CANNABIS.

by

Charles Maslin Deane.

1862.
Cannabis Indica
by
Charles Maclennan
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Su lune tormentum ingenii admove
Plerumque durum. Su sapientum
Curas et arcanum jocosum
Consilium regis Lyæi.

Su p הכריך meditatis anxiis
Viresque, et aditum cuma humeri
Post te neque inato tumenti
Regum apices, neque militum arma.

(Virgil Lib. 3 ode xxi)
The subject of this paper is Cannabis, or Hemp. It might probably be asked, why I have chosen, since so excellent and valuable a thesis was presented to the medical faculty in 1850 by J. A. Christie, on the same subject. My reasons are two-fold; when I commenced it, and indeed before I had collected nearly the whole matter contained in this dissertation, I was ignorant at the time that a treatise had been written on Cannabis, and presented as a graduation thesis; and when I became aware of it, there was not sufficient time remaining to re-choose, and write upon something different, since the time for giving in the thesis was just approaching. Secondly, I hope to be pardoned if I say the subject was chosen from motives of a selfish nature, and to gratify my own interest and curiosity. Intending at some future period to investigate it still more, I thought it behoved me to obtain all the information possible, regarding it, whilst I had the advantage of so excellent a library as that of the Edinburgh University to refer to. — Hemp has of late years excited considerable attention not only in the medical world, but
also in the general community; for in this age of literature, where learning is cheap, and the facilities for acquiring it so easy; nothing of any moment, whatever its nature, can be discussed, without every one having ample opportunity for acquiring a thorough knowledge of it. So it is with hemp — who has not heard of its medicinal properties?

The History of Hemp possesses considerable interest, extending as it does over a period of more than 10,000 years, during the latter half of which, its use seems to have been as well known as at the present day. It is curious that nowhere in the Scriptures is any mention of it. The celebrated historian Herodotus, who lived about 450 B.C., before the Christian era, is the first individual who speaks of it; and from what he says, we shall find that hemp was not only used in the construction of fabrics, the manufacture of which had arrived to a very high state of perfection; but also that the properties of the plant (physiological) were also known. He informs us that the Egyptians, after burials, and after having performed funeral burial rites, cast three rods in the ground, meet-
ing each other at the top, around which they close
by unlace worlow cloths, and on a dish placed
in the middle of the tent, they place red hot stones
"["In this country they have a kind of hemp, very
similar to flax, except as regards thickness and
height, in which respect the hemp far exceeds.
It grows spontaneously, and is also cultivated.
From it the Thracians make garments resembling
linen, which no one unless experienced could
tell whether they were linen or hemp; also that
any one who had never seen hemp, would positively
ly assent them to be linen."]"
"["Then however, the
Scythians have obtained some hemp-seed, they take
it beneath the cloths, and throw it onto the red-
hot stones, which, whilst it perdueth much smoke,
produces such an amount of vapour, that no
face and sweating bath can stell it; and they
delighted with the vapour, raise a shout, and the
they do instead of washing, for they never bathe
themselves with water.""
"["He also informs us that the
women make a lane or epithee, with the seed,
pounded up in water along with ephex, wsck,
frankincense, with which they lwoem their bodies
and faces — — Pausanias about the same

time, says that the best hemp was obtained from Elia (a country of Peloponnesus, situate in western Arcadia) Moschion states that by the command of Nireus, second, a large ship called Syracuseia had hemp UIPE which came from the region of the Rhone. — Automedon in a satirical epigram complains of a bad dinner given him by one of his acquaintances, and compares the stringy cabbages to hemp.

Pliny says there was a plant called hemp, which was remarkably useful for making ropes. The best hemp was obtained from Elgasa and Alapanda, (both inland towns of Caria) and a fine quality was also obtained from the country of the Sabines. The seed (he says) makes new impotent; the expressed juice will extract worms from the ear, though giving ear-ache in return; the infusion of the plant will evaporate water, hence it will stop diarrhoea in animals. A decoction will relax stiff joints, cure gout, and similar diseases; and is useful when applied to burns, provided that they be not allowed to become dry. — It would seem probable that he is confounding two different plants, not only the real hemp but also the kurvus big yppix or
Dioscorides describes two kinds of hemp: the ἴχνη κρπός 37, and the ἱχνη κρπός 27, the cultivated and the wild. Of the latter, I shall say nothing, as it implies the hemp-mallow, which is not in any way connected with hemp. Regarding the real hemp he says, after describing its botanical character, that the expressed press juice of the seed, when dropped into the ear, allays ear-ache. Galen says, that hemp seed dispels phlegm. Also in his article on food, that hemp seed is difficult of digestion, harmful to the stomach, and head; that it weakens in an inebriant; and especially when largely taken, it attacks the head, and sends its vapours to it; it also impacts a flow, and is not without medicinal properties. Strabo says that Colchis in addition to wool, and pitch produced hemp. Cleomelius says that hemp should be grown in a rich, well manured, moist, flat, and well cultivated soil, and in the latter part of February, or the beginning of March.

