### APPENDIX.

**A.—Page 107.**

LIST OF POISONS PROCURABLE IN INDIAN BAZARS.

Compiled from the Works of O'Shaughnessy, Royle, Fleming, Piddington, Honigberger, Burton Brown, Waring, Kanny Lall Dey, &c., and from the Chemical Examiners' Reports.

<table>
<thead>
<tr>
<th>VERNACULAR NAMES</th>
<th>BOTANICAL OR ENGLISH NAMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afarbiyun, Farfiyun</td>
<td>Actea Acuminata.</td>
</tr>
<tr>
<td>Afecm (Duk.), Ufyoon (Arab.), Sheeri-kush-kush (Pers.), Apaynum (Saus.)</td>
<td>Euphorbia Officinarum.</td>
</tr>
<tr>
<td>Ajwain, Khorasani or Baj</td>
<td>Concrete juice of the Papaver Somniferum.</td>
</tr>
<tr>
<td>Akundar Attah</td>
<td>Hyoscyamus Niger.</td>
</tr>
<tr>
<td>Arrub-al-Salib</td>
<td>Juice of the Calotropis Hamiltonii.</td>
</tr>
<tr>
<td>Bag-Barende (Beng.), Napatain (Tel.)</td>
<td>Solanum Nigrum.</td>
</tr>
<tr>
<td>Beheyra</td>
<td>Jatropha Curcas.</td>
</tr>
<tr>
<td>Belaschora Toombee</td>
<td>Belleric Myrobalon.</td>
</tr>
<tr>
<td>Belawine or Bhela (Duk.), Belader (Arab.)</td>
<td>Lagenaria Vulgaris.</td>
</tr>
<tr>
<td>Bichatte</td>
<td>Semecarpus Anacardium.</td>
</tr>
<tr>
<td>Bijoyah, or Set Oprojreta</td>
<td>Tragia Involucrata.</td>
</tr>
<tr>
<td></td>
<td>Cannabis Indica.</td>
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<tr>
<td></td>
<td>* Bryonia Dioica.</td>
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<tr>
<td></td>
<td>Cerasus Laurocerasus.</td>
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<td></td>
<td>Clematis Gouriana.</td>
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<td></td>
<td>Aconitum Ferox.</td>
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<td></td>
<td>?</td>
</tr>
<tr>
<td>Bish</td>
<td>Saxus Baccata.</td>
</tr>
<tr>
<td>Bish Cuchoo</td>
<td>Rhododendron Arboreum.</td>
</tr>
<tr>
<td>Bernee Zumal</td>
<td>Thevetia Neriifolia.</td>
</tr>
<tr>
<td>Bouran</td>
<td>Ammannia Vescicatoria.</td>
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<tr>
<td>Cheena Kurrubæ</td>
<td>Aconitum Ferox.</td>
</tr>
<tr>
<td>Dadmree, Bunmurich (Beng.)</td>
<td>Garcinia Pictoria.</td>
</tr>
<tr>
<td>Dakra</td>
<td>Preparation of Arsenic?</td>
</tr>
<tr>
<td>Dampel (Beng. and Hind.)</td>
<td>Datura Fastuosa.</td>
</tr>
<tr>
<td>Darnooz</td>
<td>——— Alba.</td>
</tr>
<tr>
<td>Dhatoora (Kala)</td>
<td>——— Arum Orixense.</td>
</tr>
<tr>
<td>——— (Sada)</td>
<td></td>
</tr>
<tr>
<td>Ghet-kol, Ghet-kuchoo (Beng.)</td>
<td>Arum Orixense.</td>
</tr>
<tr>
<td>Vernacular Names</td>
<td>Botanical or English Names</td>
</tr>
<tr>
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</tr>
<tr>
<td>Gokatu or Kana-goraka (Cing.)</td>
<td>Hebradendron Cambogioides.</td>
</tr>
<tr>
<td>Goonch</td>
<td>Abrus Precatorius.</td>
</tr>
<tr>
<td>Gundhera</td>
<td>Daphne.</td>
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<tr>
<td>Gunduck-ke-tesah (atr)</td>
<td>Sulphuric Acid.</td>
</tr>
<tr>
<td>Gungla, Shulghum</td>
<td>Ranunculus Acris.</td>
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<tr>
<td>Gunjah</td>
<td>Cannabis Indica.</td>
</tr>
<tr>
<td>Hartal</td>
<td>Orpiment.</td>
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<tr>
<td>Heera kasis</td>
<td>Sulphate of Iron.</td>
</tr>
<tr>
<td>Hidgelee Badam (Hind. and Beng.)</td>
<td>Cashew.</td>
</tr>
<tr>
<td>Hoormaigatta</td>
<td>?</td>
</tr>
<tr>
<td>Hoorooa (Beng.)</td>
<td>Sapium Indicum.</td>
</tr>
<tr>
<td>Hulla Hull</td>
<td>?</td>
</tr>
<tr>
<td>Hurreeana or Hurinah</td>
<td>Root of the Aconite or of the Gloriosa Superba?</td>
</tr>
<tr>
<td>Huttseah</td>
<td></td>
</tr>
<tr>
<td>Indrain (Hind.), Vishala (Sans.), Hnuzil, Irsa. (Pers. and Arab.)</td>
<td>Cremumis Colocynthis.</td>
</tr>
<tr>
<td>Indrayan and Bisloombhee</td>
<td>------ Pseudo Colocynthis.</td>
</tr>
<tr>
<td>Indrain Puharee</td>
<td>Hardwickii.</td>
</tr>
<tr>
<td>Ishlonga</td>
<td>?</td>
</tr>
<tr>
<td>Jamalghota (Hind.), Jayapola (Sans.), Dund (Pers. Arab.)</td>
<td>Croton Tiglium.</td>
</tr>
<tr>
<td>Kadishen</td>
<td>Janipha Manihot, Tapioca Plant.</td>
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<tr>
<td>Kahoo (Hind.)</td>
<td>Claydia Collina.</td>
</tr>
<tr>
<td>Kakmari (Sans.), Kakmari-ke-Beenje (the seeds)</td>
<td>Lactuea Sativa.</td>
</tr>
<tr>
<td>Kalikootkie</td>
<td>Anamirta Coeculans (or Coeculus Indicus.)</td>
</tr>
<tr>
<td>Kanapa-tiga (Tel.) Kusar (Hind.)</td>
<td>Helleborus Niger (also Cobra Poison and Aconite Root.)</td>
</tr>
<tr>
<td>Kerula (Hind.)</td>
<td>Vitis Carnosa.</td>
</tr>
<tr>
<td>Kiwach</td>
<td>Cocculus Indicus (wild species.)</td>
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<tr>
<td>Kokibung</td>
<td>Mucuna Pruriens.</td>
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<tr>
<td>Koytasaper Bish</td>
<td>Hyoscyamus Insanus.</td>
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<tr>
<td>Kuchila-ke-Melung</td>
<td>A Snake Poison?</td>
</tr>
<tr>
<td>Knchila, &amp;c., &amp;c.</td>
<td>Viscum of the Nux Vomica.</td>
</tr>
<tr>
<td>Kunnar, Kanar</td>
<td>Strychnos Nux Vomica.</td>
</tr>
<tr>
<td>Kuphoor, Kusar (Hind.)</td>
<td>Nerium Odorum.</td>
</tr>
<tr>
<td>Kurreearee-ka-jer</td>
<td>Camphora Officinarum.</td>
</tr>
<tr>
<td>Kurrubee (Hind.)</td>
<td>Root of Gloriosa Superba.</td>
</tr>
<tr>
<td>Kurwr-Badam (Beng.)</td>
<td>Nerium Odorum.</td>
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<tr>
<td>Lal-Oshitra</td>
<td>Bitter Almond.</td>
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<tr>
<td>Lunka Sij (Beng.)</td>
<td>Plumbago Rosea.</td>
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<tr>
<td>Makal (Beng.)</td>
<td>Euphorbia Tirucalli.</td>
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<tr>
<td>Mansil</td>
<td>Trichosanthes Palmata.</td>
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<td></td>
<td>Realgar.</td>
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<td></td>
<td>Meconopsis Aculeata.</td>
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<td>Aconitum Ferox.</td>
</tr>
<tr>
<td></td>
<td>Aconitum Ferox?</td>
</tr>
<tr>
<td></td>
<td>Root of Aconitum, Ferox or Gloriosa Superba?</td>
</tr>
<tr>
<td></td>
<td>Litharge.</td>
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<tr>
<td>Moordar Sung</td>
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</tbody>
</table>
APPENDIX.

