER AND TUMOR PER 1000 DEATHS FROM KNOWN CAUSES.

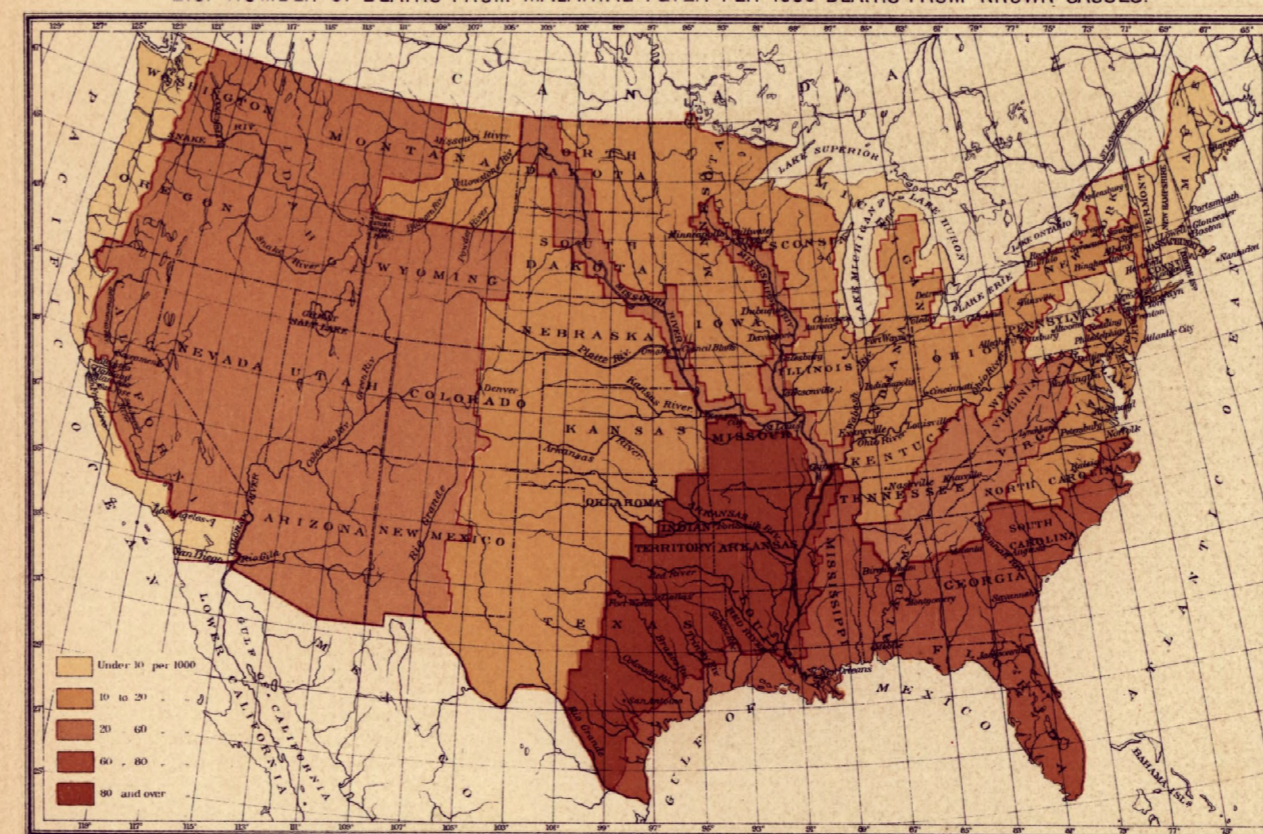218. NUMBER OF DEATHS FROM WHOOPING COUGH PER 1000 DEATHS FROM KNOWN CAUSES.

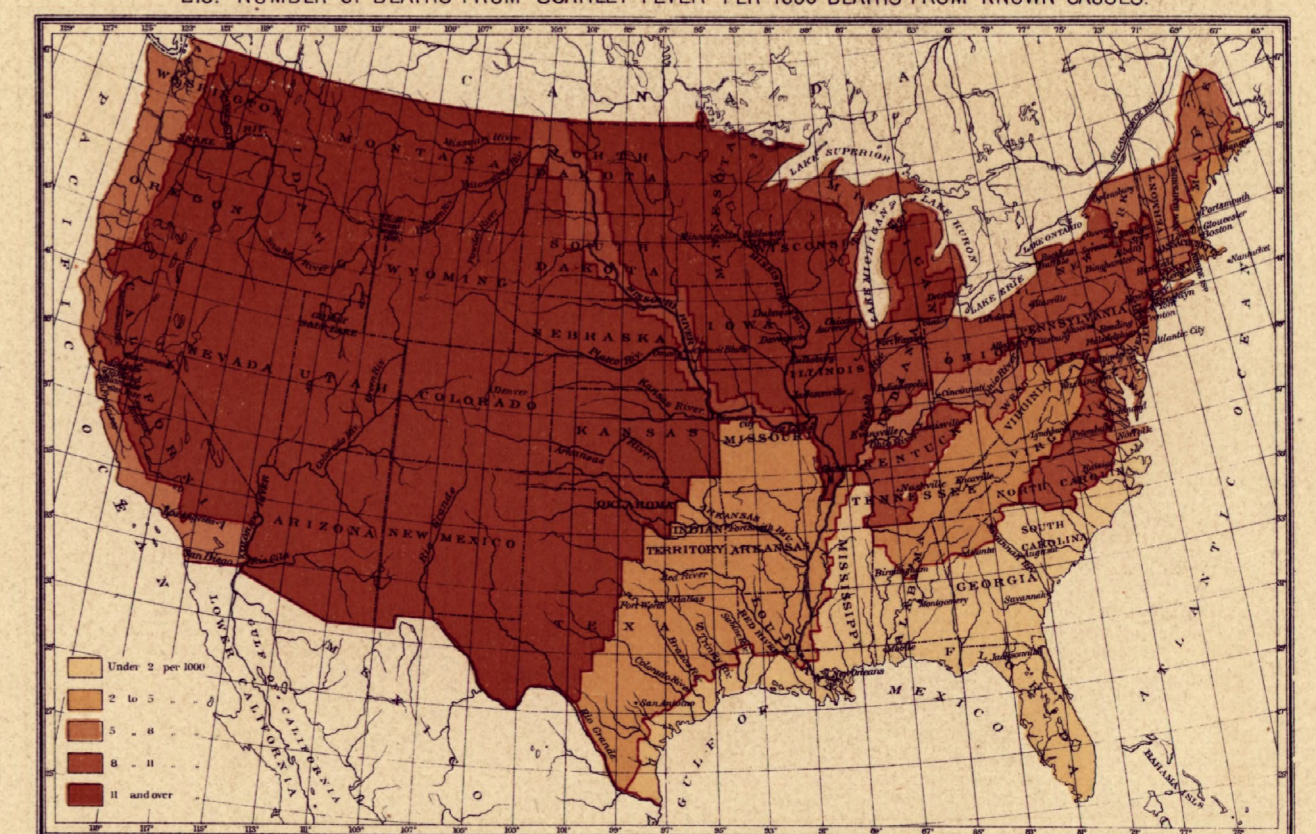210. NUMBER OF DEATHS FROM PNEUMONIA PER 1000 DEATHS FROM KNOWN CAUSES.

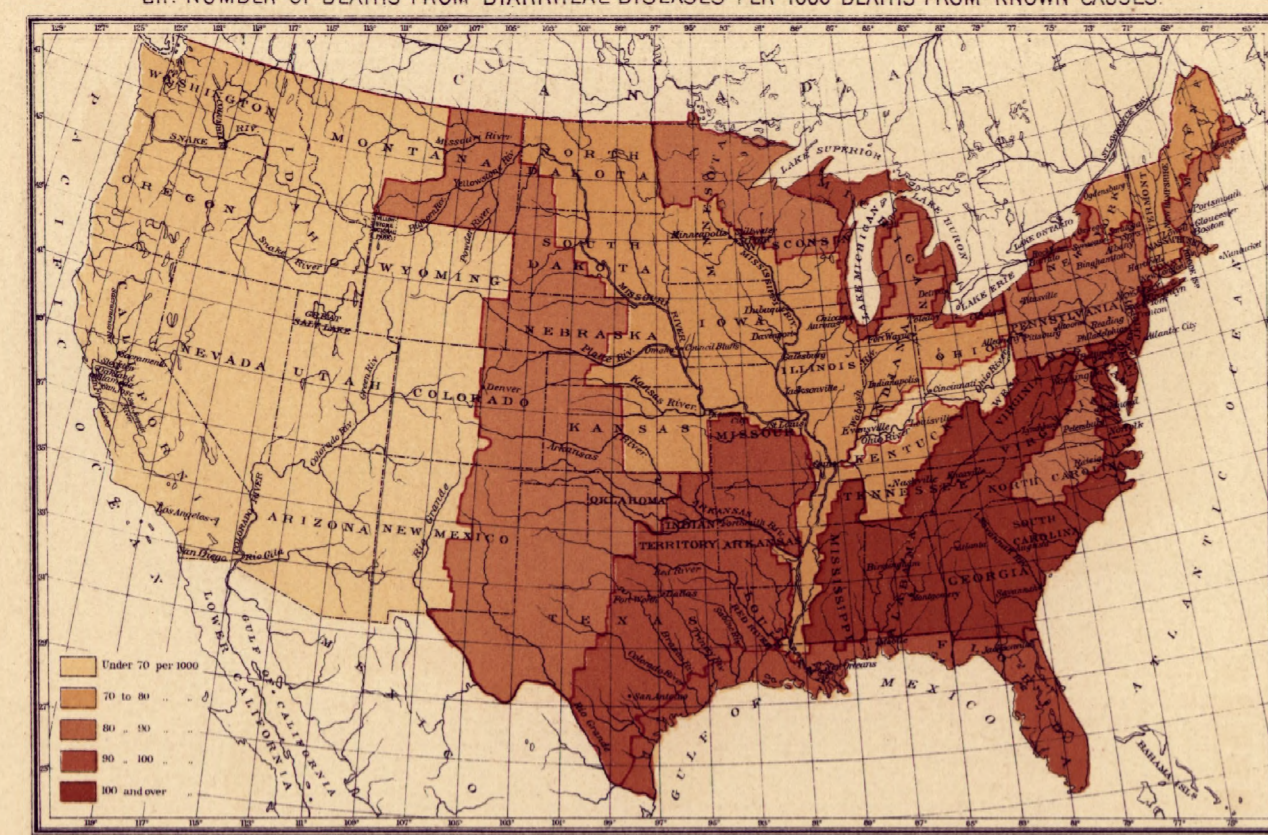213. NUMBER OF DEATHS FROM CROUP PER 1000 DEATHS FROM KNOWN CAUSES.

