

### Original Articles.

#### REVIEW OF A YEARS' MEDICO-LEGAL WORK IN THE CALCUTTA MORGUE, 1912 (INCLUDING COMPARATIVE FIGURES FOR THE TRIENNium 1910-1912).

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DURING the year 1912, 252 cases were sent up by the police for *post-mortem* examination as cases in which death appeared to occur under more or less suspicious circumstances.

1910.	1911.	1912.
283	356	252

(The average number per annum for the three years = 297 cases.)

TABLE I.

Distribution of the cases according to months and quarters of the year :—

	1910.	1911.	1912.				
January ... 23	61	24	71	25 } 67 = 1st			
February ... 13					23	20	quarter.
March ... 25					24	22	
April ... 28	70	29	165	22 } 66 = 2nd			
May ... 24					39	22	quarter.
June ... 18					37	22	
July ... 19	63	33	92	19 } 60 = 3rd			
August ... 24					29	19	quarter.
September ... 20					30	22	
October ... 18	89	29	88	22 } 59 = 4th			
November ... 27					33	20	quarter.
December ... 44					26	17	
	283	283	356	356	252	252	

TABLE II.

Number of cases according to sex :—

	1910.	1911.	1912.
Males ...	185	272	167
Females ...	98	84	85
	283	356	252

The proportion of male to female cases was 1.88 in 1910, 3.23 in 1911, and 1.96 in 1912.

TABLE III.

Number of cases according to race :—

	1910.	1911.	1912.
Hindu ...	196	236	180
Mahomedan ...	45	62	35
European ...	13	15	15
Eurasian ...	7	17	9
Chinese ...	2	2	2
Japanese ...	1	1	0
Indian Christian ...	1	6	0
Doubtful or unknown ...	18	17	11
	283	356	252

TABLE IV.

Number of cases according to age-periods :—

	1910.	1911.	1912.
At or about the time of birth ...	15	14	10
Up to and including 1 year of age .	3	6	0
Above 1 and up to and including 5 years	7	11	8
" 5 "	10	8	5
" 10 "	15	9	10
" 15 "	20	29	23
" 20 "	25	41	45
" 25 "	30	34	28
" 30 "	35	31	33
" 35 "	40	27	16
" 40 "	45	15	16
" 45 "	50	27	17
" 50 "	55	7	10
" 55 "	60	12	14
" 60 "	65	6	4
" 65 "	70	5	5
" 70 "	75	0	3
" 75 "	80	1	2
" 80 "	85	0	2
" 85 "	90	0	0
" 90 "	95	0	0
" 95 "	100	0	1
Of unknown age ( <i>i.e.</i> ) where the age could not be made out owing to decomposition or other cause	6	0	0
	283	356	252

The above table speaks for itself. The similarity between the figures in the columns for the three years is remarkable. A single glance at these shows it is especially between 15 and 50 years of age, that is roughly during the active period of adult life, that deaths of a violent nature are most liable to occur.

TABLE V.

Number of inquests held :—

	1910.	1911.	1912.
The City Coroner held an inquest in ...	239	250	176 cases.
No inquest was found necessary in ...	44	106	76 "
	283	356	252 "

TABLE VI.

The viscera preserved at the time of *post-mortem* examination were disposed of as follows :—

	1910.	1911.	1912.
Sent to the Chemical Examiner to Government for analysis ...	175	133	93
Destroyed after disposal of the case, under instructions from the Commissioner of Police ...	108	223	159
	283	356	252

TABLE VII.

Result of the Chemical Examiner's analysis in the cases examined by him :—

	1910.	1911.	1912.
Poisons found (including cases in which alcohol only as differing from other poisons found) in ...	83	73	55
No poisons found in ...	92	60	38
	175	133	93

TABLE VIII.

