amination, the lower extremities were found very œdematous; the left lung was diminished in volume and bound down by fibro-cartilaginous adhesions; the heart was healthy; the liver was small and covered with a net-work of dilated veins, which also ramified upon the abdominal surface of the diaphragm; the kidneys were atrophied and in an advanced stage of granular degeneration; the veins in the substance of the uterus and in the broad ligaments were distended by hard decolorised coagula, and the same were found in the iliac veins, and could be traced in the vena cava as far as the sulcus hepatis. At this point the trunk of the vessel was rendered impervious, and converted into a hard white cord of about the thickness of the little finger. The coats of the vein and its different branches were thicker and firmer than natural, and its canal was throughout contracted. The clots were regularly laminated, somewhat resembling the fibrinous layers of an aneurysm, and adhered to the sides of the vessel. The coats of the vein became gradually thicker as it advanced towards the heart till the two sides entirely adhered. The obstructed portion extended from the point of entrance of the hepatic veins to immediately below the right auricle. The vena azgyos, as well as the lumbar and spinal veins, were greatly distended; these appeared to have been the channel by which the circulation was maintained. From the net-work of dilated veins which existed on the liver and diaphragm, Dr. Peacock conceived that the portal system assisted in facilitating the backward flow of the blood. There was no enlargement of the abdominal veins.

The second preparation exhibited an obstruction of the iliac and femoral veins. It was taken from the body of an aged female who died of diseased kidneys, and who presented symptoms of phlebitis a month before her death.

Dr. Peacock remarked that obstruction in the veins might arise from three sources—1st, inflammation of the vascular walls; 2ndly, pressure from tumors; and 3rdly, stagnation or retardation of the circulation. The two preparations he had exhibited were, in his opinion, illustrative of obstruction by inflammation of the vascular coats.

January 11, 1843.

CALCULUS IN THE KIDNEY.

Dr. Peacock exhibited a kidney, in the pelvis of which a calculus was impacted. The patient, a female, twenty-three years of age, labored under diarrhœa and involuntary discharge of urine, sometimes containing small masses of cretaceous matter. Delirium and coma preceded death. On examination, all the viscera were found healthy, with the exception of the left kidney, which adhered firmly to the spleen, pancreas, and colon. In the latter, a short distance above the sigmoid flexure, was an opening the size of a pea, which communicated with the substance of the kidney; this organ consisted of little else than large sacs filled with pus. In the pelvis a calculus was found, which projected by three branches into the openings of the calyces. The ureter was much thickened, the bladder contracted, and its mucous membrane covered by a thick layer of cretaceous matter.

OBLITERATION OF THE CIRCLE OF WILLIS, AND ATROPHY OF ONE OPTIC NERVE.

Dr. Peacock exhibited an obliteration of the arte-

ries forming the circle of Willis. It was taken from the body of a soldier, aged seventy-four, who, on the morning previous to his death, had a severe attack of rigors, followed by headache. During the night he was seized with convulsions, affecting the muscles of the face and extremities; coma succeeded, and death took place eleven hours after the convulsive attack. On examination, the substance of the brain was found healthy; the left vertebral artery contained a peculiar mass, which entirely closed its canal; and the right cerebral, the basilar, upper portions of the vertebral, and the whole of the smaller branches to their ultimate ramifications, were filled with dark clots, and felt rigid when compressed. This man, forty years previous to his death, had lost an eye in Egypt, and on examination, an atrophy of the optic nerve leading to the affected orbit was very distinct, it being only one-quarter the diameter of the nerve on the sound side. No atrophy could be perceived in the course of the nerve beyond the commissure. — *Edinburgh Monthly Journal*, February, 1843.

ROYAL MEDICO-BOTANICAL SOCIETY.

February 22, 1843.

EARL STANHOPE in the Chair.

INDIAN HEMP.