216. NUMBER OF DEATHS FROM MALARIAL FEVER PER 1000 DEATHS FROM KNOWN CAUSES.
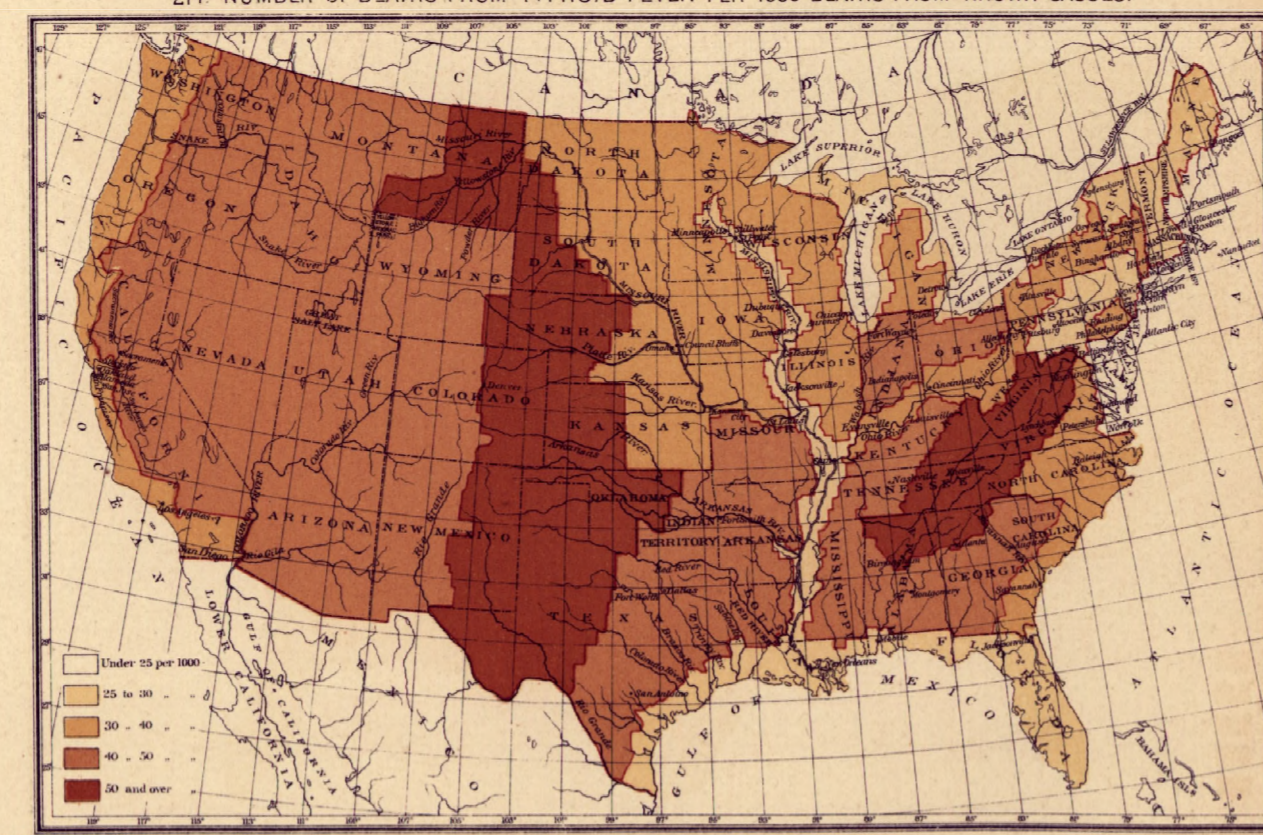
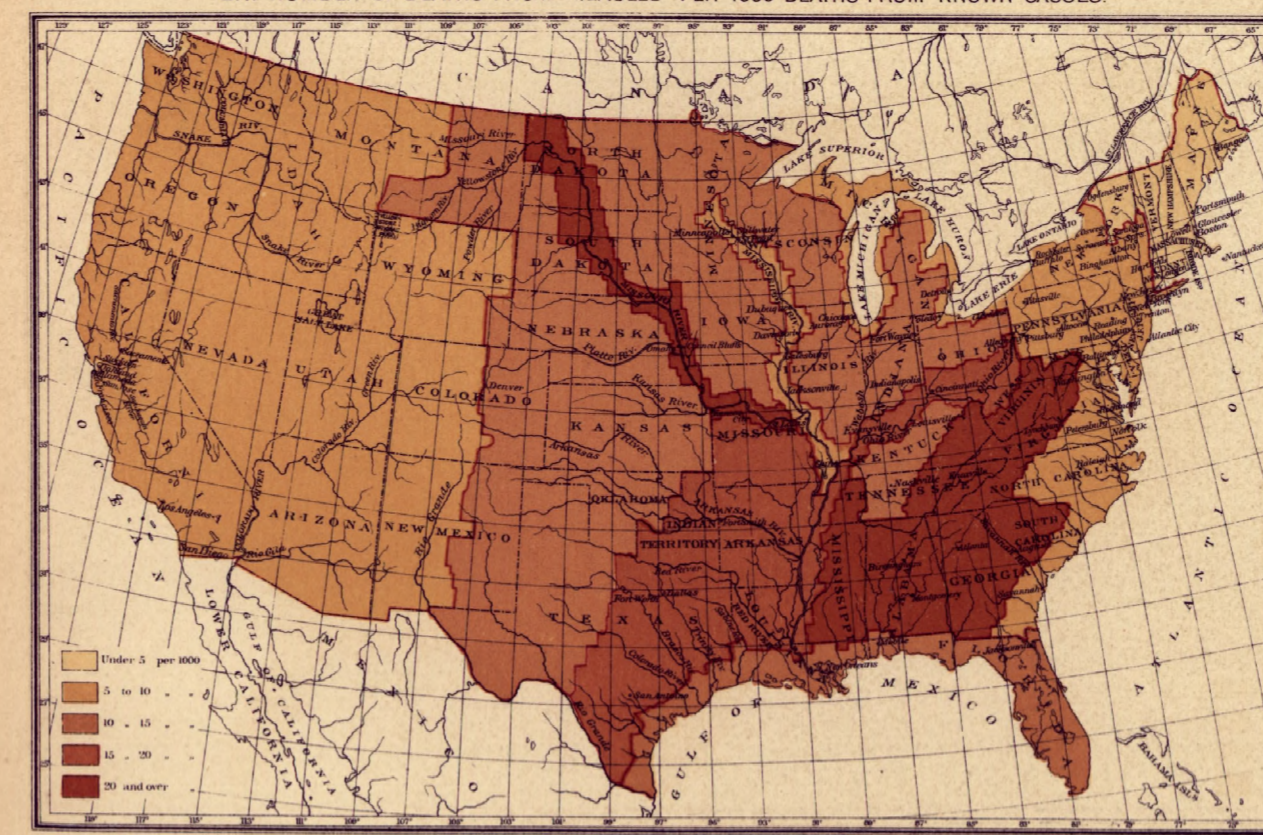219. NUMBER OF DEATHS FROM SCARLET FEVER PER 1000 DEATHS FROM KNOWN CAUSES.

211. NUMBER OF DEATHS FROM DIARRHEAL DISEASES PER 1000 DEATHS FROM KNOWN CAUSES.

214. NUMBER OF DEATHS FROM TYPHOID FEVER PER 1000 DEATHS FROM KNOWN CAUSES.

217. NUMBER OF DEATHS FROM MEASLES PER 1000 DEATHS FROM KNOWN CAUSES.

220. NUMBER OF DEATHS FROM HEART DISEASE AND DROPSY PER 1000 DEATHS FROM KNOWN CAUSES.

224. Comparative Death Rates of Males and Females from 15 to 45 Years of Age in the Registration Area, by Conjugal Condition, with Distinction of Color and General Nativity: 1890.