Analysis of the cases of poison found by the Chemical Examiner:—

	1910.	1911.	1912.
Opium found in ...	47	40	31
Opium and alcohol ...	2	2	1
Opium and asafœtida ...	1	0	0
Opium and white arsenic ...	0	0	1
Opium and yellow arsenic ...	1	0	0
Opium and atropine ...	0	0	2
Alcohol only ...	12	10	4
Morphine ...	5	0	4
Morphine and alcohol ...	2	1	0
White arsenic ...	2	4*	3*
Arsenic and strychnine ...	1	0	0
Yellow arsenic ...	2	2	0
Atropine ...	0	0	2
Aconite ...	0	2	0
Strychnine ...	1	1	2
Strychnine and aconite ...	1	0	0
Cocaine ...	1	0	3
Cocaine and alcohol ...	0	1	0
Carbolic acid ...	2	3	0
Hydrocyanic (or prussic) acid ...	0	2	0
Cyanides (generally KCN) ...	2	3	1
Sulphuric acid ...	0	1	0
Yellow oleander ...	1	0	0
Red sulphide of mercury ("China Sindur" or Vermilion) ...	0	1	0
Phosphorus ...	0	0	1
	83	73	55

I have already called attention in my reports for previous years to the extraordinary preponderance of opium cases over all other cases of poisoning taken together. This drug alone accounts for the following percentage of all cases in which poison was detected, not including those in which opium was discovered in combination with other poisons—

1910	1911	1912
56.6	54.7	56.3

How far this substance has been employed in a suicidal manner will be brought out under the heading of Table XII, and very little comment will need to be added to the figures given there to emphasize the urgent necessity there is for placing a restriction on the sale of the drug and for the introduction of adequate measures to deal with the subject.

As regards the singular case of poisoning with the red sulphide of mercury ("cinnabar") of which one case occurred in 1911, I would refer the reader to my report for that year (*vide* the *Indian Medical Gazette*, No. 6, June, 1911). It is likely that the occurrence will not be repeated for years, and in this, as well as in the *post-mortem* appearances which presented themselves, lies the great interest of the case.

The reference made in the issue of the journal above cited, to the subject of cyanide poisoning is also perhaps not without interest. A single

case was recorded in 1912, also of a suicidal nature. The subject was a student in the department of science and the poison (KCN) was obtained from the laboratory of a large college to which he had access as a student.

The instance of phosphorus poisoning, which I was able to record in 1912, was the first of its kind that occurred during the triennium. The *post-mortem* appearances were characterised by an extreme fatty degeneration of the tissues of the body, such as that described in text-books on toxicology. No phosphorescence was noticed, however, and the odour of the stomach contents did not suggest the presence of the substance detected.

With reference to the subject of poisoning generally and the sending of viscera, etc., for chemical analysis, I have observed that, in a variety of cases of poisoning, more especially in cases where opium was used, it frequently happened that the poison was detected in the urine when it escaped detection, or was not to be found in the viscera and stomach-contents. In connection with this matter the practical point to which I wish to draw attention is that in all cases of suspected poisoning, the urine as taken from the bladder should be sent for analysis in a separate bottle along with the viscera and stomach-contents. Many a case of poisoning will pass by undetected if this is not done, and I therefore invariably make a practice of despatching the urine wherever this is available. All surgeons holding *post-mortem* examinations should I think be reminded of the desirability of doing likewise whenever they have a reasonable suspicion of poison being the cause of death.

TABLE IX.

The total number of cases sent up for *post-mortem* examination, classified according to nature of death:—

	1910.	1911.	1912.
I. Natural causes—			
Cases where no inquest was held ...	38	102	72
Cases in which an inquest was held ...	53	43	22
	91	145	94
II. Violent deaths (including deaths by poisoning) ...	192	211	158
	283	356	252

The percentage of deaths from natural causes to all cases in which a *post-mortem* examination was held, was as follows:—

1910	1911	1912
32.1	4.07	37.3

In other words, one-third to two-fifths of the cases that were brought up for *post-mortem*

\* *N.B.*—The figures for white arsenic for 1911 and 1912 include each two cases in which "rough on rats" was used.

examination and inquest, have, during the last three years, turned out to be cases of death from natural causes.

TABLE X.

The violent deaths classified :—

	1910.	1911.	1912.
1. Deaths by accident or misadventure ...	74	90	65
2. Suicidal cases ...	67	78	57
3. Homicidal cases ...	15	14	23
4. Doubtful (on the evidence adduced) ...	24	25	11
5. Due to rash and negligent acts (generally without criminal intent) ...	7	4	2
6. Due to violence sustained during riots ...	5	0	0
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	192	211	158

The point in this table which at once attracts attention is the decrease in the actual number of suicidal (violent) deaths along with a marked increase in the homicidal cases.