VERNACULAR NAMES.

Mudar
Munsaj
Nage Musada (Tel.)
Nimuk-ke-tesab
Nungunlecah or Nooangoooleah
Papita
Paharee Indrayun
Pulball, Potole
Raskapur
Sendur
Seorinjan (two varieties)
Shial-kanta (Beng.)
Shingurf
Shora-ke-tesab
Shwet Keeroi (Beng.)
Suffaid Shumbal
Suranjan Shirin
Soorujhal
Sunkhya Suffaid
——— Bilourie
——— Golabi
——— Kula
——— Pili
Sumbulkar
Tambaca
Telini
Toombbee
Tutiya, Neel-Tutiya
Ugooroo
Usgund, Caknaj (Hind)
Wallursi (Teling.), Walsura (Tamul.)
Zangar Pitrai

BOTANICAL OR ENGLISH NAMES.

... Calotropis Hamiltonii.
... Euphorbia Liganaria.
... Strychnos Colubrina.
... Hydrochloric Acid.
... Gloriosa Superba.
... Strychnos Ignatia.
... Cucumis Hardwickii.
... Trichosaesthesia Dioica.
... Calomel, with 10 per cent. of Corrosive Sublimate.
... Red Lead.
... Hermodactyl (Colchicum.)
... Argemone Mexicana.
... Vernillion.
... Nitric Acid.
... Euphorbia Thymifolia.
... White Arsenic.
... Colchicum Autumnale.
... Ranunculas Secleratus.
... Arsenious Acid, opaque.
... ———— Vitreous.
... ———— with Orpiment.
... ———— with Realgar.
... ———— with Orpiment.
... Arsenious Acid.
... Nicotiana Tabacum.
... Meloe, Milabras Cichorei (Blistering Fly.)
... Lagenaria Vulgaris.
... Sulphate of Copper.
... Excacaria Agallocha.
... Physalis Somnifera.
... Walsura Piscidia.
... Acetate of Copper.

It will be observed that the above List is evidently incomplete. It probably also contains some errors. Additions and corrections will be received, with many thanks, by the author.

A. 1.—Page 127.

Poisoning by Arsenuretted Hydrogen.

Dr. Monat has published, in No. VIII. of the Indian Annals of Medical Science for April 1867, p. 657, the case of Mr. Andrew Robertson, Professor of Chemistry in the Calcutta Medical College, atat fifty-seven. While exhibiting to his class the mode of applying Marsh's test to the detection of arsenic, and while the disengagement of Arsenuretted Hydrogen was rapid and abundant, a window was carelessly opened by a pupil; and, as it was directly in front of the Professor who lectured with his back to an open door, the want of air caused the gas to be carried directly to him;—he did not at first perceive it. He soon, however, became aware of it from the sense of burning and constriction in the throat, which compelled him immediately to close the lecture.
On the following morning, Dr. Mount found that he had been laboring for several hours under excessive irritability of stomach, with an intense acid burning sensation from the pharynx to the lower extremity of the alimentary canal. The vomited matters consisted, at first, of the food contained in the stomach, and then of bile and coffee-ground looking matter. The bowels had been obstinately constipated, and there had been severe pains in the loins, accompanied with the discharge of between three and four pints of bloody urine. This he had locked up for chemical examination after his recovery. He was afterwards quite satisfied that he discovered minute traces of arsenic. There was considerable fever, with a full, hard, frequent, and incompressible pulse; a dry, hot, unsweating skin; deep-seated pain in the lumbar region, intense restlessness, anxiety, and general uneasiness, with a pale, anxious countenance, and considerable vital prostration.

On the third day, there was still constipation, the bowels not having been moved since the accident. There was a good deal of tenderness in the left iliac fossa, with a sense of weight and dragging in the fundament. A dose of castor-oil with laudanum produced a tolerably copious clay-colored evacuation, with a tubular slough somewhat ragged in appearance, and about four inches in length; it was found to consist of a portion of the lining membrane of the rectum, with a large quantity of fibrinous exudation. On the seventh day, there were symptoms of hepatitis; and, eighteen hours later, he was jaundiced. On the twenty-second day, he was free from all distressing symptoms. He died about three years subsequently from uremic coma in an attack of remittent fever.

B.—Page 134.

CATTLE POISONING.

Letter by Capt. Hodayet Ally, to Col. J. Emerson, Cantonment Magistrate, Dinapore.

Sir,—I beg to acknowledge the receipt of a pamphlet regarding the diseases of cattle, and the medicines discovered by Dr. McLeod for them, which you kindly favored me with. As a cursory view of the treatise seemed to interest me, I carefully perused it, and am persuaded to believe that the diseases therein laid down, breaking out among cattle, carry off thousands of them, and the treatment specified would prove efficacious in arresting the progress of their baneful effects. I have therefore sent the work to the tehsildar in my zemindary, with injunctions to try the remedies recommended therein, in case of such maladies breaking out.

2nd.—Since the attention of Government has been attracted to the disease, which annually breaks out, and of a sudden destroys thousands of cattle, inasmuch as, in the first place, the husbandmen are the sufferers; and in the next, the decrease of those useful animals in every place enhances their price ten-fold. In this country the loss of cattle, the only beasts employed for tillage (and quite unlike in most parts of Europe, where horses are used for that purpose), in one year is severely felt; in the next, by causing decline of crops, and the poor, not getting a sufficiency of corn, experience great hardship; consequently I set myself diligently to trace out, to the best of my ability, the real cause, besides death by the visitation of God, to which these creatures fell victims, and am happy to find my researches have not proved altogether fruitless. From conversation held with those in the hide trade, and others familiar with the subject, I have succeeded in ascertaining the following facts, which I shall fully undertake to detail.

3rd.—Should a retrospective view of the hide trade, as far back as the year 1841, be taken, and enquiry made as to the number and description of people who were then
engaged in it, it will be found that they have increased ten-fold. Formerly the trade was confined to a few, *viz.*, Chamars and Butchers: the former dealt in hides obtained from cattle dying of natural death; and the latter of those slaughtered for consumption. Now-a-days many carry on this trade, who, having only one object in view,—*viz.*, the greater the receipt of hides, the more profitable the trade,—have established warehouses, both in towns and districts, especially in the latter, and have appointed gomashtahs in different villages, for collecting this commodity. A very limited number of dealers in this article engaged gomashtahs on fixed salaries, the greater number do so on the percentage system, giving them half the profits accruing from sales of hides procured through their agency, reserving the other to themselves. Such lucrative inducements, without any risk, being held out to the gomashtahs, they continually watch the opportunity of effecting large purchases of good hides by every means within their reach.

4th.—By "good hides" is meant such as are heavy, uninjured, and the hair not spoiled, because they meet with ready and profitable sale; whereas those of the dead animals have bad hair on them, and are less in weight, owing to the effects of the disease, and are consequently sold at a cheaper rate; hence all traders study to purchase good hides, and for that purpose advance large sums to the Chamars in the interior without security.