CLASS AND CONJUGAL CONDITION	MALES. Rate.					FEMALES. Rate.	
	25	20	15	10	5	5	10
SINGLE.							
NATIVE WHITE.							
FOREIGN "							
COLORED.							
MARRIED.							
NATIVE WHITE.							
FOREIGN "							
COLORED.							
WIDOWED.							
NATIVE WHITE.							
FOREIGN "							
COLORED.							

225. Proportion of Deaths at all Ages, in each Month, in the United States: 1890.

228. Proportion of Deaths from Scarlet Fever in each Month in the Cities and in the Rural Districts of the United States: 1890.

226. Proportion of Death Under 5 Years of Age in Each Month, in the United States: 1890.

229. Proportion of Deaths from Measles in each Month in the Cities and in the Rural Districts of the United States: 1890.

227. Proportion of Deaths at 60 Years of Age and Over in each Month in the United States: 1890.

230. Proportions of Deaths of Males, at each Age, from Diphtheria and from Croup in the United States: 1890.

| AGE.	DIPHTHERIA. Rate.						CROUP. Rate.					
	300	250	200	150	100	50	50	100	150	200	250	300
45 +												
25 - 45												
15 - 25												
10 - 15												
5 - 10												
4 - 5												
3 - 4												
2 - 3												
1 - 2												
0 - 1												

