

## THE COMPARATIVE FREQUENCY OF GENERAL PARESIS.<sup>1</sup>

By CHARLES G. WAGNER, M. D.,

*Superintendent of the Binghamton State Hospital, Binghamton, N. Y.*

As part of the symposium on paresis I have been requested to present some statistics bearing upon the occurrence of this disease generally and its frequency in the professions. Accordingly I have gathered the following data from such sources as I have found accessible.

Examination of the literature of paresis discloses that it has been recognized for a period of about eighty years, although claims are made that some cases were reported before the close of the eighteenth century. As early as 1815, Esquirol appears to have noted the fatal ending of paralysis and failure of speech in certain cases of insanity, but his writings do not indicate that he ever had a clear idea of general paresis as a distinct form of disease. One of his students, however, Georget, described it in 1820 under the name of chronic muscular paralysis. Delaye in 1824, called it "incomplete general paralysis," a name which has since been retained as one of those commonly in use. Calmeil published a complete description of the physical symptoms and anatomical lesions in general paresis in 1826, but all of these writers and many others about this period appear to have regarded the malady as a special form of paralysis superimposed upon insanity,—a complication of an already existing mental disorder rather than a distinct form. In 1839, Dr. W. A. F. Browne, Commissioner in Lunacy for Scotland, observed cases in that country, but it was not until 1843 that general paresis was recognized in America. In that year Dr. Luther Bell of the McLean Asylum, now presided over by Dr. Edward Cowles,

<sup>1</sup> Read before the State Medical Society, at Albany, N. Y., January 28, 1902, as part of the Symposium on General Paresis.

detected this disease in a number of patients, all of whom died within a comparatively short time.

Dr. Bell in his annual report for 1843, stated that prior to 1840, he had never met with an instance of paresis in this country, although he had seen many cases abroad and had made diligent search for them in his own asylum and elsewhere on this side of the Atlantic. He says: "I have regarded it as a somewhat curious fact that it is only within the last few years that this disease has been admitted into this institution. As late as my visit to Europe in 1840, it was unknown within our walls, nor, after seeing it there, can I recall any case in our register which would at all meet its characteristics, rendering it certain that it was not overlooked."

Four years later Dr. Pliny Earle, reported several cases at the Bloomingdale Asylum in New York City, and about the same time Dr. Amariah Brigham, of the New York State Lunatic Asylum at Utica, is said to have had similar cases. I find, however, in Dr. Brigham's annual asylum reports only meagre references to general paralysis. In the year 1844 to 1847 he mentions, among the causes of death, paralysis in one or two cases each year. In 1848, the last year of his life, his report shows that five patients died of general paralysis, but in none of his reports does he publish a table showing the forms of insanity in the cases admitted, nor does he discuss the symptoms of the cases mentioned as terminating in death by general paralysis.

The first table of this kind published in the history of the institution at Utica, showing the forms of insanity admitted, is found in the report of Dr. N. D. Benedict for the twelve months ending November 30, 1850, the year following that in which he succeeded Dr. Brigham as superintendent of that institution. His report shows that two cases of general paralysis were admitted during that year and that there had been one remaining in the hospital at the close of the previous year. A few years later, Dr. Ranney of the City Asylum on Blackwell's Island reported several cases as occurring in that institution. In 1866 Dr. John P. Gray, who had succeeded Dr. Benedict at Utica, read a paper before this society in which he gave an exhaustive review of several cases selected from a total of 119 that he had had under his personal observation.