5th.—It appears that Chamars in the districts have peculiar modes of poisoning cattle; they contrive in some instances to poison the pasture where cattle are wont to graze, or mix it up with fodder when not taken out to graze; and the poor creatures taking their food so poisoned, either drop down instantaneously, or die in a day or two afterwards, but never survive its effects; their skins are ranked as "good hides," insasmuch as neither its weight diminishes, nor the hair gets spoiled. Impelled by the love of gain alone, they feel not the stings of conscience in carrying on this cruel and nefarious practice, to obtain good hides within a shorter space of time than that required for collecting slaughtered ones. These are facts well known, and reason suggests the same; for it is customary in Hindustan for Chamars to have the privilege of removing the carcases of cattle dying in towns, villages, and parishes, situated within the limits assigned to them; and by way of remuneration for their trouble in removing the carcases, they are allowed the enjoyment of the horns, hides, and fat of the dead cattle. This tempts them to bring about the death of more cattle than would die of themselves at the places within their respective jurisdictions.

6th.—During the rains and cold weather, cattle are poisoned in excess; and it is also said that the Chamars mix up poison with *suttoo* (pulverised parched gram used by the common people as food), and sprinkle the mixture on the pasture, or where grass is found in abundance, and the cattle feeding thereon die. It has also come to my knowledge that they have a kind of awl or needle tipped with poison, with which they wound the animal's tender part so as to draw blood, and the poison coming in contact with the blood pervades the whole system in circulation, and brings on the poor beast's death. This cruel method of killing, the Chamars have designated in their professional technicality *thokees* (by a poke), and that by poisoning grass or fodder, *beeroo* (medicines). The former mode is less in vogue than the latter, as it is more easily detected than the other. For instance, one of the fraternity asking another of the quantity and description of hides he has, is answered by the other in their own slang, such a quantity of slaughtered, and such of dead, as also so many *thokees* and so many *beeroo*—the two last-mentioned kinds are ranked as slaughtered ones. This mode is more extensively practised in the country than in towns.

7th.—Tradesmen advance large sums of money to Chamars in the country for the supply of hides, which practice, in my opinion, is objectionable; for to clear
the advance received, they are induced to compass the destruction of cattle in such large numbers. It is also said that, if the Chamars be not able to clear the advances received from the hide dealers within a reasonable time, they are sent for by the latter, warned to clear their prescribed number of hides without delay, and the former promise to do so in a week or two, which they actually fulfill, when further advances are made to them, and they continue to compass the death of such numbers as would enable them to clear the advance money received afresh.

8th.—In Hindustan, trade in hides is carried on mostly by the lower class, and by very few of the respectable circle. Among the latter only those do it who observe that others engaged in it become rich within a short time, [and] naturally feel the same desire to become so also; very few of the lower class, who follow any trade or profession, care about good or evil, provided it is a source of profit, whilst the respectable part of the people think of making their fortune by their own honest exertions only, and thereby add to their respectability.

9th.—I am of opinion that, if enquiry be made into this matter, the number of cattle destroyed by poison will be easily ascertained; especially if notice be taken of the number of hide godowns in towns and the country, the number of hides annually exported from each, and the proportion of slaughtered and dead ones,—the proportion of these two descriptions will be apparent. By slaughtered hides is meant those of animals killed for food, and by dead those that die by natural death. On enquiry at the godowns, it will undoubtedly be discovered that such quantities of hides were sent thence as never could have come from the number of cattle killed for actual consumption, which plainly proves the description of hides mentioned in para. 5.

10th.—Since 1857-58, when the mutiny broke out, a larger number of European Regiments are, of course, kept up, which necessarily causes a proportionately greater number of cattle to be killed for their use; yet not to the extent which the books of hide merchants will show to have been exported from Bengal and other parts of India.

11th.—Should the books of consignees and brokers of Calcutta, through whom all the hides of Bengal are sold, as also those of the dealers in other towns who carry on this trade, be examined as to the quantity of hides lodged in their respective warehouses by dealers from 1865 to the current year, and the proportion of slaughtered and dead hides in them, the aggregate will show an excess of the latter over the former; and the quantity of buffalo hides would also be ascertained. Moreover, the proportion of hides speciously denominated as slaughtered, will far exceed the actual number of cattle annually slaughtered in Bengal, from which the poisoning of cattle will fully be proved. The hides of those quadrupeds that are killed by poison are made to resemble those of the slaughtered, as neither the weight diminishes, nor the hair thereon gets spoiled. From the merchants’ books, it will be apparent that so many heads of buffalo were never brought under the butcher’s knife in Bengal, as the hides sold would indicate, for buffalo meat is seldom used as food: hence a very limited number are killed for that purpose. From the above facts, their natural death and that by poison will fairly be brought to light.

12th.—The Police should keep a vigilant eye over them, and take notice of the number of cattle dying of natural death, besides the sickness which Dr. McLeod treats of; for which purpose books should be kept at the Police Stations and outposts, in which causes of the death of cattle ought to be entered, and chowkidayars ordered to report to the next Police Station or outpost, the nature of disease which brought on the death of the animals; the Police on suspecting any unfairness should make investigations, and this will lead to the detection of poisoning or otherwise. Should the Police be active, it is not improbable that, in some districts, those having
APPENDIX.

a hand in supplying the poison will be detected and apprehended. Moreover, when it is known that the Police are on the alert, the nefarious practice in question will cease, inasmuch as it will deter the perpetrators from doing so in future, and the sufferers will be relieved. Should the Police enter the causes of death in their books, the number of cattle annually carried off by different diseases, as well as the prevalence of murrain in any particular district, will be brought to the knowledge of Government.

13th.—Should the above measures be adopted, and the books of the consignees and brokers of Calcutta and other towns be examined, the excess or diminution of exports of one year and those of the one before will be known; in all probability, it will show a great falling off, as, in consequence of the short receipts, the dealers will likewise decrease; for, owing to the suppression of the practice of poisoning, it will be difficult to procure hides, which will considerably discourage dealings in that commodity, and bring it down to the scale as in time gone by, and will leave the trade confined to hides of animals actually slaughtered for consumption, or which die from natural causes. In addition to what is above detailed, there are persons who can fairly detect hides produced by poisoning; should such persons be engaged to examine the different descriptions of hides in the several godowns, it will deter both the merchants from purchasing such hides, and the Chamars from poisoning for that purpose.

14th.—I have thought it proper to bring to light whatever has come to my knowledge, so that by some suitable and wise enactment, the poisoners may be detected, and others warned from practising similar acts of cruelty in future, which will thus prove beneficial to the poor.

In submitting the above for your perusal and consideration, I entertain the hope that you will be pleased, if you deem it necessary, to forward it to higher authority.

I have, &c.,

(Sd.) HEDAYUT ALLY, Capt.,

A. D. C., to His Excellency the Commander-in-Chief.

DINAPORE, 11th June 1869.

B. 1.—Page 171.

Road-Poisoning in the Upper Provinces in 1869.

The Englishman gives an extract from the Report of the Chemical Examiner for the N. W. P., which shows that, in 1869, that officer had cognizance of twenty-two deaths from Datura-poisoning. He gives the following case:—

"Three men and a boy were travelling, last May, from Bombay, towards the North-West Provinces. They were joined at Hurdah by a man, who ingratiated himself by pleasant companionship, and every day as they travelled evinced his good-fellowship by making sherbet for the whole party during their mid-day rest. At length, at a solitary spot on the banks of a stream near Bansa, in the Dumoh District, they drank his sherbet for the last time. The three men were found dead, and the boy roaming about close to their bodies in the restless delirium caused by datura. A man said to have been the poisoner was apprehended soon after in the Hoshungabad District, and on him was found a carefully-made powder of datura seeds, mixed with a little flour and sugar. I detected datura in the stomachs of all the three victims."
ON MEDICAL JURISPRUDENCE IN INDIA.

C.—Page 212.

ON THE SYMPTOMS OF POISONING BY THE INDIAN SPECIES OF DATURA—BY DR. H. GIRAUD.

From the 1st January 1848 to the present date (20th January 1849), fifty-one cases of poisoning by datura have been treated in the Jamsetjee Jeejeebhoy Hospital; the general character of their symptoms have closely resembled those induced by Datura stramonium, in several instances exhibiting the three distinct stages: 1st, of primary delirium; 2nd, of sopor or even coma; and 3rd, of final delirium,—which have been observed to mark the action of henbane, belladonna, and other solanaceous plants, as well as that of the stramonium. It is seldom, however, that patients are brought to hospital before the second stage (that of sopor) has commenced; and very frequently not until the third stage (that of secondary delirium) has supervened; and, in the great majority of cases, either from the small quantity of the poison, from the large amount of food ingested with it, or from peculiarity of constitution, one single stage of delirium is alone observed.