231. PROPORTION OF DEATHS FROM WHOOPING COUGH, IN EACH MONTH, IN THE CITIES AND IN THE RURAL DISTRICTS OF THE UNITED STATES: 1890.
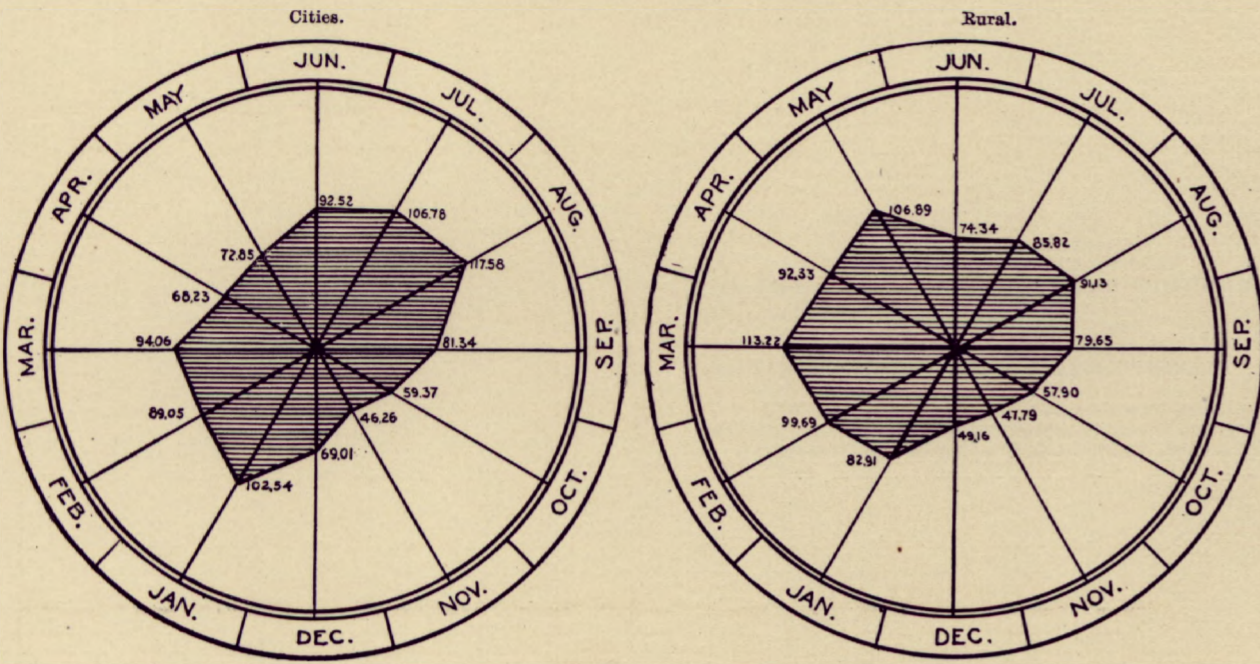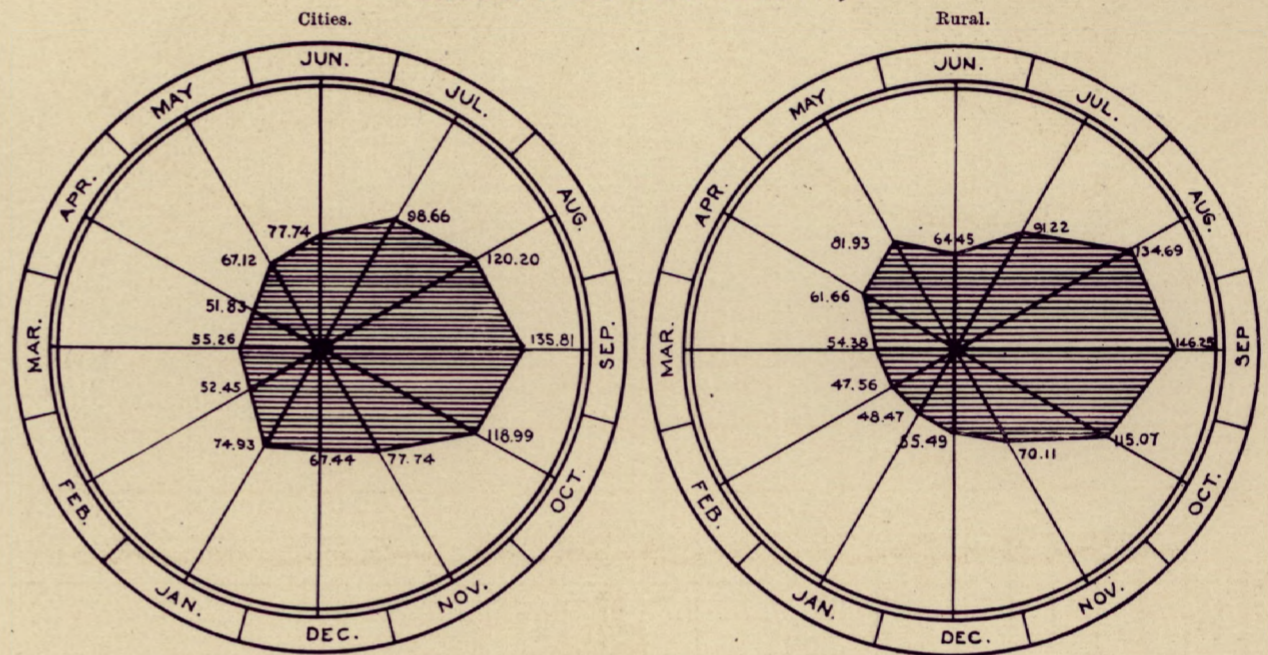
235. PROPORTIONS OF DEATHS OF MALES AND OF FEMALES, AT EACH AGE, FROM MALARIAL FEVER IN THE UNITED STATES: 1890.
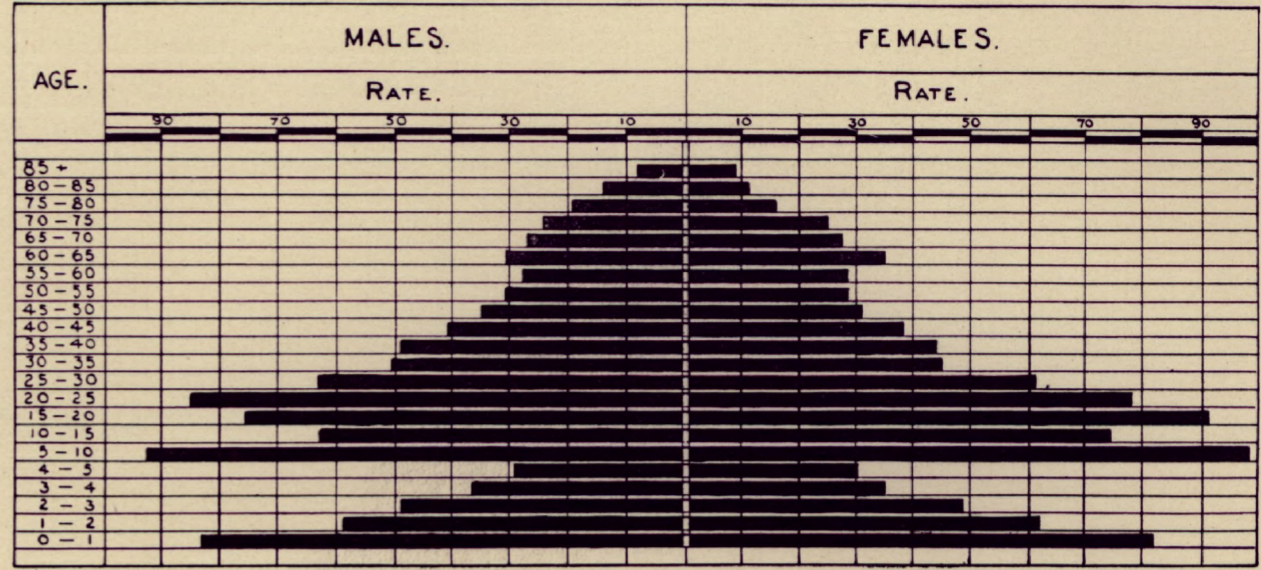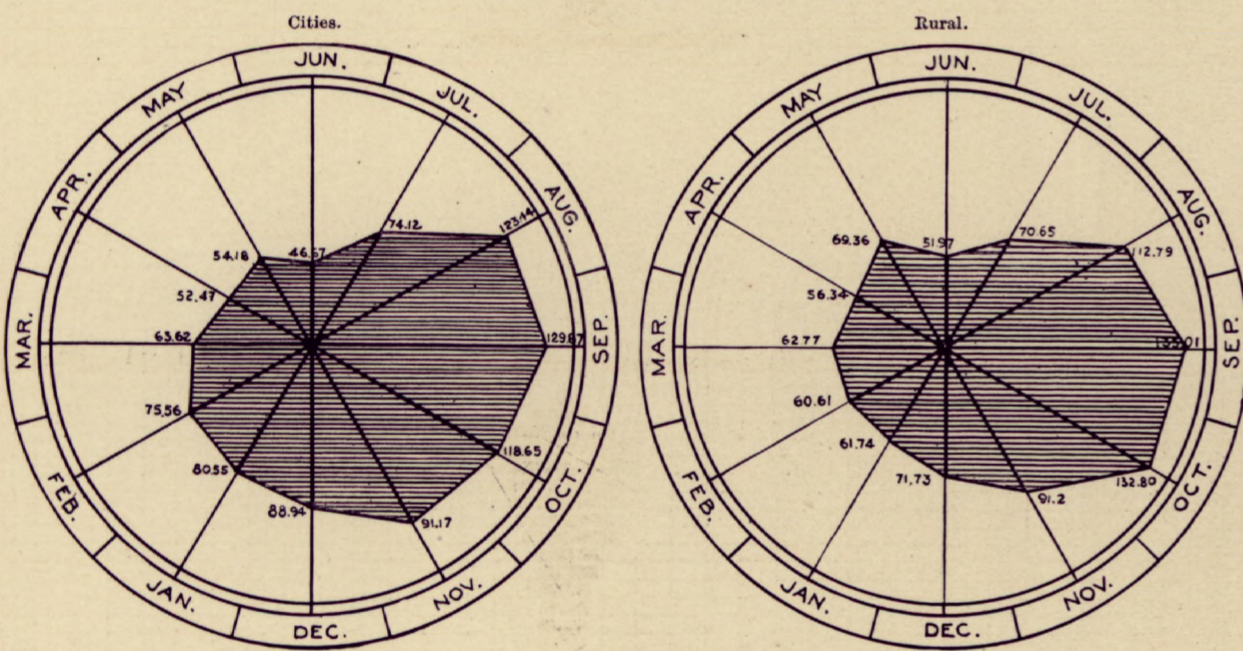
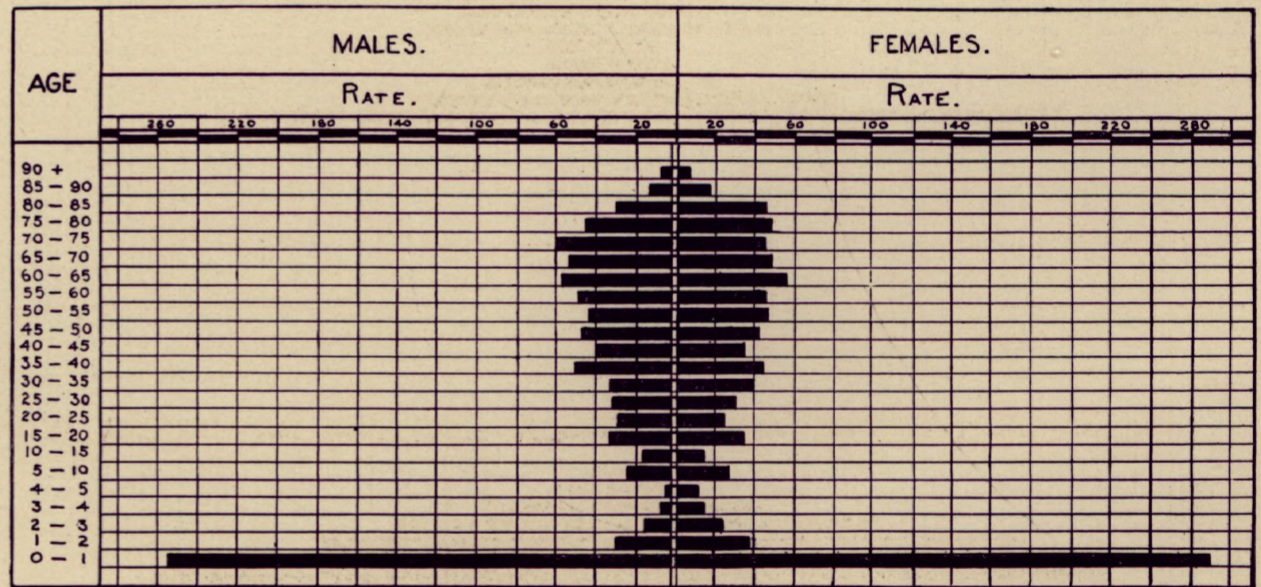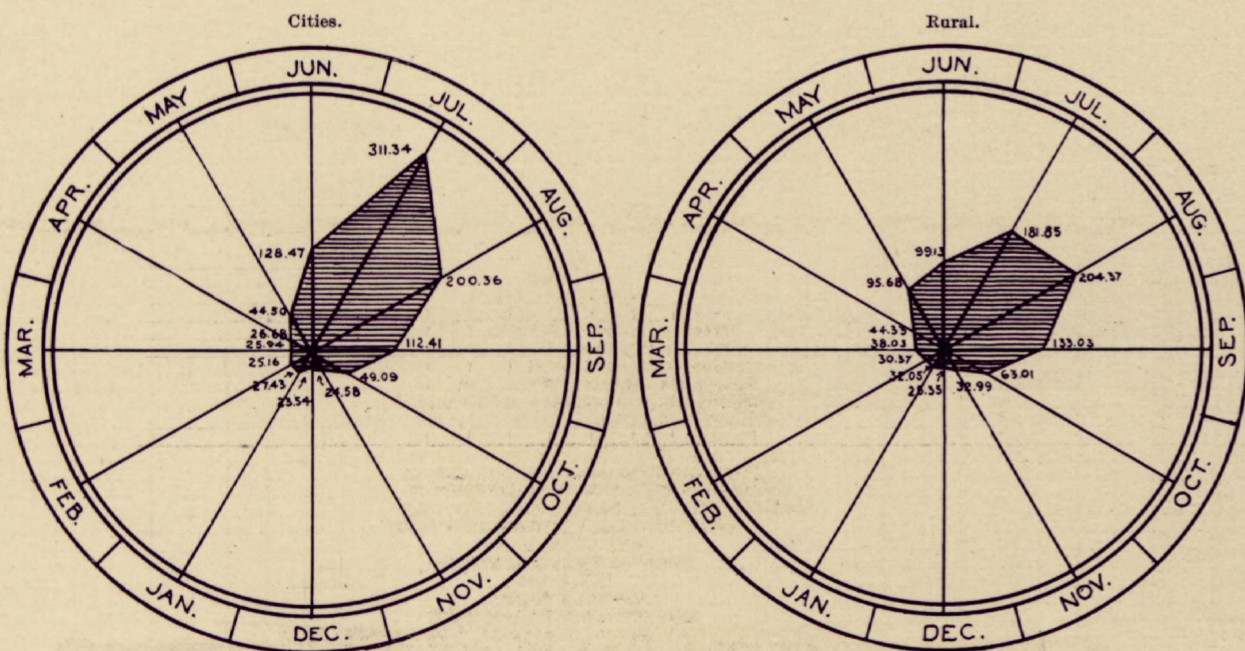232. PROPORTIONS OF DEATHS OF MALES AND OF FEMALES, AT EACH AGE, FROM TYPHOID FEVER IN THE UNITED STATES: 1890.
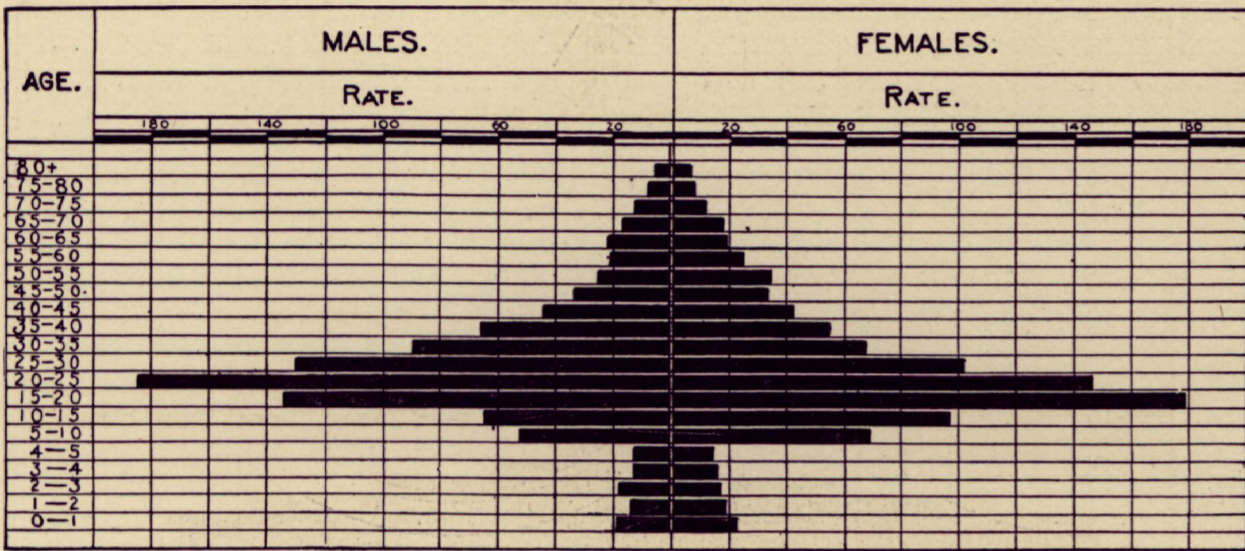
236. PROPORTION OF DEATHS FROM MALARIAL FEVER, IN EACH MONTH, IN THE CITIES AND IN THE RURAL DISTRICTS OF THE UNITED STATES: 1890.