Beginning with the year 1849, when the admission of the first case was recorded at the Utica Asylum the reports of that institution show only a gradual increase in the number of general paretics admitted during the next ten years. The average number of patients of all kinds received annually into the institution during the period mentioned was 329, while the average number of paretics was 5 or 1.5 per cent. The next decade with an average annual admission of 351 patients shows an increase in the number of cases received at the asylum, but a much more rapid increase in the number of general paretics that were annually brought there. The average annual admission of this class for the ten years was 15 or 4.3 per cent—but for the latter half of the decade the percentage was slightly above 5 per cent. This decade covered the Civil War and the four years immediately following. The query naturally arises as to the influence of that period of storm and stress as a causative factor in the production of insanity generally and especially paresis. From 1870 to 1880 the average number of patients received annually at Utica was 434, whereas the average number of paretics received was 21 or about 5 per cent. During the next ten years, from 1880 to 1890, the average number of patients annually admitted was 418 and the average number of paretics was 29, or 7 per cent. For the last decade of the century, that is from 1890 to 1900, the average number of patients received annually was 327 and the average number of paretics was 13, or 4 per cent.

During the fifty years comprising the last half of the nineteenth century there were received at Utica 18,843 insane persons of whom 865 were cases of general paresis, the average percentage being, therefore, 4.5 per cent. The proportion of women to men was 1 to 7.5.

The Hudson River State Hospital was opened in 1871. During the first decade of its existence there were received 1,671 patients, of whom 130 were paretics,—7.75 per cent. During the second decade 3,208 patients were received, of whom 144 or 4.4 per cent were cases of paresis. During the third decade the total number received was 5,735, of whom 361, or 6.3 per cent, were paretics. The total number of patients received in 30 years was 10,434, while the total number of cases of paresis was 672 or 6.4 per cent. Of these patients 75 were women and 597 were men, a proportion of 1 to 8.

From September 30, 1881 to October 1, 1901, there were admitted into the Buffalo State Hospital 8,243 patients. Of this number 391, or 4.74 per cent, were paretics, of whom 65 were women and 332 were men—a proportion of 1 to 5.

The total number of patients received into the St. Lawrence State Hospital from December 9, 1890, when it was opened, to September 30, 1901, was 4,286. The number of cases of general paresis received during the same period was 208, or 4.8 per cent.

There were admitted to the Rochester State Hospital from the date of opening in July, 1891 to September 30, 1901, 1,183 patients, of whom 105, or 5.6 per cent, were general paretics.

At the Middletown State Homeopathic Hospital the number of patients admitted from the date of opening in 1874 to September 30, 1901, was 5,892; of these 292, or 4.9 per cent, were general paretics.

At the Binghamton State Hospital there were admitted on original commitments between October 1, 1890 and September 30, 1901, 2,226 patients; of these 111, or 4.9 per cent, were cases of general paresis—19 being women and 92 men, a proportion of about 1 to 5.

From Dr. A. E. Macdonald, Superintendent of the Manhattan State Hospital, East, I learn that during the past 30 years about 18,000 insane men have been received into that institution under both county and State care. Of this number 16 per cent have been cases of general paresis and the annual admission rate has been nearly constant for several years past.

Although I have not the exact figures showing the number of women admitted to the female department of the Manhattan State Hospital, the reports of the State Commission in Lunacy indicate that it has not differed materially from the number of men received. If, therefore, due allowance be made for the number of paretics that were received among the female cases we should probably find that the percentage of paretics in the total number of cases of insanity received was somewhat above 9 per cent.

The total number of patients received into the Long Island State Hospital at Flatbush from 1896 to September 30, 1901, was 2,141. The number of cases of general paresis admitted during the same period was 250, or 11.5 per cent. Of these paretics 27 were women and 223 were men—a proportion of 1 to 8.

At the Bloomingdale Asylum, White Plains, N. Y.—practically a private institution—there were received during the 10 years ending September 30, 1901, 1,230 patients. Of this number 180 men and 25 women, or 16.6 per cent, were suffering from general paresis, the proportion being 1 woman to 7 men.

During the past 13 years—the period covered by the reports of the State Commission in Lunacy—it appears that there have been received in all the state hospitals of New York State a grand total of 49,787 patients. Of these 3,307—a percentage of 6.6—have been cases of general paresis. This, however, is somewhat lower than the actual percentage of cases received, for the reason that under the operation of the State Care Law the State Commission in Lunacy has from time to time transferred large numbers of patients from one hospital to another and these transfers have materially swelled the apparent number of admissions as shown by the reports of the Commission, whereas the number of cases of paretics has not been similarly affected by these transfers.