Many authors suppose that the πέτος Ἰθακεία (which we read in Homer) which Helen gave to Telemachus in the house of Menelaus, is poeti
his troubled mind, was a compound of herbs. It is certain that whatever it was, Helen obtained from Egyptian Thebes, a place which was then celebrated for the number and virulence of its plants. Helv. describes the derivation of the word to be very not, and

TR to grief, and which would rather seem to indicate a preparation than a plant; he says it is impossible to come to a satisfactory conclusion, but he inclines to the belief that it was the poppy or some preparation of it. An extract from Dr. Paris’ Pharmacologia, will help to confirm this; "it was possible that Helen mixed it with wine, and gave it to the guests of Atalante under the expressive name of Melephantes to drive away their cares, and increase their hilarity; and this conjecture receives much support from the fact that the melephantes of Homer was obtained from Thebes in Egypt; hence the tincture of opium has been called the Thebaic Tincture." Geddes speaking of melephantes says it is a fust which when infused in wine, disperses sadness, and induces forgetfulness of all evils. Some say it is Heclopons, others Helenium; the latter opinion seems the more probable, for nothing else can be supposed, than that Helen gave that which was given into the wine Helenium.
It was a custom at Jerusalem many centuries before the Christian era, to administer preparations of hemp to prisoners about to suffer death.
(whose name it bore); he evidently alludes to the Incan- 
dale Helenium, or Elecampane. I should be inclined to 
think that it was either opium or hemp, and 
judging from the nature of the country, and many the 
circumstances, that it was the latter. Assuming it to have been hemp, then its properties must 
have been known at least 3000 years ago, before 
the siege of Troy, at least 1200 years B.C. 

By some commentators it is supposed to have been 
the active ingredient in the potion offered to our Savior, 
immediately before his crucifixion, and this supposition 

is to a certain extent borne out by others. It would 
appar, that two different drinks were used in the 
occasion of his death, one given offered him when 
about to be crucified, and the other immediately 
before he expired. We know that it was an ancient 
custom for individuals who had to undergo an ag- 
ecyng death, to obtain either from friends or per- 
lby some ingredient whereby they might deaden their 
sensibility, and thus render themselves less sensible to 
pain, and it is not unlikely, judging from this 
circumstance and from others about to be related, 
that the former preparation might have been pre- 
bared by kind friends, in order to stupefy him.
That so he might not feel the smart of the painful mode of death he was about to suffer. This preparation (using it makes account of it) was composed of some mingled with myrrh: (now the word myrrh in the original, does not only signify the substance known by that name, but also anything bitter) again we are told that he tasted it not, on

identical, because he intended to bear the whole affliction, and that it should in no degree be lessened; he might apply to this custom the 6th verse of the 21st Psalm.—"Give strong drink unto them that perish." Of the second preparation (which was given him by means of a sponge fixed on a long rod, whilst he was on the cross, and immediately after he had called out, which occurred a few instants before he died) he tasted, in order that the prophecy might be fulfilled; "They gave me also gall for my meat and in my thirst they gave me vinegar to drink." This last preparation is entirely different from the former one, and it was given not by friends or the but by consisting of something really nauseous, and bitter, given him

not by friends, but by enemies, and revilers, as the last and unmitigated insult they could inflict.
upon his still live body. What the properties of hemp were known at a very early date may be inferred from the following, which is an interpretation of an extract from a Chinese work entitled Hua-ni-chi-tung (published in the 16th Century) and which is a review of the oldest Chinese records in medicine and surgery (translated from the Chinese into French by Stanislas Juliene). It is relative to Hua-ther who flourished under the dynasty of Hii, about 220 or 230 year of our era. "If it was found expedient to employ acupuncture, he applied it in two or three different places; he did likewise with the moxa if it was indicated by the nature of the disease he had to treat. If the maladies were private in the parts on which the needle, the moxa, or other fluid medicines could not act, as in the bowels, or the medulla, in the stomach or intestines, he gave a preparation of hemp (Ma-yo) and at the expiration of a few moments, he became as insensible as if he had been intoxicated or deprived of life" (Note: The expression "Ma-yo" signifies literally a drug (a preparation of hemp) it was an innovation and cleanser. Fortunately we found in the later annals of Han (Biography of Hua-ther)
Hemps is also mentioned by Oribasius. Paulos of Agines, Atius as— they ascribe properties to it similar to those described by other old writers, as follows.
that the medicine was taken in wine, a powder called "mapho-pan" (literally a distilled preparation of hemp powder) that is to say, a powder containing the narcotic principles of hemp, obtained by long boiling and distillation. "Then according to the case, he made openings and incisions, performed amputations, and removed the sources of the mischief: at the expiration of a few days, the patient found himself reestablished without ever having felt the slightest pain during the operation."