233. PROPORTION OF DEATHS FROM TYPHOID FEVER, IN EACH MONTH, IN THE CITIES AND IN THE RURAL DISTRICTS OF THE UNITED STATES: 1890.

237. PROPORTIONS OF DEATHS OF MALES AND OF FEMALES, AT EACH AGE, FROM ERYSIPELAS IN THE UNITED STATES: 1890.

234. PROPORTION OF DEATHS FROM DIARRHEAL DISEASES, IN EACH MONTH, IN THE CITIES AND IN THE RURAL DISTRICTS OF THE UNITED STATES: 1890.

238. PROPORTIONS OF DEATHS OF MALES AND OF FEMALES, AT EACH AGE, FROM CONSUMPTION IN THE UNITED STATES: 1890.
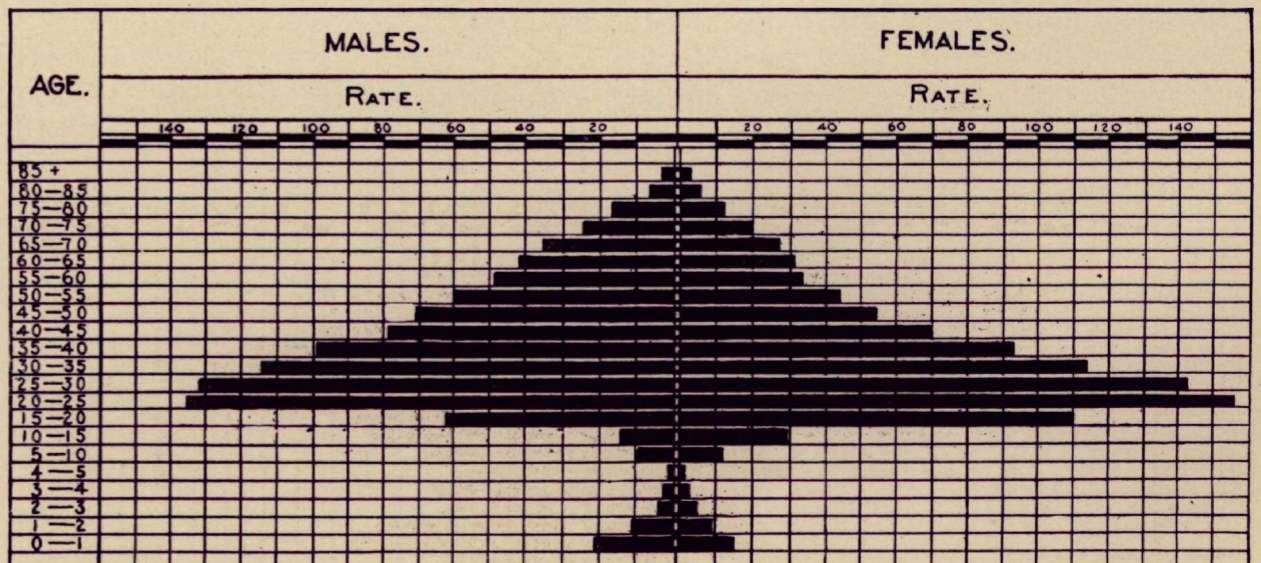
Diagram 237, showing the liability of persons of different sexes and ages to erysipelas, shows that the liability to this disease increases with age up to 75 years, and then rapidly diminishes. On the other hand, young children below the age of 5 are also extremely subject to this disease.

Diagram 238, illustrating the distribution by age and sex of consumption, shows that up to the age of 15 or 20 there is little liability to this disease; that the greatest liability is between 20 and 30 years, and from that age onward the liability diminishes rapidly.

The distribution of deaths from this disease throughout the year in cities and rural districts, illustrated by Diagram 239, shows that in the cities the deaths are most numerous in midwinter, while in the country they are most numerous in the late winter and spring months.

Diagram 240, illustrating the prevalence among the sexes and at various ages of scrofula and tabes, shows that among young children these diseases are more common among the males, but after maturity they become slightly more common among females, and that the liability to them diminishes with increasing age.

Diagram 241, illustrating similarly the prevalence of cancer and tumor, shows that this is a disease of old age, reaching its greatest mortality between 60 and 70 years, while the proportion of children that suffer from it is trifling.
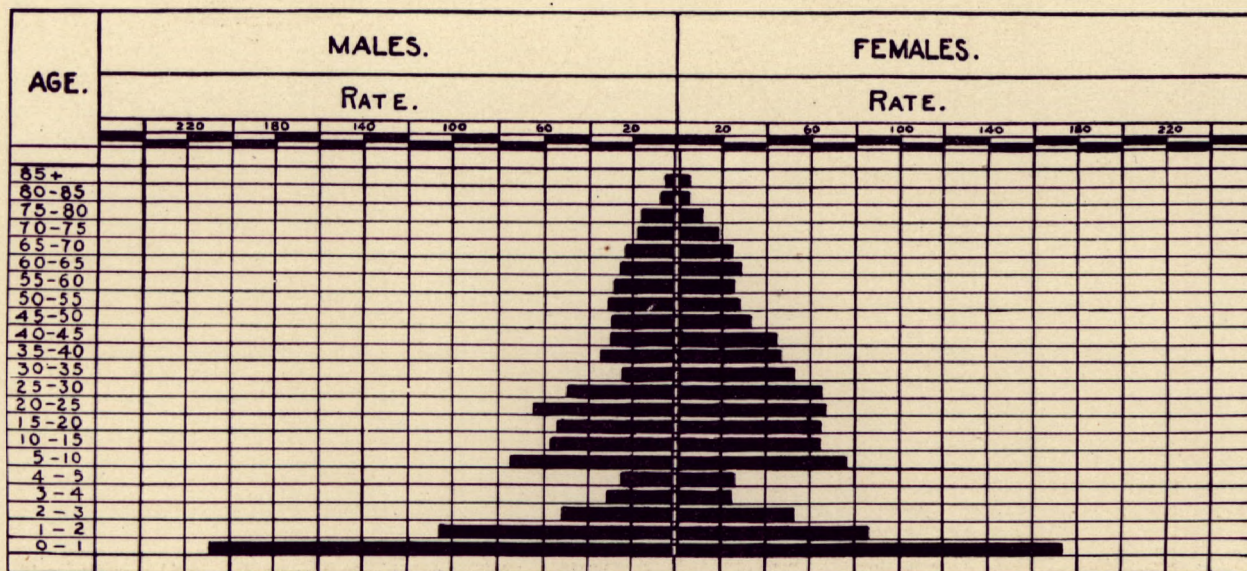
Diabetes, also, as shown by Diagram 242, is much more common among people of advanced age than children or youths.