The following is the general course of those cases in which the full effects of the poison are manifested:—The patient, in the primary stage of delirium, is found in a state of extreme restlessness, usually attempting to wander about as if in search of something, but frequently from giddiness and extreme muscular weakness he is unable to walk or even to stand; he either vociferates loudly or is garrulous, and talks incoherently; sometimes he is mirthful and laughs wildly, or is sad and moans as if in great distress; most generally he is observed to be very timid, and when most troublesome and unruly, can always be cowed by an angry word, frequently putting up his hands in a suppliant posture. When approached, he suddenly shrinks back, as if apprehensive of being struck, and frequently he moves about, as if to avoid spectra. But the most invariable accompaniment of this, and of the final stage of delirium, and frequently also of that of sopor, is the incessant picking at real and imaginary objects. At one time the patient seizes hold of parts of his clothes or bedding, pulls at his fingers and toes, takes up dirt and stones from the ground, or as often catches at imaginary objects in the air, on his body, or on anything near him;—very frequently he appears as if amusing himself by drawing out imaginary threads from the ends of his fingers; and occasionally his antics are so varied and ridiculous that I have seen his near relatives, although apprehensive of danger, unable to restrain their laughter. Many of these singular movements appear to originate in a curiously impaired or disordered state of vision, in which distant objects seem to the patient as if very close to him, and those that are near as if highly magnified; for frequently, after gazing for some time at a distant object, he will attempt to grasp it as if it were close at hand; and he starts back, when approached, as if he thought the person approaching would the next moment touch him. This state of vision may, in part, depend upon the widely-dilated pupil, which, as in poisoning by other solanaceous plants, is an invariable symptom in all cases, and is persistent through each stage, and even continues for some time after complete recovery. With the foregoing symptoms, great diversity in the state of the circulation is met with in different individuals, and even in the same individual at different periods. In the greater number of cases, the temperature of the surface and the strength of the pulse are natural,—although the rate of the latter is usually somewhat accelerated (90 or 100). In other instances the pulse is much quicker than natural (112 or 120), full, firm, or even sharp; the temples throb; the respiration is hurried; and the surface of the body is hot.Whilst, as a third and less frequent condition, the pulse is quick, small, and feeble, the respiration slow, and the surface cold.

The second stage, that of sopor, is the state in which a great number of cases are first
brought under notice. They are then found either in a state of profound sopor, or in one of excessive drowsiness, from which they may be partially and momentarily aroused to some degree of consciousness; there is low muttering delirium, tremor, subsultus tendinum, and most usually the characteristic catching at objects, although the patient's eyes may be closed at the time. In four cases only have I met with deep coma, utter insensibility and stertorous breathing, and in two of these there was a remarkable tympanitic state of the abdomen.

These all appeared to be in great danger; but, like the milder cases, ultimately recovered after passing through the final stage of delirium.

As great a diversity in the state of the circulation has been observed in this second as in the preceding stage of the operation of the poison, the pulse being frequently quick, full, and firm, with throbbing temples, and heat of surface; whilst, in other cases, a cold damp skin has accompanied a small feeble pulse, scarcely perceptible at the wrist; and this without any corresponding difference in the nature of the other symptoms.

The third stage of final delirium has not been observed to differ, in any respect, either in regard to the nature of the delirium or to the condition of the circulation, from the primary stage.

The most numerous cases are those in which neither sopor nor coma is observed, but only the symptoms common to both stages of delirium.

The following is a statement of the condition of the patients at the time of their admission into the Jumactjee Jesjeebhoy Hospital:

<table>
<thead>
<tr>
<th>Condition of the Patient</th>
<th>Number</th>
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<tbody>
<tr>
<td>In a state of excitement—afterwards comatose</td>
<td>2</td>
</tr>
<tr>
<td>In a comatose state</td>
<td>2</td>
</tr>
<tr>
<td>In a state of sopor</td>
<td>18</td>
</tr>
<tr>
<td>In a delirious state, without sopor or coma</td>
<td>29</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>51</strong></td>
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</tbody>
</table>

The patients, on recovery, usually state that they have little or no recollection of anything that occurred subsequent to their last meal, which may be supposed to have contained the poison; so quickly does it appear to take effect. In one instance, however, I ascertained that a coolman drove his horses very steadily two hours after taking a meal which had been drugged; but, at the expiration of the third hour, active delirium came on, and continued for about eight hours. It would be interesting to discover the general duration of each of the stages above indicated; but this is rendered extremely difficult from the varied periods that elapse before the patients come under treatment; and the final stage of delirium is that only in which I have been able to arrive at even an approximate conclusion on this point. When the patient revives from the state of sopor, he recovers through that of final delirium usually in from six to ten hours; and this appears to be the general duration of the delirium of those milder cases in which neither coma nor sopor occur; doubtless the action of the poison is prolonged in some cases by the quantity of food ingested with it.

The treatment of these cases of poisoning by Datura must, of course, be guided both by the nature of the general symptoms, and by the particular state of circulation, which, as before mentioned, may be very varied under the same train of general symptoms. If the patient be seen soon after the poison has been taken, a promptly acting emetic, as sulphate of zinc, may be administered; and, where sopor with cold clammy skin and feeble pulse has supervened, an emetic of ipecacuanha and sesquicarbonate of ammonia seldom fails thoroughly to evacuate the stomach. In the stage of coma, or even of sopor, attended with heat of skin, throbbing temples, and full, firm pulse, emetics, I think, should not be employed; both because their
operation might favour cerebral congestion, and because, when the case has advanced to this stage, the poison has probably left the stomach. In the stages of delirium where this is of an active kind and attended with much excitement of the circulation, great relief is usually obtained by the application of a few leeches (one to two dozen) to the temples; the exhibition of the cold affusion once or twice, and the use of small doses of tartar emetic and opium. This combination, in doses of from half a grain of tartar emetic with twenty or thirty minims of laudanum, repeated every two or three hours, generally proves as efficacious as in the analogous state of excitement that occurs in delirium tremens. On the other hand, when either the delirium or the sopor is accompanied by coldness of the surface of the body and a small feeble pulse, the use of the stimulants, as ammonia and ether, will be indicated. As it probably occurs in many cases that the action of the poison is prolonged by its being taken with large quantities of food, and that being only gradually absorbed in its passage through the intestinal canal, the early administration of an aperient as castor oil, is obvious.

[About two months ago, my own coachman ate, late at night, a considerable quantity of Datura leaves in a mess with brinjal, which some one had recommended for rheumatism. He was caught in a delirious state, and immediately dosed with sulphate of zinc. He was quite well in the morning, and the pupils were not dilated. I attribute this to early emesis.—N. C.]

C. 1.—Page 279.

The following very important case of Poisoning by Camphor has been given me by Baboo Kanny Lall Dey, who saw the case about a year ago in consultation with Baboo Juggernauth Sen:

"Baboo _________, aged twenty-two years, a patient of Baboo Juggernauth Sen, was advised to take small doses of camphor for gonorrhœa. About 8 P.M. on the evening of ________, he took about a scruple of the drug. Feeling a pleasant and exhilarating effect therefrom, and considering camphor to be a homely and consequently not a very active remedy, he shortly after consumed about 1½ tola (thirteen and a-half scruples) with a bottle of lemonade. There was nothing worthy of notice till three quarters of an hour afterwards, when he began to feel a slight warmth in the pit of the stomach, and shortly after a severe burning sensation in that organ, as also in the throat. This was soon followed by giddiness, dimness of sight, ringing in the ears, and numbness all over the body. His body became covered with a cold clammy perspiration, and he felt an icy coldness all over. There was a sense of impending suffocation, the respiration was hurried, and the breath surcharged with camphorous smell. He lost all control over the limbs, and, when raised up, reeled like a man under the influence of liquor. The tongue was felt as if it were too large for the cavity of the mouth, although there was no perceptible redness or swelling of the organ. Gradually the patient became quite delirious, and began to get convulsions at 11½ P.M., or two hours and a-half from the commencement. He continued in this state till the morning, when, after profuse emesis from the treatment adopted, the symptoms began to subside. After ten hours, the patient became relieved from all the urgent symptoms; but the secondary effects continued for a much longer period, and it was not until three days had elapsed that the patient was restored to perfect health.