The percentages to total number of violent deaths are as follows :—

	1910.	1911.	1912.
Of suicidal cases ...	34.8	36.9	36.0
Of homicidal cases ...	7.8	6.6	14.5

The figures pertaining to homicide for 1912 are in keeping with the general increase in crime during that year. It is not the province of this report to discuss the reasons for such increase in crime, but it will be of interest to consider under a later heading the manner in which the deaths occurred which came under notice in the morgue as the result of acts of homicidal violence.

Analysis of the deaths due to natural causes—

In general, the deaths found to be due to natural causes during 1912, were the result of diseased conditions which were very similar to those enumerated for the previous two years. They need hardly be recounted here, and for the list of natural causes which were at work I would refer the reader to the reports for 1910 and 1911.

Coull Mackenzie in his experience of nine years' work mentions two cases of spontaneous rupture of the spleen, and Gibbons leaves a record of three cases in seven years and nine months. One such case came to my notice in July 1912. The case was that of a Hindu male, Chandra Bhusan Bose, aged 24 years, with a spleen that weighed 27 ounces, the only instance of spontaneous rupture of the organ met with in the three years 1910 to 1912.

Another case of interest under the heading "Natural causes" was that of the cerebral apo-

plexy in a young Mahomedan male, aged 12 years, name unknown, which occurred also in July 1912. The boy was to all external appearances quite healthy, and there was an entire absence of all history of violence, but the cause of death was discovered to be a cerebral apoplexy, surely a rare condition in a boy of such tender years. Eustace Smith, in his book on "Disease in Children" in the chapter on cerebral hæmorrhage, says "Rupture of vessels and effusion of blood is in the child a comparatively rare accident."

Still another case of interest was that of a Hindu male, by name Kanai Raut, aged 48 years, who died of cerebellar apoplexy, the only case of its kind met with in the last three years. Each hemisphere of the cerebellum was ploughed up by a blood clot which is the case of the right hemisphere was about the size of a small orange.

TABLE XI.

Analysis of the accidental violent deaths—

These may be arranged in the following manner according to the cause of death :—

	1910.	1911.	1912.
1. Poisons—			
(1) Opium ...	6	4	2
(2) C. O. ...	2	2	0
(3) Aconite ...	0	2	0
(4) White arsenic ...	1	0	2
(5) Yellow arsenic ...	1	1	0
(6) Carbolic acid ...	1	0	1
(7) Sulphuric acid ...	0	1	0
(8) Phosphorus ...	0	0	1
(9) Strychnine ...	1	0	0
	<hr/>	<hr/>	<hr/>
	12	10	6
2. Motor car accidents ...	11	5	9
3. Falls from a height ...	9	19	10
4. Tramway accidents ...	8	6	4
5. Burns ...	8	7	7
6. Drowning ...	6	6	5
7. Carriage accidents ...	5	14	6
8. Railway accidents ...	4	6	5
9. Falls or other forms of accidental violence occurring on boardship...	3	3	3
10. Fall on a person of a weighty object from a height ...	1	6	4
11. Carriage and tramcar collisions ...	1	0	0
12. Bullock-cart accidents ...	1	1	2
13. Bicycle accidents ...	1	0	0
14. Suffocation ...	1	0	0
15. Exposure after over-indulgence in alcohol ...	1	0	0
16. Accidental wounds followed by septicæmia ...	1	2	1
17. Accidental wounds followed by tetanus ...	1	1	0
18. Snake-bites ...	0	1	0
19. Goring by a bull ...	0	1	0
20. Gunshot accidents ...	0	1	0
21. Explosion of firework ...	0	1	1
22. Machinery accidents ...	0	0	2
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	74	90	65

TABLE XII.