The following table shows the total annual admissions, the number of paretics received and their percentage in the State hospital system of New York State during the past thirteen years:

Year.	Admissions.	Paretics.	Percentage.
1889 .....	1813	98	5.4
1890 .....	1942	66	3.4
1891 .....	2868	80	2.7
1892 .....	2627	114	4.3
1893 .....	2704	132	4.8
1894 .....	4003	152	3.7
1895 .....	3003	161	5.3
1896 .....	5615	399	7.1
1897 .....	4649	423	9.0
1898 .....	5542	448	8.0
1899 .....	5243	414	7.8
1900 .....	4862	396	8.0
1901 .....	4916	424	8.6
	49787	3307	6.6

In the *Journal of Mental Science* for July, 1900, Dr. Arthur E. Patterson, senior assistant medical officer of the City of

London Asylum at Dartford, analyzes 1,000 admissions, of whom 620 were men. Of the latter 76 or 12 per cent were general paretics, whereas of the 380 women 8, or not quite 3 per cent, were cases of general paralysis. The proportion of men to women suffering from this disease was 6 to 1. Of the men 43 were married, 30 were single, 1 was a widower, and in 2 instances the condition as to marriage was unknown. Of the women 4 were married, 3 were widowed and 1 was single. It would thus appear that the disease is met with more frequently in the married than in the single.

Only 2 of the men were under 30 years of age, 34 were between 30 and 40, and 30 were between 40 and 50,—whilst 10 were between 50 and 60. These figures show that no less than 64 out of the total 76 men were between the ages of 30 and 50, whereas all of the women were between 30 and 40.

A recent report of the medical superintendent of the Cane Hill Asylum in the county of London shows that of 402 patients admitted during 12 months 42 suffered from paresis, 38 of whom were men while 4 were women. Paretics, therefore, formed 10.4 per cent of the admissions, the proportion of women to men being 1 to 9.

At the Claybury Asylum in the same county for a similar period there were admitted 820 cases of insanity. Of these 87 were paretics, 71 being men and 16 women. Paretics, therefore, formed 10 per cent of the total admissions, and the proportion of women to men was 1 to 4.5. Of the men received 18 per cent were cases of paresis.

At Hanwell Asylum the year's admissions numbered 534. Of the men 19 per cent were paretics and of the women 5 per cent.

#### OCCUPATION.

Of 1300 cases of paresis recorded at the Manhattan State Hospital, East, only 8 were actors while 7 were lawyers and 5 were physicians—the clergy not being represented. It would appear that while no particular profession, trade, business or occupation especially predisposes the individual to an attack of general paresis, every walk of life is represented. Among the cases under consideration were 109 ordinary laborers, 59 clerks, 45 tailors, 37 drivers, 35 bartenders, 32 painters, 32 cigarmakers, 31 car-

penters, 29 salesmen, 28 shoemakers, 26 waitresses, 23 merchants, 20 machinists, 16 printers, 16 butchers, 17 bakers, 16 barbers, 16 engineers, 15 peddlers, 14 cooks, 13 musicians, 13 porters, 12 blacksmiths, and so on down through more than 200 different occupations.

Among 672 paretics at the Hudson River State Hospital were 10 civil engineers, 6 lawyers, 4 military or naval officers, 3 physicians, and 2 authors.

Out of 208 at the St. Lawrence State Hospital there were 2 physicians, 35 laborers, 14 farmers, 6 commercial travelers, 11 railway employees and 20 housewives.

Among 120 cases at the Rochester State Hospital were 3 lawyers, 6 shoemakers, 5 merchants, 5 farmers, 8 laborers, 6 painters.

In 239 cases at the Buffalo State Hospital there were 4 physicians, 3 lawyers, 2 clergymen, 1 editor, 2 actors, 2 artists and 2 musicians.

At Flatbush among 250 cases there were 6 druggists, 3 musicians, 1 physician, 1 veterinary surgeon, 1 artist and 1 dentist.