"The treatment adopted was plenty of warm water to drink, in order to excite vomiting, and small doses of tincture of opium."

This case, I believe, represents the largest dose of Camphor but one that has ever been taken. Dr. Taylor (on Poisons, p. 727) has given one which occurred to Wendt of
Bréslaw. *Eight scruples* were swallowed by a drunkard dissolved in spirit. The symptoms were vertigo, dimness of sight, delirium, and burning pain in the stomach. There was no vomiting. The man recovered. Dr. Taylor adds that this case shows that Camphor cannot be regarded as a very active poison.

My House Physician, Baboo Taruknauth Gangooly, tells me of a case in which a lad of fifteen was killed in a few hours by a dose of two tolas, or *eighteen scruples*, of Camphor.

**C. 2.—Page 313.**

* Poisoning by Darnel.*

The *Englishman* quotes the Report of the Chemical Examiner for the North-Western Provinces, Oudh, and the Central Provinces, for 1869, to the effect that the document contains a remarkable instance of wholesale poisoning by the use of flour mixed with *Darnel Seeds*. The soldiers of a Goorkah regiment having suffered severely from vomiting, headache, and vertigo, a searching investigation was made, whence it appeared that the seed of the *Darnel* had not been sifted with sufficient care from the wheat. The two plants grow side by side, and the bad grains can only be separated from the wholesome grain by both being thrown into a sieve, when the one will pass through and the other be retained.

**C. 3.—Page 314.**

*White Arsenic and the Poison-Fang of a Cobra made up with Pan.*

Baboo Kunny Lall Dey has kindly shown me a *Betel* sent to his office on the 31st August 1870, by the Assistant Commissioner, Sonthal Pergunnahs, it having been "given for chewing to some person in that district." This diabolical peace-offering contains two lumps of Arsenic and the Poison-Fang of a Cobra, identified as such by Dr. Fayrer. It is distinctly grooved, and was concealed by a coating of some adhesive filth.

**C. 4.—Page 331.**

*Andromeda.*

In Vol. XIV., Journal of the Agricultural and Horticultural Society of India, Dr. Cleghorn has written upon the poisonous properties of certain species of *Andromeda*, more especially *A. Ovalifolia*, so common in our Himalayan Stations. Royle mentions, p. 259, that *Andromeda Ovalifolia* is said to be fatal to goats in the Himalayas.

**C. 5.—Page 380.**

*SNAKE-BITE—MORBID CHANGES IN THE BITTED PART.*

On the 8th of August 1870, Dr. Woodford was so obliging as to show me, in the police dead-house, in the body of a Brahmin, who had died in fifteen minutes after having been
bitten by a snake, a condition of parts which he has long considered to be characteristic of this form of poisoning. For about a hand’s-breath around the puncture there was a dusky livid, somewhat lead-colored appearance of the integument not amounting to ecchymosis. Below this the cellular tissue was infiltrated with a glairy exudation like that which would appear at the first onset of hard oedema: no serum escaped from the divided areolar tissue. Dr. Woodford regards these appearances as certainly pathognomonic of snake-poisoning.

C. 6.—Page 386.

HORNET STINGS.

Dr. Ormerod refers to the fate of a party of engineers who, while surveying on the banks of the Jumna, were attacked by hornets. Two were stung to death, and several were severely injured.

D.—Page 396.

HUMAN SACRIFICE.

The following statement of a crime resembling Human Sacrifice appeared in the Calcutta Englishman for August 4th, 1870. The facts are asserted to have been established at the Sessions trial. I have not been able to obtain any further information regarding this case.

"There was, in a certain large town, in the Upper Doab, a carcass butcher of good position and extensive dealings, whose wife bore him none but still-born children. After bearing these disappointments for several years, the unfortunate couple resolved to practice the rites of Karse, or magical incantation, one of which was no less than the disgusting ceremony of eating human flesh. Accordingly the butcher spoke to a neighbour, who said that he was acquainted with a wizard—Syana or 'enning man,' being the vernacular expression used,—and it was resolved to sacrifice a fine lad of about nine years of age, the son of a highly respectable widow, who kept a school for girls in the place. The auspicious day arriving, the boy was induced to play with the son of one of the conspirators whose house was near that of the schoolmistress. Presently the butcher, who was watching the children, persuaded the intended victim to take a walk with him, on the pretence of giving him some sweetmeats. Shortly after the party was observed walking along towards the butcher’s house; the wizard and the go-between being behind, while the butcher went in advance, holding by the hand the poor little boy, who trotted by his side—" said one of the witnesses—" as if going with his father."

"Scarcely had the door of the house closed upon the three ogres and their victim, when the rites began. The party was joined by the butcher’s wife, the boy sat among them awaiting the promised treat of sweetmeats, and the wizard began to mutter spells out of a book. What followed is almost too sickening for description. Arriving at a certain point of his incantation, the wizard said, ‘Now to your work.’ On this the butcher advanced to the boy, threw him down, and kneeling upon him ripped him open, cut out the liver and the tongue, and making them into a mess, gave them to his wife to eat! Other parts of the body, likely to be useful as spells in other cases, were removed, and the trunk and legs separated, and disposed of in a
neighbouring thicket just outside the town, in conformity with the rules of the horrible art.

"But public opinion was, for once, fairly roused. The position of the widowed mother, and the tender age of the victim, excited the interest of relatives and friends, who happened to be men of local influence. The carriers of the body had dropped a pair of shoes, which were recognised by the artisan who had made them for the dead boy. Search was made in the wood toward which they had been seen going, and the scattered fragments recovered and identified. One of those who had been present at the bloody rites turned Queen's evidence, and two of the prisoners, arrested on these indications, confessed to the charge. They have all been sentenced to transportation for life,—the Judge, as we understand, having been of opinion, with the assessors, that it was in ignorance rather than in bad faith that the accused had acted in committing the offence."

E.—Page 621.

OPINION UPON A QUESTION WHETHER DEATH WAS CAUSED BY SUFFOCATION OR STRANGULATION.

I have carefully and fully weighed the whole of the medico-legal questions involved in the case of ——.

I shall take the 1st, 3rd, and 5th Questions proposed by the counsel for the defence together.

1st.—"Whether, from the post-mortem appearances described, Strangulation was not more likely to have been the cause of death than Suffocation?"

3rd.—"Is the story told by Ram Tobal—viz., the deceased died of Suffocation within a few moments, because Bocha stopped the boy's mouth—a probable one?"

5th.—"Is it likely that the marks of ecchymosis round the neck and the wrists of the deceased were produced after death?"

The leading statements of the Medical Officer, explanatory of the causes of death, are as follow:—

A sheet, twisted into a rope, was tied or fastened tightly round the neck. The hands were tied with a cloth behind the back. There were two slight marks corresponding to the cloth-rope round the wrists. The boy's hands were tied behind his back with a dhooty, but not in the same degree (of tightness) as the sheet. It (the dhooty) was soft. Ecchymosis was caused by the tightness of the dhooty. Certainly the dhooty was not very tight round the wrists. Apparently the wrists were not swollen; but virtually they might have been, as the whole body may have been swollen.