Analysis of the suicidal violent deaths—

	1910	1911.	1912
1. Poisons—			
(1) Opium ...	34 (50.7% of all suicides.)	33 (42.8% of all suicides.)	23 (40.3% of all suicides.)
(2) Opium and alcohol ...	0	0	1
(3) Opium and white arsenic ...	0	0	1
(4) Opium and yellow arsenic ...	1	0	0
(5) Opium and atropine ...	0	0	2
(6) Morphine ...	2	1	3
(7) White arsenic ...	1	3	1
(8) Yellow arsenic ...	1	1	0
(9) Strychnine ...	0	1	2
(10) Cocaine ...	0	0	2
(11) Cyanides ...	2	4	1
(12) Carbolic acid... ..	1	4	0
(13) Alcohol ...	1	0	0
	43 (64.1% of all suicides.)	47 (60.2% of all suicides.)	36 (63.1% of all suicides.)
2. Hanging ...	19 (28.3% of all suicides.)	19 (24.3% of all suicides.)	13 (22.8% of all suicides.)
3. Drowning ...	1	1	1
4. Gunshot ...	1	4	3
5. Cut-throat ...	1	1	3
6. Falls from a height ...	1	2	0
7. Burns ...	1	1	0
8. Stabbing ...	0	1	0
9. Strangulation ...	0	1	0
10. Falls on a railway line ...	0	1	1
	67	78	57

The percentage of suicidal deaths to the total number of violent deaths is as follows:—

1910.	1911.	1912.
34.8	36.9	36.0

No explanation suggests itself regarding the decrease in the number of suicides generally in Calcutta during 1912. Poisons taken as a whole remain of course the favourite means of effecting the crime, and although the total number of suicides by poisoning in 1912 is 11 less than in the preceding year, yet the percentage figures for poisons to total suicides in 1912 is higher by 2.9. In other words, although there were less suicides altogether in 1912 than in 1911 by 11, yet the proportion of suicidal cases due to the use of poisons was higher in 1912 than in 1911 by 2.9 per cent. Moreover, it would appear that opium has established itself in the first place as a means of self-destruction, a place from which nothing seems able to remove it. The percentage figures for opium suicides to total suicides for the years of the triennium are as follows:—

1910.	1911.	1912.
50.7	42.3	40.3

that is to say, nearly half the number of suicides in Calcutta may be attributed to the use, or

rather the abuse of opium. Hanging maintains the second place as before and accounts for the following percentage of suicides in relation to the total numbers:—

1910.	1911.	1912.
28.3	24.3	22.4

The other items taken together constitute an inconsiderable set of factors in the suicide table, gunshot and cut-throat cases being the only ones that are worthy of note.

With reference to opium I can find nothing to add to the remarks I have already made in my reports on the work of previous years, but if repetition means emphasis, I repeat, and that emphatically, that every thing possible should be done to place such a convenient and apparently popular means of self-destruction out of reach of the class among whom such a crime as suicide is of most frequent occurrence. Theoretically, if the figures given above are a real index of the state of affairs as exist, do away with opium as a readily available means and the number of suicides will be halved. In practice this would perhaps not work out so, but if the suicides are reduced at all materially as the result of such a measure, the measure would be amply justified.

While I continue to lay such stress on opium on account of the large numbers it contributes to the suicidal deaths as met with in the morgue. I do not mean to say that it is the only poisonous substance which is too easily procurable, or on the sale of which a restriction should be placed. As a matter of fact no poison should be so easily procurable by the ordinary person who might want it for unlawful purposes, and how many poisonous substances are there not which are sold in the "pashari's" shop and in the bazaar generally without restriction or license. The question then resolves itself into the framing of a regular "Sale of Poisonous Act," whereby the State would do all that lies in its power to restrict the procuring of poisonous substances and to diminish the incidence of crime at any rate by such means.

Cocaine is an instance of a poisonous alkaloid which, though it has contributed to only a few cases of death by suicide, is by no means unlikely to become a dangerous article for the purpose in the hands of the many. That it is already accounting very appreciably for an increase in the incidence of crime generally, no one can doubt who has paid any heed to the subject. It is equally the case that the use of the drug leads to a marked degree of physical deterioration along with a demoralisation which is the precursor of crime. No restriction, therefore, which can be laid on the universal procurability of cocaine, is to be considered as too stringent or will not be amply repaid by a marked benefit on society at large in all its aspects, physical, mental and moral.