At the Bloomingdale Asylum, among 180 men admitted, there were 9 lawyers, 5 physicians, 4 actors, 4 theatrical managers, 2 musicians, 1 teacher, 28 merchants, 27 clerks, 8 manufacturers, 8 brokers, 6 saloonkeepers, 4 police officers and 2 civil engineers.

In all of the institutions except Bloomingdale the laboring classes are largely represented.

#### DURATION.

To Dr. Louis C. Pettit, second assistant physician at the Manhattan State Hospital, East, I am indebted for valuable data regarding the duration of the disease collected by him from the wards and records of that institution. Thirteen hundred patients observed lived after admission an average period of eleven months each, the disease showing an average duration prior to admission of fifteen and three-fourths months. The total average duration of these cases was, therefore, a little more than two years. Thirty-two nations and over 250 occupations were represented in this death roll from general paresis. Of these paretics there were 484 of American birth, 335 Germans, 244 Irish, 71 English, 31 French, while the remaining 135 were

about evenly distributed through 20 other nationalities, among them being two Chinamen. These figures show a remarkable preponderance of native Americans suffering from general paresis in an institution where more than two-thirds of the inmates were of foreign birth and over 80 per cent of foreign parentage.

Dr. Pettit gives an interesting table which tends to show that general paresis rarely occurs before the twentieth year or after the age of sixty. In the 1300 cases tabulated death occurred as follows:

Age at death.	Cases.
20 to 25 years .....	4
25 to 30 " .....	72
30 to 35 " .....	173
35 to 40 " .....	250
40 to 45 " .....	272
45 to 50 " .....	212
50 to 55 " .....	152
55 to 60 " .....	89
60 to 65 " .....	53
65 to 70 " .....	20
70 to 75 " .....	2
75 to 80 " .....	1
	<hr/> 1,300

Dr. Asher of the Dalldorf Asylum, Berlin, reports in the *Allgemeine Zeitschrift für Psychiatrie*, Vol. XLVI, No. 1, that of 643 cases of general paresis in men treated in that institution two-thirds were between the ages of 35 and 50. The average duration of life after admission was 14½ months and only 16.8 per cent lived two years after admission.

In 305 cases in which the date at which the symptoms first attracted attention was ascertained, the average duration was 26 months. The progress of the disease seemed to be more rapid in the younger subjects. Between the ages of 20 and 35 the average duration of institution life was 13½ months; between 35 and 50, 14½ months, and between 50 and 70, 15 months.

Dr. Asher found a definite hereditary predisposition in 33 per cent, and syphilitic infection in 35 per cent. Alcoholic in-

temperance was alleged in 37.6 per cent and injury to the head in 9 per cent of the cases.

The AMERICAN JOURNAL OF INSANITY for January, 1896, contains a report showing that of 200 male cases of paresis in Krafft-Ebing's clinic in Vienna, 56 per cent were certainly syphilitic, 25 per cent probably so, while in 19 per cent the data were insufficient to warrant a conclusion of probable syphilis.

In all the records of paresis studied in preparing this paper I have found but a single instance of alleged recovery from the disease.

From this brief survey of the statistics of general paresis it would appear that it forms about 8.75 per cent of all cases of insanity; that it occurs most frequently between the ages of 30 and 50; that it is gradually increasing in frequency at the present time; that men are about 7 times as liable to the disease as women; that it is invariably fatal in its termination and usually so in less than two and a half years. Furthermore, that it is nearly twice as frequent in large cities as in the country and that heredity, syphilitic infection, and alcoholic indulgence are important factors in its production. That neither the members of the learned profession, teachers, students, musicians, nor actors, appear to be especially susceptible, nor does intellectual work or any other special kind of occupation seem to predispose the individual to paresis, but that general cerebral strain with more or less hereditary influence is found to have existed in the majority of cases. Overwork, sexual excesses, alcoholism, irregular habits of sleeping and eating and such accidents as sunstroke and cerebral traumatism appear to be the great factors in the production of this disease.