Puræfaction was just commencing, features swollen and of a reddish color. There was a clot of blood that had issued from the nostrils. The eyes congested, tongue not protruded, the teeth were closed; on undoing the cloth-rope that was round the neck, a mark of ecchymosis was found round the neck; no injury to the wind-pipe. Blood extravasated under scalp; brain congested. There were some spots of extravasation of blood on the membrane surrounding the brain. The veins in the chest and right side of the heart full of liquid blood. Lungs almost healthy. There was no blood in the lungs. Expulsion of hard faces.

The medical witness first stated that death was caused by Strangulation. He afterwards changed his opinion and held that death resulted from Suffocation, that the sheet was tied round the neck immediately after life was extinct, or "probably with the last moments," and that the hands were tied after death. The medical witness's explanation of the fact that, latterly, he changed his opinion and maintained that death was caused by Suffocation and not by Strangulation, is as follows:—
"The signs I have described in the dead body might arise from Strangulation, with exception of extravasation of blood on the brain. This was not the only reason why I thought death was caused by Suffocation. There were no other signs except extravasation of blood. From the manner in which the cloth was tied I inferred it was not Strangulation, and also from the tongue not protruding, the eyes not being opened to my satisfaction, blood issuing from nostrils. As far as I know, in Strangulation the eyes ought to be wide open. In cases of Strangulation, if pressure be made above the larynx, the tongue does not protrude."

Not one of the above reasons can be regarded as positive proof that death was due to Suffocation and not to Strangling—neither can their aggregate be so regarded.

First.—Strangling is sometimes attended with extravasation of blood on the brain. It is a rare appearance, but, when present, as it was in this case, it is very significant equally of death from Suffocation and Strangling.

Dr. Taylor says (edition of 1865, p. 655) that, in Strangulation by Hanging, "the vessels of the brain are commonly found congested; and in some rare instances, it is said, extravasation of blood has been met with on the membranes or in the substance of the organ. Effusion of blood is, however, so rare that Romer found this appearance described only once in a hundred and one cases; and, in one hundred and six cases described by Casper, it was only found in a single instance. Sir Benjamin Brodie found a large effusion of blood in the substance of the brain, and he refers to another case in which there was considerable effusion between the membranes."

In a large number of cases of asphyxia the brain is congested; effusion of blood is the result of such congestion (however caused) in a rather extreme degree.

Second.—The medical witness inferred from the manner in which the cloth was tied round the neck, that it was not the cause of Strangulation.

As he did not further explain the grounds upon which he formed this opinion, it is impossible to argue upon his reasons for arriving at it. We, however, read that "A sheet twisted like a rope was tied or fastened tightly round the neck." That there was a mark of ecchymosis all round the neck about an inch long (broad?) The depression round the neck was circular. The witness adds—"I found no other violent marks on neck of deceased save the cord around the neck. I do not think it true in every case that it is scarcely possible that a murderer in the strangling of a living person by a cord should avoid producing on the neck marks of violent injury. Perhaps one of the causes that led me to suppose that Strangulation was not the cause of Prosunno's death was this. This was one of the causes of my belief in this case. I formed my opinion in this before the trial."

It is thus evident that the medical witness considered that the marks of injury about the neck were not so severe as they would have been had the boy been strangled. This is a debatable question. In my Medical Jurisprudence (published in 1856, p. 383) I have written—"It would not appear, from the records, that those very severe injuries to the neck, such as laceration of the muscles of the throat, rupture of the tracheal rings, &c., &c., occasionally observed in European cases of strangling, are frequent in similar cases in India. I have more than once found traces of very severe contusion of the muscles of the throat." . . "Still, whether to the employment of several accessories in these cases, or to the use of long soft cloths, which form a part of nearly every native's dress, or to a theoretical acquaintance with the practices of the Phansigsars, which must exist among all classes in India—it is certain that the rule which maintains that 'in strangling, a much greater degree of violence is commonly employed than is necessary to cause asphyxia' (Taylor), will be found to have very numerous exceptions in this country." In his last edition Dr. Taylor says: "In the strangling of a living person with a cord
it is scarcely possible that the murderer can avoid producing on the neck marks of severe injury; and, in the existence of these, we have evidence of the violent manner in which death has taken place. On the other hand, a person may be strangled, and yet the ligature, in consequence of its being soft and of a yielding nature, will not cause a perceptible depression or ecchymosis—scarcely anything more than a slight depression of the skin. If we except cases of suicide, such a condition must be rare, because assailants usually produce a much more violent constriction of the neck than is necessary to ensure the death of a person."

I consider that the death of Prossunno was such as might be expected upon the supposition of his having been held down and strangled by a twisted shooey tied round his neck.

Third.—The medical witness holds that death was probably not caused by Strangulation, because the tongue was not protruding. He adds—"In cases of Strangulation, if pressure is made above the larynx, the tongue does not protrude."

He is supported in the first part of his opinion by Taylor, who remarks (p. 675) that swelling and protrusion of the tongue are more marked in Strangulation than in Hanging. On the other hand, Casper says (New Sydenham Society's Edition, Vol. II., p. 162): "In regard to the protrusion of the tongue or the clenching of it between the teeth, I have already pointed out the inconstancy and consequent untrustworthiness of this symptom, which is just as often absent as present in persons strangled, whether they have died from apoplexy, suffocation, or neuropa1ysis."

Fourth.—The medical witness inferred that the case was not one of Strangulation, because "the eyes were not open to his satisfaction." Here Dr. Taylor is with him, observing that the "eyes are wide open, prominent and congested" (p. 674). Casper, on the other hand, says (p. 162, Vol. II.): "Most of those strangled have a pale, peaceful, and not a turgid countenance. Precisely the same may be said of the protrusion of the eyes, which is seldom observed, and only when the countenance is very turgid."

Dr. Taylor says (p. 655) that the protrusion or non-protrusion of the tongue depends "simply upon congestion." The protrusion of the eyes, when present after Strangulation, results wholly from the same cause—turgescence of blood. If then Casper, an authority second to none, found that the majority of strangulated Europeans "have a pale, peaceful, and not a turgid countenance," without protrusion of the eyes and tongue, it is not needful that we should demand, as proof of Strangulation, these almost extreme evidences of congestion in a rice-fed Hindu boy of twelve, "of an average constitution." Casper has shown that an ecchymosed appearance may result in the part compressed by the cord where a body is suspended by the neck shortly after death, and he maintains that this condition of the structures is often not to be distinguished from that produced in death by hanging. The medical witness says that, on undoing the cloth-rope that was round the neck, a mark of ecchymosis was found round the neck. He adds, on cross-examination, that "the rope may have been tied at the last moment or a minute after death" "I cannot assert that it was not tied an hour after death. It is my opinion it was tied within, a minute." He is by no means minutely particular in describing the appearance of this ecchymosis, but, judging by the last expression quoted above, I infer that there was positively effusion of blood into the structures, such as is produced during life by the pressure of the ligature in some cases of death by Strangulation and Hanging.

Taking this and all the other circumstances of the case together, and especially remembering that the extravasation of blood upon the surface of the brain certainly occurred during life, I consider that the aggregate of the facts stated in the medical evidence is perfectly compatible with the opinion that the deceased was strangled and killed by a twisted cloth tied round his neck.
The arguments of the medical witness in favor of Suffocation and against Strangling are founded upon authority, but I consider that, when a large view of the question is taken, the correctness of his conclusions is highly questionable.

All the physical conditions of the case being absolutely compatible with the opinion that the deceased was strangled by the cloth tied round his neck, why should we depart from the conclusion that his death was so caused? Only, I believe, because it appears in the evidence that a witness, Ram Tohal, asserts that he saw a man in the act of endeavouring to suffocate the deceased by compressing his mouth and nostrils with one hand.

The remaining evidences of Suffocation as distinguished from Strangulation rest wholly upon the statements of Ram Tohal, to the effect that, "when the boy began to cry, Bocha stopped his mouth with his right hand. He placed his open hand on the face and nose of the lad. Bocha stopped both the boy's nostrils and mouth. There was only a slight sound. When the boy's mouth was stopped, he screamed out. I did not see any struggle. I only heard a scream after boy's mouth was stopped. Bocha's other hand was by his side. The room was light. Bocha was standing erect while he stopped the boy's mouth."