One of the saddest aspects from which this subject of suicide as it comes, under my notice is to be viewed, is from that of the motives generally ascribed for the committing of the crime. I noticed in my report for a previous year how in a large number of instances the most trivial causes accounted for the offence, and how the crime appeared to be intimately associated with a hypersensitive, neurotic element in the composition of the character of the race to which most of the suicides belonged. This is a matter in which the administration cannot possibly help the people nearly as much as the people can help themselves. Healthy physical exercise and intellectual pursuits for both sexes, a liberal education for the young female of the country and her early emancipation and in the case of the sisterhood of the *demi-monde* a raising of their social and moral status, are a few of the measures that would contribute to making a "mens sana in corpore sano" and life more worth living with its numerous possibilities for doing good.

TABLE XIII.

I. Opium suicides—

(a) According to sex—

Males	20	22	12
Females...	15	11	11
	{ Prostitutes 6 Others 9 }	{ Prostitutes 1 Others 10 }	{ Prostitutes 3 Others 8 }
	35	33	23

(b) According to age-periods—

From	1910.		1911.		1912	
	Males	Females.	Males.	Females.	Males.	Females.
10—15 years of age	4	6	0	1	0	1
" 15—20 "	...	...	9	3	1	2
" 20—25 "	...	...	6	2	5	2
" 25—30 "	...	...	4	2	2	3
" 30—35 "	...	...	1	1	3	0
" 35—40 "	...	...	1	0	1	1
" 40—45 "	...	...	1	1	0	1
" 45—50 "	...	...	0	1	0	0
" 50—55 "	...	...	0	0	0	1
" 55—60 "	...	...	0	0	0	0
	20+15		22+11		12+11	
	35		33		23	

II. Suicides by hanging—

(a) According to sex—

	1910.	1911.	1912
Males	10	10	9
Females	9	9	4
	{ Prostitutes 3 Others 6 }	{ Prostitutes 1 Others 8 }	{ Prostitutes 1 Others 3 }
	19	19	13

(b) According to age-periods—

From	1910.		1911.		1912.	
	Males.	Females.	Males	Females.	Males.	Females.
5—10 years of age	0	0	0	1	0	0
" 10—15 "	...	...	1	2	1	1
" 15—20 "	...	...	1	2	0	1
" 20—25 "	...	...	4	3	4	1
" 25—30 "	...	...	0	0	1	0
" 30—35 "	...	...	2	0	1	0
" 35—40 "	...	...	0	0	0	1
" 40—45 "	...	...	0	0	1	0
" 45—50 "	...	...	1	1	0	0
" 50—55 "	...	...	0	0	0	0
" 55—60 "	...	...	0	0	1	0
" 80—85 "	...	...	0	1	0	0
	10+9		10+9		9+4	
	19		19		13	

The above tables make it manifest that suicides effected by the two most favourite means are invariably more common among males than among females and that by far the majority of cases occur amongst those in the period of active adult life.

TABLE XIV.

The cases of suicidal violent deaths classified according to race—

	1910.	1911.	1912.
Hindu	61	66	46
Mahomedan	2	5	2
European	2 { Gunshot 1 Fall 1 }	3 { Gunshot 1 K. C. N. 1 }	5 { Opium 2 Gunshot 2 Strychnine 1 }
Eurasian	1	3 { Gunshot 2 Opium 1 }	3 { Opium 1 Hanging 1 Gunshot 1 }
Jew	1	0	0
Japanese	0	1 Stabbing	0
Chinese	0	0	1 Hanging
	67	78	57

There is, of course, no comparison between the number of Hindu suicides and that of all other races taken together, so far as the absolute figures are concerned. It would, however, be of considerable interest to compare the figures calculated in proportion to the population of each of the above races in Calcutta.

TABLE XV.