Deaths from apoplexy and paralysis are, as appears from Diagram 243, most common at advanced ages, reaching a maximum between 70 and 75 years of age.
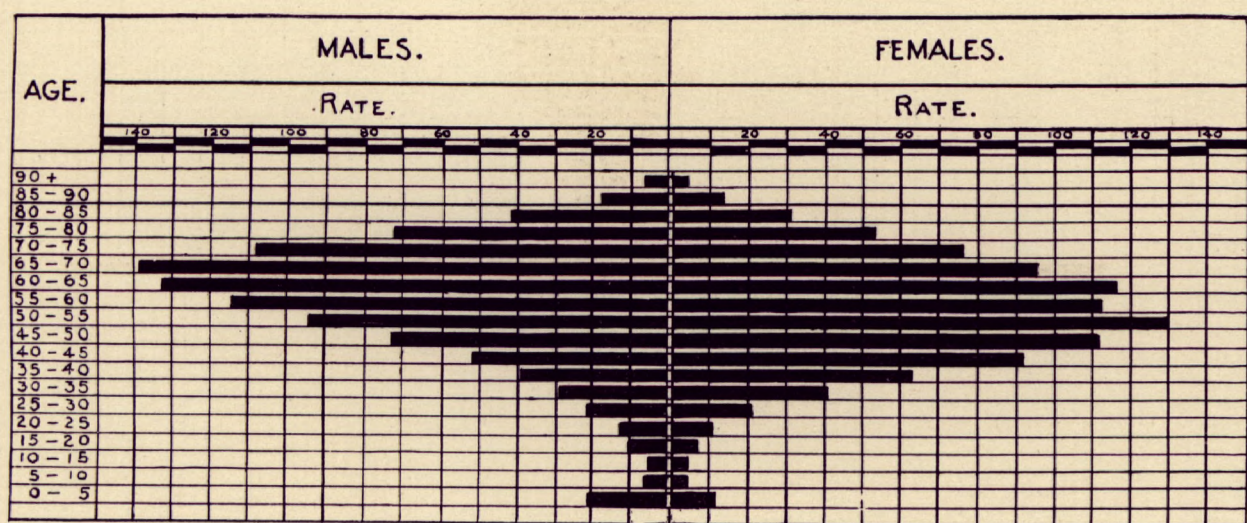
239. Proportion of Deaths from Consumption in each Month in the Cities and in the Rural Districts of the United States : 1890.
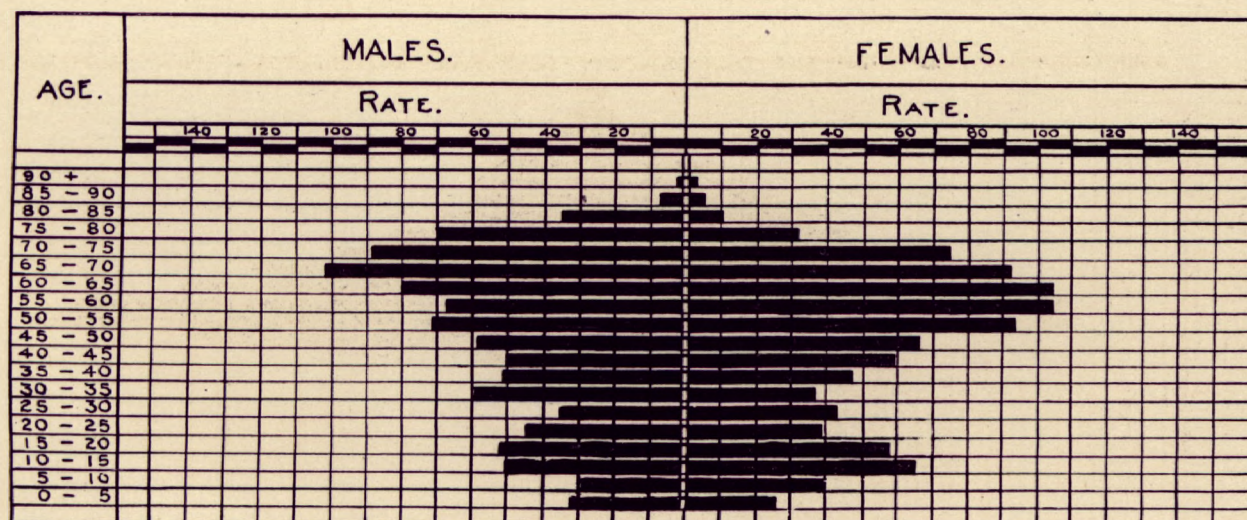

243. Proportions of Deaths of Males and of Females, at each Age, from Apoplexy and Paralysis in the United States : 1890.

240. Proportions of Deaths of Males and of Females, at each Age, from Scrofula and Tabes in the United States : 1890.

244. Proportions of Deaths of Males and of Females, at each Age, from Heart Disease and Dropsy in the United States : 1890.
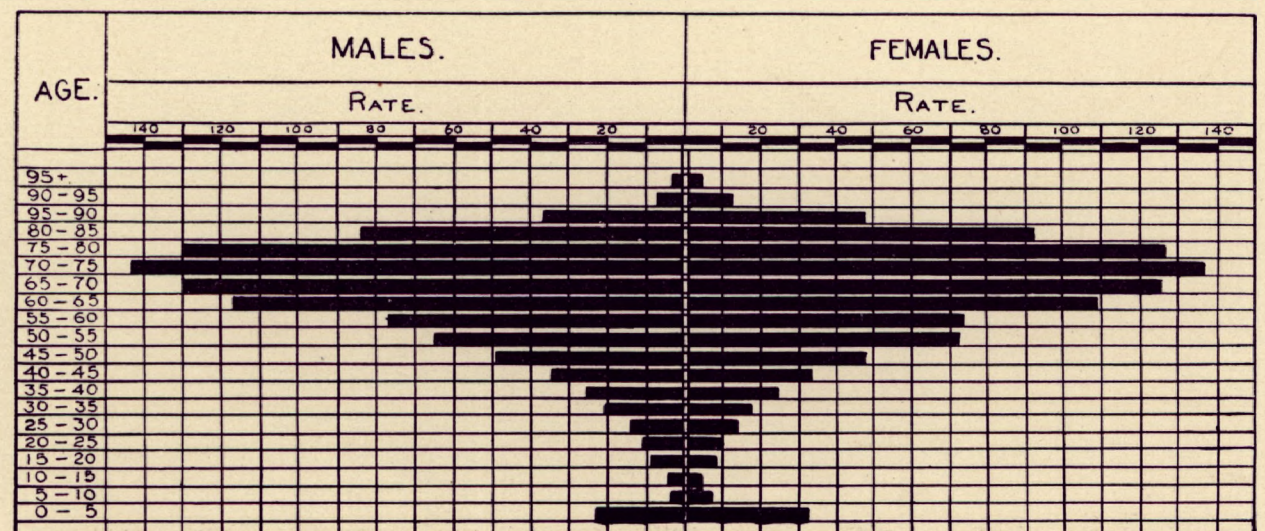