Ram Tohal testifies at one time that he saw the felonious act, during which he asserts the Suffocation took place, from beginning to end; on another occasion he declares that the act was not completed when he left.

He is consistent in stating that he left and went to the Golaghur, either before or after the felonious act was completed; and then, on his return, Bocha placed a chadar over the body of the boy, that the body was lying motionless, and that no sound was heard.

If Ram Tohal's statement is believed to be true, it must be considered as proved that Bocha was seen to compress the mouth and nostrils of one who certainly died from asphyxia or suspended respiration. If Ram Tohal is believed to have left the room at this crisis, it cannot be known what further violence, possibly ending in Suffocation or Strangulation, was had recourse to during his absence; but it is quite impossible to accept Ram Tohal's statement as fully descriptive of the manner in which a boy of twelve, of average health, was suffocated. No man, however powerful, could suffocate such a lad by holding his hand over his mouth and nostrils while the other hand was by his side. The struggle in such a case would be furious, and, no serious injury being inflicted upon the windpipe (there was no such injury here), the violent conflict for life would be protracted for at least two minutes.

F.—Page 709.

OPINION UPON A QUESTION OF UNNATURAL CRIME.

(Continuation of the above Case.)

The remaining questions put by the Counsel are—

2. "Whether it is possible, or at all probable, that an unnatural offence should be committed by force upon a boy of twelve, and yet no marks of injury should be found in the anus?"

4. "Is it probable, from the circumstances of the case, that the substance which the Doctor says he found round the faeces was semen, or is it not more likely that rather the substance itself was an invention of the Doctor,* or that it was mucus from the intestines?"

* I do not think this.—N. C.
I distinctly consider that the evidence of an unnatural crime in this case is wholly Ram Tohal's.

In a boy of that age, accustomed to such crime, there would probably be no injury to the parts. In one upon whom such an outrage was completed for the first time, there would probably be some laceration of the mucus membrane within the anus, with more or less effusion of blood.

The medical witness does not appear to have made any close examination of those parts, and he certainly did not observe any signs of injury or traces of bleeding.

I do not coincide with the medical witness in the opinion that the appearance presented by the foeces was due to the presence of semen. I differ from him on the ground that, when mucus is present in the rectum, in certain cases of rectal dysentery, when hard foeces are passed, the mucus invariably passes separately from the foeces which are not at all coated by it. Physically, the two cases are parallel.

My belief in this case consequently is that—

First.—Death was probably caused by Strangulation by a twisted cloth tied round the neck.

Second.—That what Ram Tohal says that he saw Bocha do, could not possibly have caused death by Suffocation.

Third.—That there is no evidence of the commission of an unnatural offence, except that offered by Ram Tohal.

Fourth.—There is nothing in the medical evidence in favor of the belief that the deceased had been the subject of an unnatural offence.

Fifth.—That, as it has not been even hinted in the case that the deceased child was accustomed to unnatural practices, the fact that no blood was noticed in the evacuation from the bowel affords strong reason for the belief that the outrage in question was at least not completed.

Sixth.—There remains another point which may be regarded as rather one of opinion than of fact. If we are to accept the idea of the medical witness that the matter seen on the foeces was seminal fluid, we must consider that an unnatural crime was completed, that penetration was effected. Is it probable that such an act could be effected by a man of sixty upon a boy unacquainted to the crime? I believe it to be almost in the last degree improbable.

Seventh.—That, should it ever be premised that Ram Tohal's testimony is untrustworthy, there remains nothing in the evidence of the medical witness to criminate the accused. There would then, as I have before suggested, be strong reason for believing that an unnatural outrage was not perpetrated, while there would be nothing to show by whom or in what place the murder, by Strangulation, was committed.

MEDICAL COLLEGE, CALCUTTA,
12th October 1869.

(Sd.) NORMAN CHEVERS, M.D.

G.—Page 807.

OINOMANIA.

The following observations on Oinomania deserve careful attention:

"Another form of drunkenness remains to be described,—namely, the paroxysmal. This is the form which has been mentioned by writers (first by Hufeland, who termed it Dipsomania) as a true mania, and which is recognised to be such by all practically acquainted with Insanity. Erdmann first observed this affection in Russia, where it is termed
eapoi (sauf-sucht, drinking disease, or mania). Bruhl-Kramer, Erdmann, Friedreich, Henke, Guislain, and others have also treated of it. Brousais and Rayer adopted the term Oinomania. Many writers have, however, treated of the affection as if it were a form of delirium tremens, to which it is undoubtedly generically allied, but from which, nevertheless, it is specially distinct. Persons affected with the paroxysmal form are, for the most part, of temperate or even abstinent habits, and are only attacked at intervals with the disorder, which consists in the gratification of an impulse to swallow stimulants in enormous doses for a period of definite duration, when the paroxysm ceases and the individual resumes his temperate or abstinent mode of life. Dr. Hutchison, of the Glasgow Lunatic Asylum (Report for 1842), has given the best detailed account of the disease in the English language. He notes three forms—the acute, the periodic, and the chronic. The acute is the rarest of the three, and occurs as a sequel of exhausting causes, as fevers, puerperal or uterine hemorrhage, excessive venereal indulgence, &c., or in certain forms of dyspepsia; in the latter case it is very apt to become chronic. The periodic form is met with in persons who have experienced injury of the head, or who have overworked the brain, or who are the offspring, directly or collaboratively, of drunkards or lunatics. Women are apt to become the subjects of it during pregnancy. The chronic is simply the paroxysmal form changed into continuous drunkenness.

When a person is about to have a paroxysm of Oinomania, and it is not induced by any manifest exciting, as alcohol, fatigue, &c., he feels listless, uneasy, restless, and depressed, and is incapable of steady application. These feelings are accompanied by a gradually increasing craving for stimulants, which at last is yielded to. The individual perhaps then disappears from his home or usual place of business, and spends his days and nights in alternate sleep and intoxication, haunting the lowest dram-shops, and associating with depraved persons. Or perhaps he shuts himself up in his room, never leaving it for any purpose, and rapidly gulps down glass after glass of liquor he has procured, reckless of all consequences to himself, his family, or his affairs. The paroxysm being exhausted, a stage of apathy and depression succeeds, in which bitter regrets for his folly, and resolutions never again to yield to temptation, are prominent. This period of temperance may continue for some months, when, after an apparently trivial circumstance, or obdurate cerebral condition which constitutes the paroxysm is again developed.

Friedreich notes five stages of the affection, as follows: 1.—The premonitory stage. After a period of apparent health, a moderate use of stimulants, the eyes present a wild expression, there is spasm of the muscles of the orbit, a winking of the eyelids, photophobia, flushing of the face, headache, disturbed sleep, loss of appetite, indigestion, flatulence, anxiety, and dread. This stage continues for a few hours to a few days. 2.—The commencement of the attack. Increased desire for spirituous drinks, which relieve the restlessness for a short time, and to this end the patient takes them, but always more and more rapidly. 3.—Stage of development. The desire for spirits is now more than ever urgent, and the relief given by them less in time and extent; if the attempts to take them be forcibly resisted, so that, if the supply is cut off, the want is immediately followed by great distress, and feelings of anguish, fainting, and suffocation; indeed, not unfrequently, persons thus deprived of the desired stimulants become actually insane or maniacal. 4.—The crisis occurs in 3, 5, 7, 9, 11, 13, or 21 days. It is characterized by feelings of intense distress, so that the patient loudly bewails his state, or groans deeply, until at last urgent vomiting supervenes, when either "corrupted" bile, or in many cases a watery fluid, is thrown up. To this succeeds the greatest disgust for spirituous drinks, so that the person who but a short time before urgently demanded brandy now shudders at the bare idea of it. 5.—The stage of convalescence is marked by the
sequela of the affection, amongst which an excited condition of the entire system is the principal. There are also sleeplessness, frightful or disagreeable spectral illusions and depressing and distressing sensations,—the phenomena more or less, in short, of delirium tremens.