Analysis of the homicidal violent deaths according to mode of occurrence—

	1910.	1911.	1912.
1. Stabbing	4	7	8
2. Kicks, blows, etc.	3	4	2
3. Strangulation	3	1	1
4. Throttling	2	1	0
5. "Lathi" blows	2	0	2
6. Gunshot	1	1	5
7. Cut-throat	0	0	2
8. Suffocation	0	0	1
9. Decapitation	0	0	1
10. Unknown	0	0	1
	15	14	23



IV. Abnormalities—

(a) In the way of disease, etc. :—

	Liver.			Spleen.			Kidneys.			Ovaries.			Uterus.			Brain.				
	1910.	1911.	1912.	1910.	1911.	1912.	1910.	1911.	1912.	1910.	1911.	1912.	1910.	1911.	1912.	1910.	1911.	1912.		
Abscess	...	...	...	1	0	0	1	0	0	1	1	0	...	...	...	...	...	...		
Stone	...	...	...	4	7	1	...	...	...	1	1	2	...	...	...	...	...	...		
Cirrhosis	...	...	...	10	45	38	...	...	...	3	4	5	...	...	...	...	...	...		
Waxy degeneration	...	...	...	1	2	0	...	...	...	...	...	...	...	...	...	...	...	...		
Fatty degeneration	...	...	...	2	3	3	...	...	...	0	0	1	...	...	...	...	...	...		
Infarct	...	...	...	...	...	...	1	2	0	...	...	...	...	...	...	...	...	...		
Cyst	...	...	...	1	1	0	0	0	1	0	3	2	4	12	7	...	...	...		
Granular kidney	...	...	...	...	...	...	...	...	...	3	2	2	...	...	...	...	...	...		
Tumour	...	...	...	...	...	...	0	0	1	...	...	...	0	0	1	0	3	4		
																		1	0	0

(b) In regard to weight—

The adult liver of least weight was—

1910	1911	1912
22 oz.	22 oz.	15½ oz.

The adult liver of greatest weight was—

1910	1911	1912
91 oz.	115 oz.	107 oz.

The adult spleen of least weight was—

1910	1911	1912
2 oz.	1 oz.	1 oz.

The adult spleen of greatest weight was—

1910	1911	1912
23½ oz.	48 oz.	42½ oz.

The liver in one case was found to consist of a single lobe, namely, the right lobe only. So far as the spleen is concerned, although the average weight of this organ in a mixed series of cases almost constantly works out to something like 7 oz., yet I hardly think this figure is to be regarded as representing the average weight of the healthy adult spleen in the Indian. For, in several mixed series I have noticed that the average is run up by a few cases in which the spleen is markedly enlarged, by which I mean that if these cases of manifestly morbid enlargement are not taken into account the average figure for the weight of the spleen in the healthy adult Indian would be below the 7 oz.

With reference to the question of cholelithiasis to which I drew attention in my previous reports, I regret that no explanation has as yet been suggested by any one for the much less frequent occurrence of the condition in Bengal at any rate, as compared with Europe and America.

During 1912 only one case of this condition was discovered in 252 bodies examined *post-mortem* and this happened to be the case of a European female, aged 51 years, who died of poisoning with opium self-administered. In connection with this subject of the immunity which the people of Bengal enjoy from gall-stones I again put the question, has it to do with climatic conditions, dietary, the non-use of alcohol or with a combination of these? May not any hint regarding this prove useful in the matter of prevention of the malady in others or even in treatment?

Even renal calculi are not very common, only 4 cases having occurred in the three years 1910 to 1912 during which period no less than 891 cases were examined. This gives a percentage of 0.44 only and still more marvellous to relate, in not a single instance was a calculus found in the bladder in 891 cases examined in the three years!

It is as instructive as it is interesting to consider awhile what I may term the medico-legal history of the first city in the East as studied in the morgue, and to make a few comparisons between what held in years gone by and what holds at the present day in connection with this subject. It is a thousand pities that until three years ago there has not been a system in vogue of keeping a record of each year's work done in the Calcutta morgue, for records of this kind extending over a long series of years would have been invaluable and would have afforded a mine of wealth in the study of such a subject. The only material available is contained in the writings left by Chevers, Coull Mackenzie and Gibbons,\* and their works may be taken as an index of the conditions that

[\* Also see Medico-Legal Records by Kenneth Macleod and by Surgn.-General R. Harvey.—Ed., I. M. G.]