241. Proportions of Deaths of Males and of Females, at each Age, from Cancer and Tumor in the United States : 1890.

245. Proportions of Deaths of Males and of Females, at each Age, from Bronchitis in the United States : 1890.
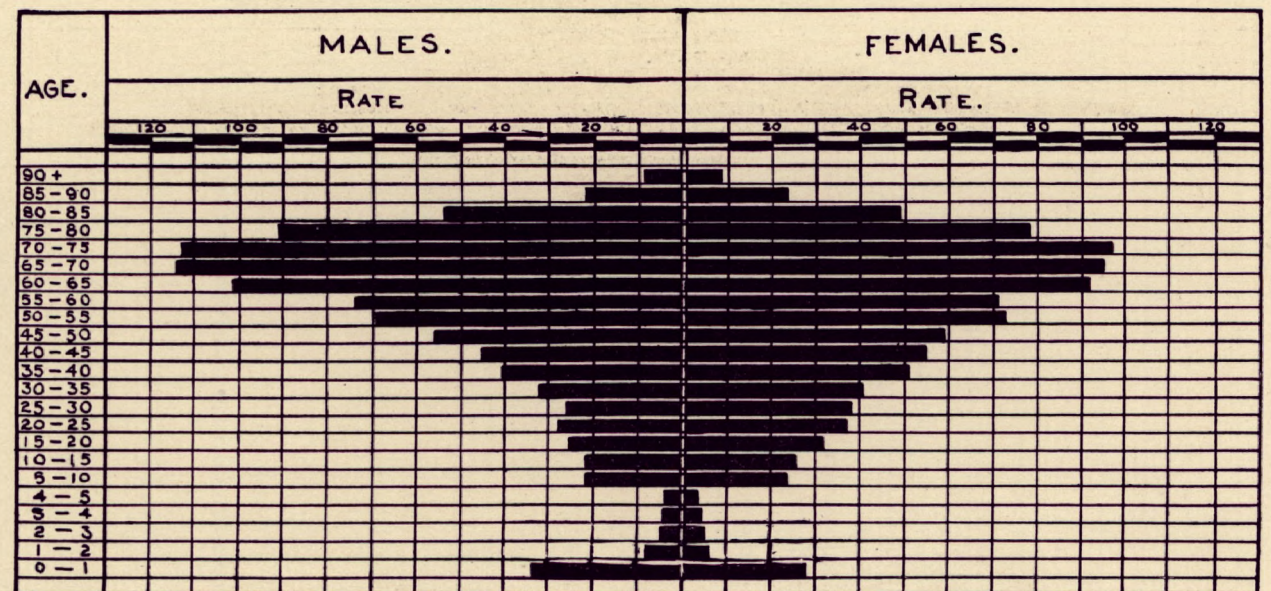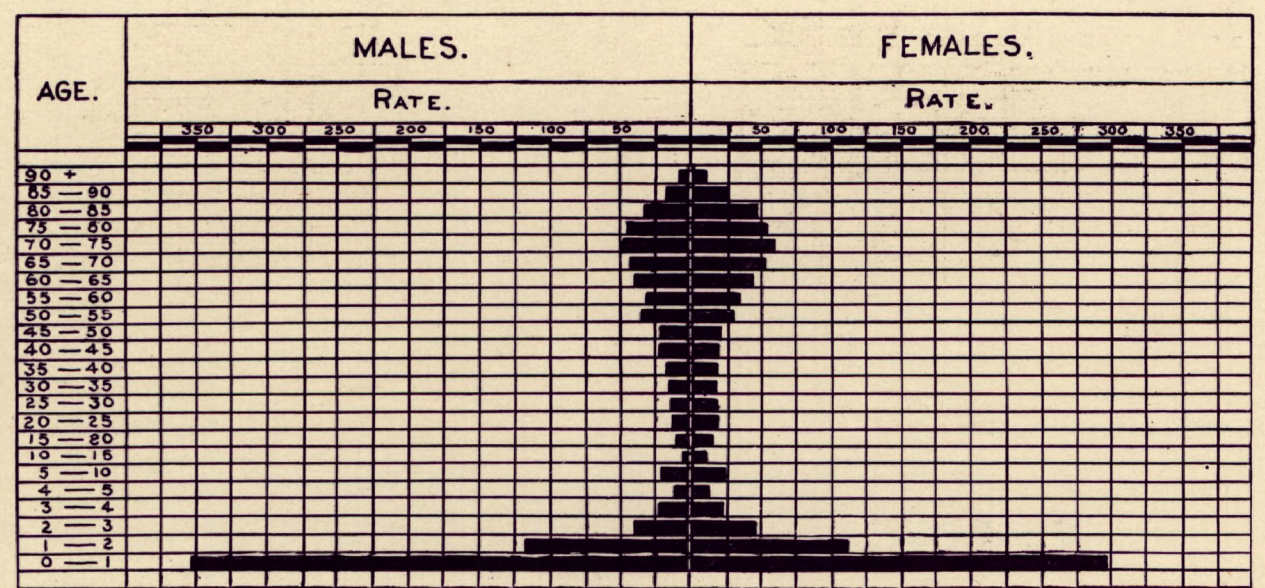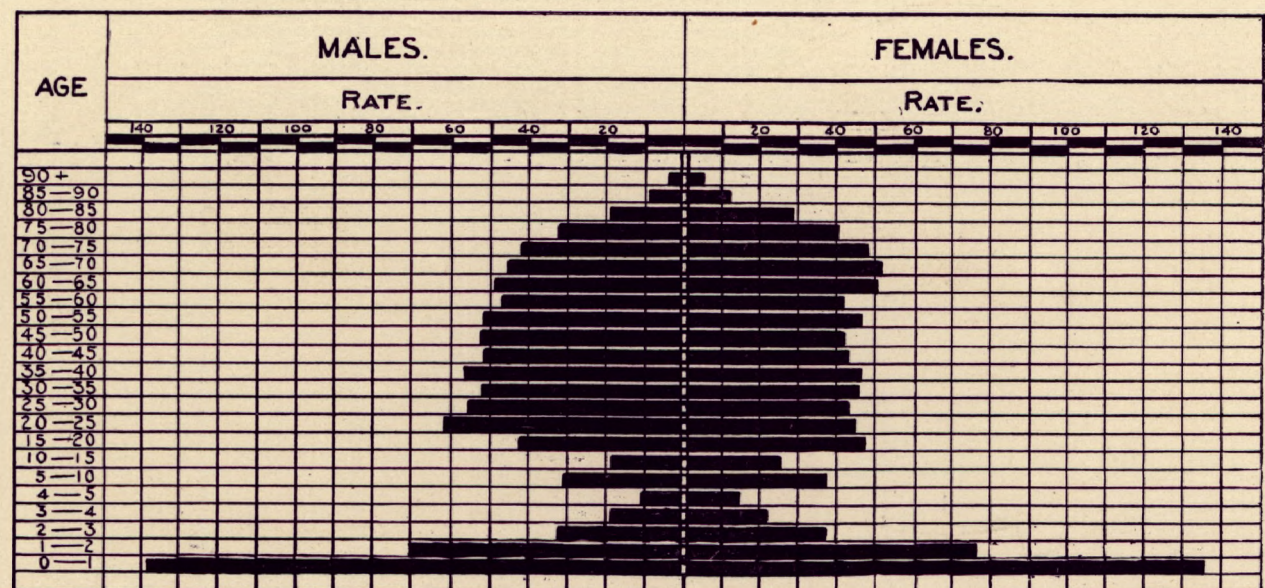

242. Proportions of Deaths of Males and of Females, at each Age, from Diabetes in the United States : 1890.

246. Proportions of Deaths of Males and of Females, at each Age, from Pneumonia in the United States : 1890.

Heart disease and dropsy are also diseases of old age, reaching their maximum, as shown by Diagram 244, between 60 and 70 years of age.

Bronchitis, as appears from Diagram 245, is a disease of children, a large proportion of the deaths under 1 year of age being due to this cause. It is also a disease of old age, a second maximum of deaths being reached between 70 and 75 years.

Mortality from pneumonia, as appears from Diagram 246, is common at all ages and to both sexes.

Diseases of the liver, as appears from Diagram 247, are very prevalent with children under 1 year of age, but disappear almost entirely as age advances, increasing again as maturity is reached, and attaining a second maximum between 60 and 65 years of age.

Diagram 248 shows that the class of diseases therein treated is vastly more prevalent among mature persons than children and among men of advanced age far more than among women.

Diagram 249 shows that Bright's disease, common to both sexes, is much more prevalent among men than women.

Diagram 250 shows in the cities the greatest prevalence of this class of diseases in the late winter and early spring, while in the rural districts they are more prevalent in the spring months.

Diagram 251 shows that suicides are more prevalent among women between the ages of 15 and 25, while among men they are much more prevalent at a more advanced age.