The leading symptoms, in the typical form of the disease, are those which show themselves in the thoracic viscera in connection with the appetite for stimulants,—namely, the feelings of anguish, restlessness, and impending death by suffocation, and those which are more purely mental, and in which the insatiable appetite is the most prominent. To these may be added the direct results of the alcoholic poisoning. In discussing the pathology of paroxysmal drunkenness, it is necessary to determine carefully the order of causation. Now, it is undeniably certain that, in every case, whether it be acute or periodic, there is a special condition of the cerebrum which predisposes the individual to the paroxysm. This may be termed the predisposing cause. Without this, those circumstances upon which the outbreak immediately supervenes, or, in other words, the exciting causes, could never take effect. The proximate cause is that condition of the cerebrum which is developed by the exciting causes in a person duly predisposed, which condition is necessary to the manifestation of the paroxysm. The operation of these causes is best illustrated by cases. A member of a liberal profession is subject to paroxysms of Oinomania. He is fully aware of his infirmity, and is a water-drinker on principle, for, so long as he abstains from alcoholic stimuli, he is safe. If, however, he yields to temptation ever so little,—if he takes but a single glass of wine,—he is lost. The irresistible appetite is excited, and all the misery and disgrace of a paroxysm of drunken madness follows. This individual has a near blood-relative, a man of superior talents, who is equally predisposed to Oinomania, and who, when attacked by a paroxysm, disappears from his family and home, and is found in the lowest haunts of vice and depravity, drinking with the most depraved. Both these examples are members of a family in which Insanity is hereditary. In another similar case of an individual,—a member of an artistic profession—there is great natural talent and aptitude for business, so that he gives the highest satisfaction to his employers; but, at varying intervals of time—from a few weeks to several months—the oinomanic symptom presents from his office for several days on a drunken " spree." When he retires the ill is his remorse, bitter his self-condemnation, loud and resolutely expressed his promises to resist temptation. For a while all goes on well; but, sooner or later, the temptation comes, the alcoholic stimulant is presented, is irresistible, and a paroxysm the most ing to end as before. Now the brother of this impulsive oinomaniac is the victim. Of the continuous drunkenness; the father of both was a continuous drunkard, who believed himself to be a tea-pot, to be made of glass, &c., and who, in a paroxysm of inebriate fury, burnt a cat alive; and the grandmother's brother was also an impulsive and finally a continuous oinomaniac. It is related of this grand-uncle, that his friends having taken away his clothes on a Sunday morning, hoping to confine him to the house by the want of clothing, he went into his warehouse, and donning a funeral-cloak made his way to the drum-shop! These cases illustrate the hereditary transmission of the predisposition from generation to generation.

Like insanity, epilepsy, and other analogous affections of the cerebrum, Oinomania may be periodic. Bruhl-Kramer mentions a case in which the paroxysm occurred regularly every four weeks, at the new moon; and Most remarks that he thinks he has observed, in several instances, that the impulse to drink was the most urgent about the same time. In Henke's "Zeitschrift für Staatsärztekunde" (vol. 54), a case is related of monthly periodic drunkenness prolonged for seven years; each attack occupied eight days. The patient was a mechanic; orderly, industrious, and moral, until he was thirty-four, when he became subject to paroxysms of oinomania, during which
his whole character underwent a change. After being for three weeks most industrious and steady, he would return home of an evening in apparently his usual health; but, on going to bed, he could not sleep on account of great depression and a peculiar sensation in the head. About one o'clock he would leap out of bed, run about the house, rush into the street, in nothing more than his shirt, and shout and rave so violently for spirit at the dram-shops, that the people were compelled to supply him; this he would drink greedily and in large quantities, until he lost the use of his limbs. Towards morning, he would be taken home unconscious, where he would be confined and bound. After lying in that state, with half-closed eyes, for a length of time, he would raise himself up, look round with a wild, melancholy look, the veins of the forehead starting, his face bathed in perspiration, his pulse quick and full, his hair dishevelled, his body almost naked; he would first be abusive, twist about, and make violent efforts to free himself from restraint, and then would piteously beg and implore for spirits, his voice gradually becoming weaker. He rejected all food and drink, except coffee, demanding brandy only, for without it he felt he must perish. He was usually given to drink, for the purpose of quieting him, brandy-and-water, in the proportion of one of brandy to three of water, which he would drink off with the utmost eagerness, and immediately ask for more. In this way he would go on without resting or sleeping for one moment for eight days, having brandy-and-water given to him two or three times a day, and taking hardly anything else. During this time, he became gradually weaker, and his voice more and more feeble, and at last he would fall asleep, exhausted. On awaking, he had no recollection of what had happened, felt weak, and trembled a good deal. The appetite for food then returned; he would drink water only, abhorsed brandy, went back to his employment, and was an industrious, steady, temperate man until the next paroxysm. This would return at the regular period, whether he took brandy or not, and continued whether his desire for brandy was gratified or not. As years went on, the duration of the paroxysms became gradually shortened to six, or five, and four days. There was no very striking decay of the intellect, although, at last, the termination of the case in imbecility began to threaten. He died unexpectedly during a paroxysm on the third day, appearing as if he was fallen asleep. During the paroxysms his room was more like that of an insane person, an of a rational being, had a very offensive smell, and was very filthy. The patient himself, also, looked like a maniac. The father of this man was a confirmed drunkard, and committed suicide by hanging; two of his brothers were drunkards, and himself of the family remained free from the vice; and he showed no symptoms of oinomania until he was thirty-four.

This case illustrates the disease in the acute form described by Friedreich, and is specially interesting, inasmuch as, by the character of regular periodicity which it presented, it brings Oinomania into the general category of cerebral and cerebrospinal affections, the majority of which are thus periodic. It will occur at longer intervals, however, than the month, just as mania, epilepsy, somnambulism, &c., will. Cases continuing for one week, and recurring at intervals of twelve weeks, have been observed.* In the first case which Guislain saw, the paroxysm occurred at still longer intervals; it was that of a music-master, who every year, or every two years, suddenly ceased to practise his profession, and for about three months would be continually intoxicated. The paroxysm would then suddenly cease, and the patient become scrupulously temperate, drinking nothing but water, and avoiding all chances of temptation. Feeling during one of these lucid intervals, the premonitory symptoms of

a paroxysm, he committed suicide. In another case (a woman) mentioned by Guislain the paroxysms came on after lucid intervals of from three to four years.

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LEGAL DEFINITIONS OF SOUNDNESS AND UNSOUNDNESS OF MIND.*

"A Sound Mind," says Shelford, "is wholly free from delusion" [all popular delusions of course being excepted]; "all the intellectual faculties existing in a certain degree of vigour and harmony, the propensities, affections, and passions being under the subordination of the judgment and will, the former being the controlling power with a just perception of the natural connection or repugnancy of ideas. Weak minds, again, differ from strong in the extent and power of their faculties; but, unless they betray symptoms of a total loss of understanding, and of idiocy, or of delusions, they cannot be considered unsound. An Unsound Mind, on the contrary, is marked by delusions" [which are not popularly entertained], "mingles ideas of imagination with those of reality, those of reflection with those of sensation, and mistakes the one for the other; and such delusion is often accompanied with an apparent insensibility to or perversion of those feelings which are peculiarly characteristic of our nature. Some lunatics, for instance, are callous to a just sense of affection, decency, or honor; they hate those, without cause, who were formerly most dear to them; others take delight in cruelty; many are more or less affected at not receiving that attention to which their delusions persuade them they are entitled. Retention of memory, display of talents, enjoyment of amusing games, and an appearance of rationality on various subjects, are not inconsistent with unsoundness of mind; hence sometimes arises the difficulty of distinguishing between sanity and insanity. The man of insane mind, from disease, having been once non compos mentis, pertinaciously adheres to some delusive idea, in opposition to the plainest evidence of its falsity, and endeavors by the most ingenious arguments, however fallacious they may be, to support his .—On the Law of Lunacy, 1847.