prevailed at different periods in the earlier part of the history which it is desired here to recount. Mackenzie has left a record of observations that extended over a period of nine years, and his figures bring out many points of great interest just as his experimental and research work established many points of the greatest importance in state medicine. Thus, for instance, very little change has taken place since Mackenzie's day as to the relative proportion of, let us say, suicidal hangings to suicidal drownings. His figures show a proportion of about 14·4 of the former to 1 of the latter per annum, and nine for the past three years, a proportion of 17 to 1 per annum, the actual number of suicidal drownings remaining much the same, that is about one a year. If however accidental drownings are considered, then it is at once seen that in Mackenzie's time they averaged about 35 to 36 a year, whereas at the present day only about 5 to 6. Surely this is to be accounted for by the facilities for this form of accident having become less with the improvements that have taken place in Calcutta in the way of filling up wells, ponds, etc. In this manner a careful study of the figures of former days and a comparison with those of to-day, show at once that *pari passu* with the advances made in this city and the change of conditions in many respects, remarkable effects have been produced on what I have already termed the medico-legal history of the city as it may be studied in the morgue. Then, of course, there must be taken into account the very important factors of actual increase in the population of the city, the increase in the density of this population, and the usual concomitants of increase in poverty and distress. These and such like factors which spell progress to the city are surely to be held accountable for the fact that while in Mackenzie's time, which after all was not so very long ago, the total number of violent deaths from all causes averaged 62 or so a year, they work out during the last triennium to no less than 187 per annum, an increase of 300 per cent.

Similarly Gibbons's writings afford many figures from which may be deduced facts of the greatest interest. Thus, during eight years ending May 1901, covered by his observations, the number of poisoning cases by means of opium alone averaged to about 33 a year, and in the three years ending December 1912 the cases of the same kind came up to about 39 per annum, showing that opium was, as it still remains, an exceedingly dangerous substance to be within the reach of the careless or of those who are inclined to homicide or more especially to suicide, and that the casualties due to its use are even greater to-day than they were a decade ago.

Arsenic poisoning, on the other hand, has not increased, for during the period 1893 to 1901,

cases of this averaged to 6·1 per annum, whereas during the three years 1910-12 the figures came to 5·3 a year. This may be and probably is to some extent due to the Poisons Act I of 1904, which is intended to provide for the regulation of the possession and sale of all poisons in certain local areas, and the importation, possession and sale of white arsenic generally throughout the whole of British India. By further notifications made in exercise of the power conferred by a certain section (2) of the above Act, the local Government in Bengal in 1908 defined the term "poisons" as used in the Act to mean, acornite, nux vomica, perchloride of mercury, cyanide of potassium and dhatura stramonium, and in 1909 they further included under the term "arsenic" several of the better known arsenical compounds, such as orpiment, realgar, Scheele's green, Schweinfurth's green, etc.

There is no mention in Gibbons's writings of a single case of cocaine poisoning\* having occurred up to the year 1901. The first fatal case was recorded by me in 1910. Another occurred in 1911 (cocaine and alcohol) and subsequently three others in 1912, all of which are in my records. I would like to draw attention at this point to an excellent little article on "Cocaine poisoning" by Dr. Chunilal Bose (*vide* the *B. M. J.*, Jan. 4, 1913). In this article the writer brings out not only that fatal cases of cocaine poisoning are of the most recent occurrence, but also the fact that cocainomania so graphically described as to its symptoms and effects, by Taylor, Brundage, Barkeley and others, is taking a hold of the people of this city in a most terrible manner and as I have suggested before, perhaps being to a large extent accountable for the increase in crime in Calcutta generally. If civilization and progress are responsible for a poison of such a nature falling into the hands of the people, when they intended it to be only a very useful and beneficial medicine in the hands of the physician and surgeon, then the same civilization should by efficient legislation make itself equally responsible for restraining its use as the former and ensuring its employment as the latter only.

There is one other set of poisons which I wish to notice with reference to this part of my subject, and that is prussic acid and the cyanides. Norman Chevers in his work on medical jurisprudence says that up to 1856 no case of prussic acid poisoning had been reported in India. Since then several cases have occurred, and Chevers mentions four as having been recorded within two years as the result of prussic acid, and three others due to the use of potassium cyanide.

\* Cocaine eating commenced in Bengal about 1900. It was for sale in bazars by *pan* sellers in that year in Bhagalpore and a year later the present Editor, *I. M. G.*, wrote a paper on its prevalence amongst juvenile offenders in Calcutta before the Asiatic Society of Bengal.—Ed., *I. M. G.*