A communication from Mr. Ley on the *Cannabis Indica* was read, from which it appears that, although the hemp is rejected from our official preparations in England, it is, and has been for a long series of years, in constant use as a popular remedy all over the East. It exhales a powerful narcotic odor, and the branches are glutinous to the touch with a resinous secretion, which is collected, when the seed is formed (as the plant is then in the greatest perfection), and is sold under the name of *churrus*; or the shoots from which the resin has not been collected, are cut, dried, and sold as *gunjah*.

Although hemp is no longer used medicinally in England, there is an old act of Henry the Eighth yet in force, by which it is forbidden to be soaked in ponds or running streams where cattle drink. The older writers speak of it as a violent poison, and state that the water in which it has been soaked produces its effects almost as soon as drunk.

The resin of the *cannabis indica* is in general use as an intoxicating agent from the furthest confines of India to Algiers. If the resin be swallowed, almost invariably the inebriation is of the most cheerful kind, causing the person to sing and dance, to eat food with great relish, and to seek aphrodisiac enjoyment. The intoxication lasts about three hours, when sleep supervenes; it is not followed by nausea or sickness, nor by any symptom, save slight giddiness, worth recording. These effects are much modified in this country, and much less marked, possibly from the length of the voyage rendering the article deteriorated in value. The subsequent effects are, depression of spirits and relaxation of the muscles in a remarkable degree; yet the litheness attending that relaxation, the free perspiration on the skin, and the increase of appetite, have made some old rheumatic persons speak of it as of the elasticity of youth.

Mr. Ley draws a comparison between the effects

produced by opium and those caused by the *cannabis indica*, the result of which induces him to give the preference to the latter, its influence being exerted more kindly and more gratefully on the system. It has proved of service in cholera and rheumatism, but it is in spasmodic and convulsive diseases that it is most eminently useful. In tetanus it has been the means of cure in the majority of cases both in men and horses, and it has also relieved much of the severity of hydrophobia, although it did not arrest the fatal termination. It is useful, also, in chorea, spasmodic asthma, and delirium tremens, and generally wherever opium is indicated. Mr. Ley considers further that it will prove a direct antidote—the first of its class—to strychnia, one of the most violent poisonous nature affords.

Dr. O'Shaughnessy stated that he felt more embarrassed in addressing the meeting than he had ever done on any previous occasion, from the exceeding kindness with which he had been received by the noble president and the members of the society. He felt himself more than repaid for all his exertions, and for all he had been able to do in the East, by the honor which had been conferred on him in presenting him with the diploma of corresponding member, and he begged to assure the society that, when he returned to India, he would exert himself to the utmost to further the objects and promote the views of the high and learned society he was addressing.

He had had great gratification in hearing the paper which had just been read. Mr. Ley had kindly offered him the opportunity of perusing it before it was sent to the society, but this he had declined, as it might have occurred to him to make some suggestions, and thus unconsciously identify himself with it. He had wished to keep himself clear from this, and he was glad he had done so, for the essay had corroborated in all essential points what he had previously stated. There were certain minor differences between them, but they only tended to show that each observer had used his own eyes, and remarked for himself, not depending on the statements made by others. It was a subject of the greatest importance, and he had been led to investigate it by observing that tens of thousands of persons in the East were constantly producing the most extraordinary effects on themselves by its use in a popular form, and he thought that an article so exceedingly potent must be possessed of medicinal virtues also. As a paid servant of the government, he considered it his duty to examine its properties, and consequently he instituted a series of experiments on animals, and having satisfied himself so far, he then proceeded to administer it to man, and, from the results, was enabled to come to the conclusion that hemp is a powerful and valuable narcotic, capable of producing effects which no other narcotic can produce. He was ready to admit the proneness to self-deception of all experimentalists, nor did he consider himself at all free from it, but his experiments were made and carried on before numerous witnesses, whose presence guaranteed their fidelity and truth, which were further proved by the fact that they were in strict accordance with the effects produced on persons who were in the habit of employing it for the purposes popularly attributed to it, and which he had noted previously to experimenting with it medicinally.