In the cities there is no marked difference in the number of suicides at the different times of the year, but in the country a marked increase is seen in the months of April and May over any other part of the year, as shown in Diagram 252.
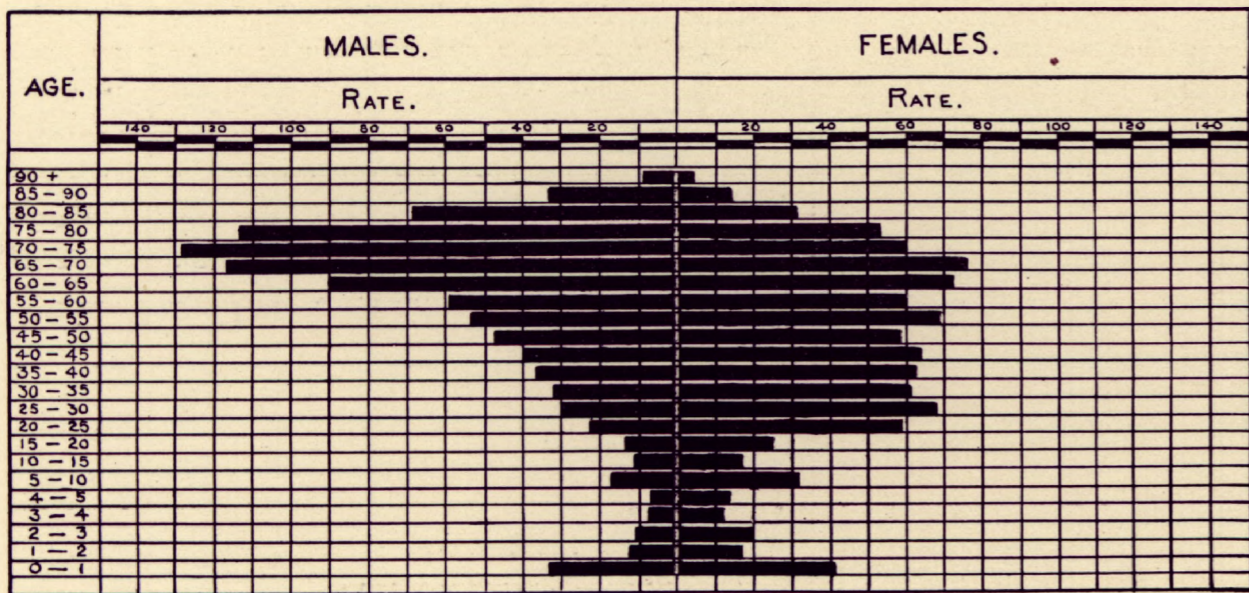
247. PROPORTIONS OF DEATHS OF MALES AND OF FEMALES, AT EACH AGE, FROM DISEASES OF THE LIVER IN THE UNITED STATES: 1890.
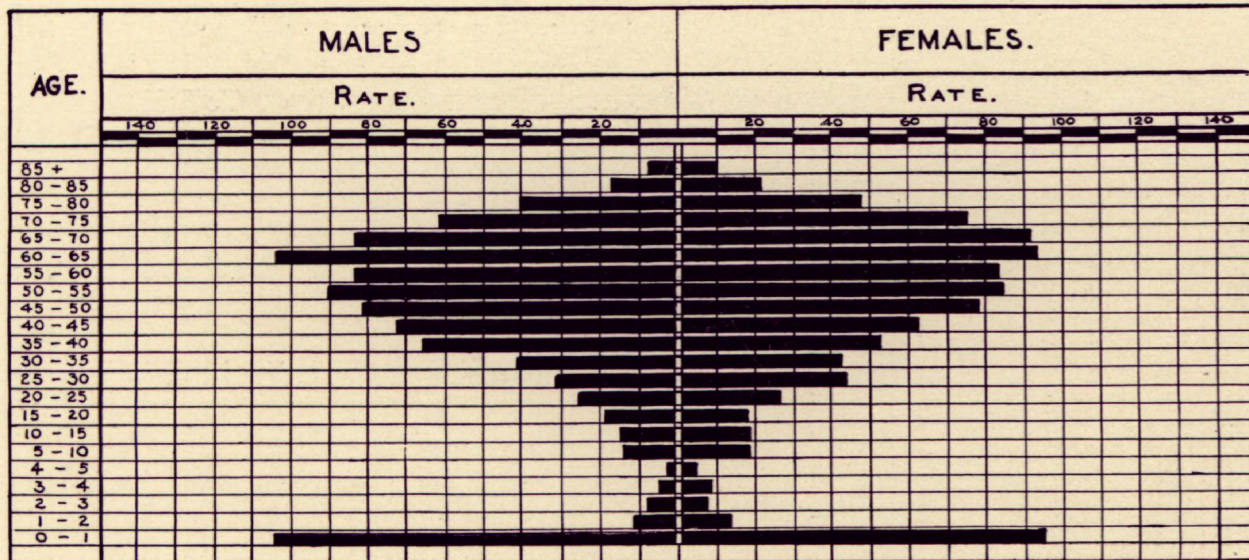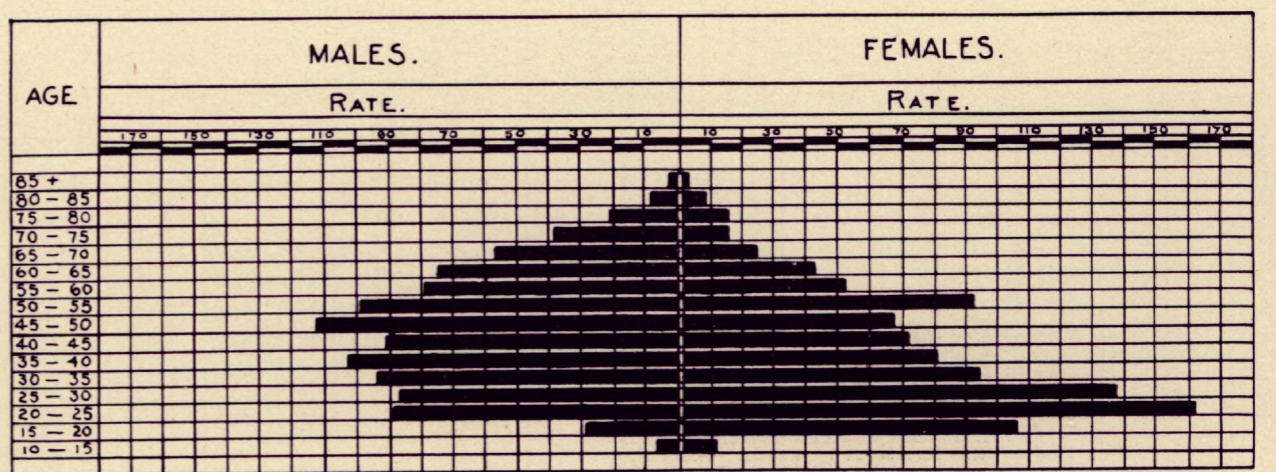
250. PROPORTION OF DEATHS FROM AFFECTIONS CONNECTED WITH PREGNANCY, IN EACH MONTH, IN THE CITIES AND IN THE RURAL DISTRICTS OF THE UNITED STATES: 1890.
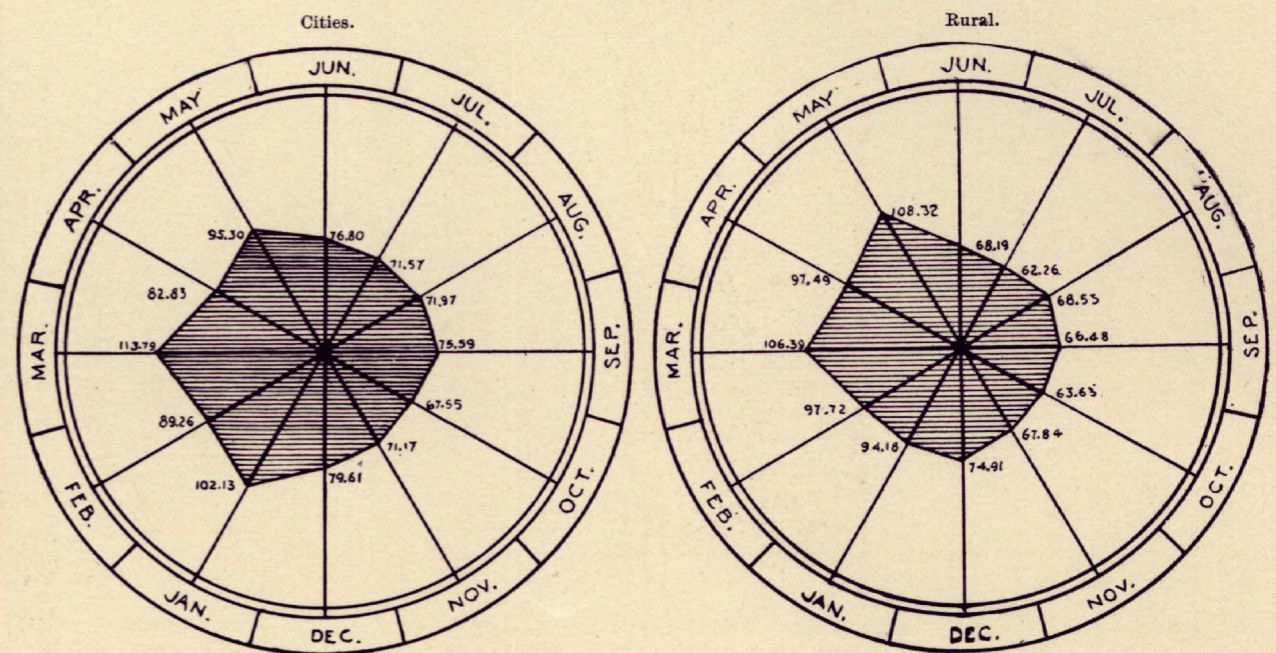
248. PROPORTIONS OF DEATHS OF MALES AND OF FEMALES, AT EACH AGE, FROM DISEASES OF THE URINARY SYSTEM AND ORGANS OF GENERATION (EXCLUSIVE OF BRIGHT'S DISEASE) IN THE UNITED STATES: 1890.

251. PROPORTIONS OF DEATHS OF MALES AND OF FEMALES, AT EACH AGE, FROM SUICIDE IN THE UNITED STATES: 1890.

249. PROPORTIONS OF DEATHS OF MALES AND OF FEMALES, AT EACH AGE, FROM BRIGHT'S DISEASE IN THE UNITED STATES: 1890.
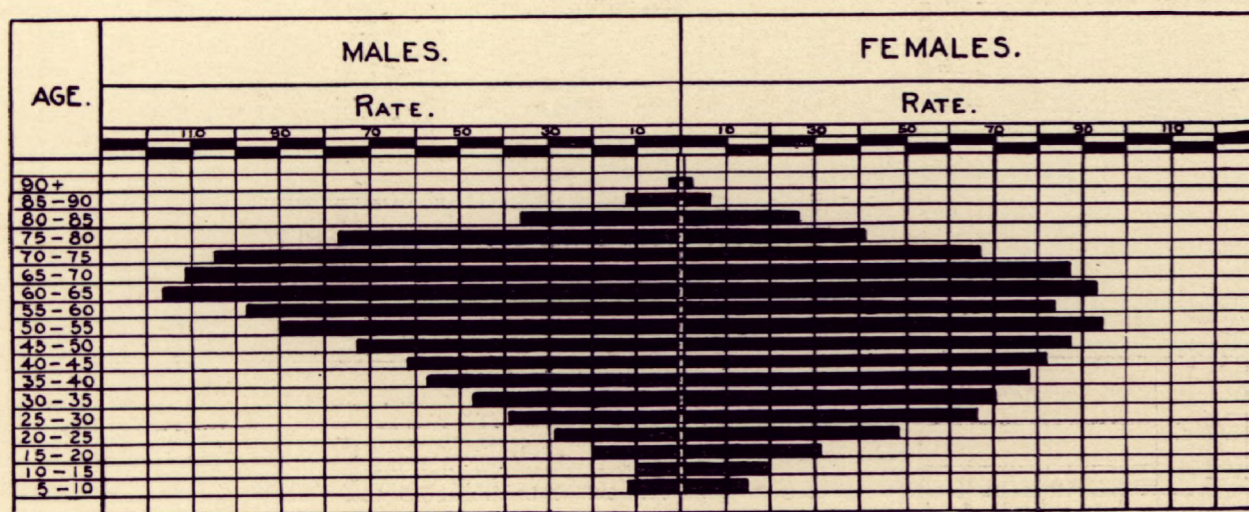
252. PROPORTION OF DEATHS FROM SUICIDE, IN EACH MONTH, IN THE CITIES AND IN THE RURAL DISTRICTS OF THE UNITED STATES: 1890.