Since his return from India, several medical men, among whom he might mention Dr. Clendinning and Mr. Perry, had tried the drug, and by their report had confirmed the results he had come to as to its great antispasmodic qualities. When he first wrote an account of the *cannabis indica*, he had been charged with bringing it forwards as a specific for tetanus, but this he had not done; he had not committed such an act of folly; when he wrote, he had stated, as was the fact, that of eleven persons affected with tetanus and treated with the hemp, six had recovered; of five horses laboring under traumatic tetanus, and so treated, four had recovered. From numerical facts, therefore, he had felt himself warranted in stating his belief that, if administered early in the disease, it would tend to arrest its progress. He had had that very day placed in his hands a new part of the Transactions of the Medical Society of Bombay, which contained a communication by Surgeon A. Graham, of the Bombay Medical Establishment, a gentleman altogether unknown to him, who detailed therein two cases of traumatic tetanus, treated in the Native General Hospital at Bombay, one of which, from having come late under notice, terminated fatally; the other, which was taken earlier, recovering. The fatal case, however, was stripped of much of its horrors and sufferings by the use of the remedy. Forty grains was the average daily dose of the resin in these cases, and in one of them the patient was kept in a state of stupor for several successive days. Mr. Graham concludes by declaring his belief that the hemp resin possesses sedative, anodyne, and antispasmodic properties.

Before sitting down he would mention a few experiments which he had made, and which had not yet been published. He would now mention them, because they were within the reach of every one, and could readily be repeated. There is a large class of poisons, the strychnia poisons, by the introduction of which into the system, tetanus can be produced in its purest form, and the affection can be so modified by attention to the administration of the poison as to cause its chronicity, so that it may continue for a few days before it destroys life. If he is right, then, in stating that he has found a remedy for tetanus, let it be tested by producing the disease in animals, and removing it, if possible, by the drug. The experiments which he has made on this subject, and which he brought forward with diffidence and distrust, entreating the society to repeat them and judge for itself, were made in the presence of many witnesses.

Eight dogs were selected as the subjects of the experiments; to two were administered three-grain doses of the alcoholic extract of the *nux vomica* bark, by which they were killed in three hours. To the remaining six animals the same dose of the *nux vomica* bark extract was given, which was followed within half an hour by the exhibition of half a drachm of the resin of hemp. Not one of these dogs died; all escaped, and he inferred from this that he derived a great corroboration of his statement that the hemp is of value in the treatment of spasmodic diseases.

In conclusion, Dr. O'Shaughnessy requested the co-operation of the Royal Medico-Botanical Society in testing the properties of this drug, and he felt assured that the task would be undertaken and carried

out to the fullest extent, as a zeal existed there which he had not met with in other societies.

Mr. Ley said that there were two or three points with respect to the preparations which should be mentioned, in order that they may be understood. The first quantity he had been enabled to obtain was about thirty grains of the extract, made at Calcutta, and the effects produced by it were so remarkable that he endeavoured to procure more to continue his investigations. He next received some alcoholic extract, prepared by Mr. Squire from the gunjah, but this he did not find so extraordinary in its effects, although it was still very serviceable, and he had used it largely. When his stock was exhausted (and he believed he had used nearly all Mr. Squire had prepared), another extract was made by Mr. Squire from the gunjah collected at the same time as that which furnished the preceding extract, but this he found to be exceedingly deteriorated. After this, on Dr. O'Shaughnessy's arrival, he obtained from him some extract prepared at Calcutta, and he ascertained that two grains of this produced twice or thrice the effect of six grains of the extract prepared by Mr. Squire. In saying this, he did not mean to impugn Mr. Squire's skill, but simply to state his belief that the efficacy of the drug depends on the freshness of the plant at the time the extract is made. Dr. O'Shaughnessy, he understood, would cause a quantity of the extract to be prepared at Calcutta, and transmitted to England for medicinal use.

Speaking of the effects of the plant in comparison with those of opium, Mr. Ley said he had been led to doubt its narcotic influence, as compared with the latter drug, but Dr. Clendinning preferred the hemp. The extract obtained from Calcutta is considerably stronger than opium. With respect to the hemp grown in this country, he had collected some in the Regent's-park, and had obtained from it a tincture and an alcoholic extract, but found it contained only about one-tenth the quantity of resin yielded by the Indian plant, and, as he expected, he had found it comparatively inert. The hemp was, however, gathered very late in the season, and the plant was, perhaps, too old. Fresh investigations would be made with it in the course of next summer.

Earl Stanhope inquired which would be the best form for preserving the virtues of the drug in its transmission from India, the tincture or extract, and whether smaller doses would not produce greater effects on the natives of India than on the inhabitants of these colder climates, on account of the greater nervous energy and irritability of the latter.

Mr. Ley stated that the spirit-duties and the bulk would prove insuperable objections to the admission of the tincture, which would be otherwise decidedly the better form. It would be necessary to send the tincture by the Cape, while the resin might be forwarded overland through Egypt.

Dr. O'Shaughnessy stated that he had sent to Mr. Pereira, four years since, some specimens of the drug, and he, after trial, had considered it to be unworthy of his recommendation, but he (Dr. O'S.) did not then know that the medicine was liable to be deteriorated by age; in fact, he was learning more about it daily. As the noble president had stated, the difference of nervous irritability and temperament must

be taken into account. Half the quantity that will affect an Englishman will act on a Bengalese.

In answer to a question from Dr. Houlton, Dr. O'Shaughnessy said that the male and female plants were employed indiscriminately, but Rumphius and Reid both consider the male superior in its medicinal properties.

Dr. Copland said that he had obtained specimens of the drug some time since from Savory's, and had tried it both medicinally and physiologically. He had not been made aware of the subject for discussion this evening until a few minutes before he entered the room, or he would have brought his memoranda with him; as it was, he must speak from memory. He took thirty drops of the tincture, and shortly experienced a slight acceleration of the pulse, with slight giddiness, and exhilaration of spirits; in an hour or two he felt an inclination to sleep. The next day he took sixty drops with increased effect, attended with dryness of the fauces; the day after, the dose was one hundred drops, when there was an increase of the giddiness, and he slept soundly. The pulse all this while was not increased above six or seven beats in the minute. He had tried it in disease; he had given it to an hysterical female, complaining of sleeplessness; with her it had produced giddiness and slight nausea, but she slept soundly. He had employed it in other cases, but was unable to state the results from the want of his notes. In some instances he had been obliged to relinquish its use on account of its causing feverishness and dryness of the throat. He begged to add, that the intoxicating and narcotic effects were increased by the dose being taken in ale or spirituous liquors. He had come to the conclusion that the medicine was not one-sixth or one-eighth as strong as it was said to be by Dr. O'Shaughnessy, but he believed it to be a medicine of some efficacy, and deserving of further trial.

Dr. Farre wished to inquire of Dr. O'Shaughnessy whether the inebriation was always attended with feelings of pleasure, or at times accompanied with those of alarm and terror, as described by Mr. Ley in a communication in the Provincial Medical Journal, and also what was the largest dose that had been given in this country.

Dr. O'Shaughnessy was not able to answer the latter part of Dr. Farre's inquiry, and with regard to the former he begged to say that apathy or insouciance was as often present as the feelings of pleasurable excitement, but he could not recollect a single instance in which alarm or terror had been occasioned by it. The natives of India will not use the churru or extract for intoxicating purposes if it has been made more than twelve months.

Dr. Houlton inquired of Dr. O'Shaughnessy respecting the production of catalepsy, which it appeared had been caused by the drug in India, but not in any case in England.

Dr. O'Shaughnessy stated that it was a singular occurrence that, in the first three cases in which he gave the hemp, catalepsy was produced, but it was not of universal occurrence. He had seen it in twelve cases, but it was more general in animals than in man. Animals under the influence of the hemp, if not absolutely cataleptic, have a tendency thereto.

Thanks were then presented to Mr. Ley for his interesting communication, and the meeting adjourned.

Specimens of the churru from Bengal and the Nepal, of the gunjah, the Calcutta and English extracts and tincture, were placed on the table.

The meeting-room of the society was exceedingly crowded throughout the evening, the gentlemen present manifesting the most lively interest in the discussion.