Hemp has been known from time immemorial by many nations, especially among the Egyptians, Chinese, Hindoos, and Arabs. It was even known to the Romans, and it is said to have been a common custom for their prisoners to use it when about to suffer death. In comparatively modern times this plant was used to a considerable extent by the Hindoos, Chinese, and Arabs as an intoxicating and medicinal agent. In nearly all the printed old printed works on botany and pharmacy mention is made of it; in some of them the plant is accurately described. In the Hortus Malab. it is discussed under two heads, the male and the female. The former was called by
the Brunnina, *Bauji*, and this when dried along with the leaves is said to stop diarrhoea, strengthen a weak stomach, cure the endemic disease Pidao, moderate the bile, and the powder even when mixed processes to burning properties. Mixed with tobacco and applied as an emollient curing hernia, "Cannabis indica gentile penevir in concubin in habit," the latter plant (female) is called by them *Ispada, Bauji*. The leaves of both plants when largely taken, affect the mind, causing confusion. An elaborate article is contained in Pliny's *Herbarium Anthonum*. It is spoken of as *Cannabis indica*, Gungi, and herba *Hal-ferum*. "It may be considered as the nepenthos of India, because it is used for driving away pangs and bringing joy." He relates the story of a Sultān, who, when desirous of making a long journey, took doses of a preparation called "bajak," which consisted of *Bauji* mixed with various condiments, in order that he might travel without sleep. He says it was used by some people as a remedy in gonorhoea, *asthma* &c. At the present day, hemp is used to a surprising extent by a considerable portion of the habit
table globe; it is to some nations especially the
Hindoes and Arabs what alcohol is to us, or opium to the Turks. Its use may be said to be almost
entirely Oriental, and it would seem to partly be
the place of alcohol, since it is chiefly employed,
when alcohol is forbidden by law, as among the
Mohammedans, or where its use is comparatively un-
known as in the East Indian continent. The Mo-
hammedans would seem to indulge in it to the grea-
test extent, and it forms their chief companion, whe-
ther travelling in the wind and plains, or attending to
their duties at home. squatting tail-like, beneath
some planted shrub, or reclining in the shade of
some sheltered rock, they yield themselves to its influence;
and throwing aside for the moment dull care, they in-
dulge in the happiness it affords. Nor are their
princes and men in high places to be excused,
for they seated on gorgeous carpets, amid the shiv-
dows of an Eastern palace, surrounded by the
beautiful denizens of the Harem, charmed by
the lascivious dances of graceful forms, lightly
steading, to the sounds of delicious music - thus
enraptured - and aided by the imagination see-
king Amy, have glimpses of that paradise which
to them seems the one to be enjoyed after leaving this earth—a paradise of unlimited possibility! It seems curious that wherever man is found, one great effort should be to find some exhilarating substance; and that nature in her boundless goodness should not only give him wherein he may be clothed, and fed, and healed, but also means, each adapted to its own peculiar circumstances and conditions, whereby he may be comforted, cheered, and life made easier to him; not that they shall be abused, and used in excess, but in moderation, and in that quantity which he only absolutely requires.

Its Botanical Characters—Cannabis sativa and Indica belong to the Dicota Portandria Linnaeus, and Filicales (Natural Classification). Suborder Cannabinae; a hemp-wool. Cannabis is a dicocious annual plant, very rarely monocious, attaining in this country a height varying from three to four feet on an average, and in hot climates from six to twelve and even fourteen feet. Its root is whitish, fusiform, and contains a large amount of strong fibrous tissue. Its stem is erect, irregularly angular, and bran-
The leaves are opposite and alternate on long slender petioles, digitate and composed of five to seven small lanceolate, narrow, rough and serrated leaflets, having subulate stipules. The male flowers occur in racemose clusters, axillary, with subulate stipules. The perianth is reflexed and five parted; the essential organs consist of five innate stamens, with short filaments, and large 2-celled anthers, which open longitudinally. The pistilliferous or female flowers occur in racemose spikes, enclosed in bracts; each flower is surrounded by a well-shaped acuminate perigon which is rolled around the ovary and having a slit on one side; it is persistent and ventriculate at the base. The ovary is single (containing a single suspended ovule), rounded, sublobular, one celled, having one short style with two stigmata. The fruit consists of a single,orate achene,minus of a gray or nutmeg color, smooth, shining, spotted and marked with a colored hilum - no albumen - embry o curved upon itself. There seems to be no essential difference between the Cannabis sativa and C. indicra beyond this, that in the
forms the plant does not branch for some distance from the ground, whilst in the latter, the branches commence immediately; in fact all authorities seem to agree that both plants centre in one species. Roxburgh in his Flora Indica states that he has found the leaves both opposite and alternate and sometimes both male and female flowers on the same individual, and even hermaphrodite. The whole plant has a peculiar smell, and a slimy feel. It is remarkable for the strength and durability of its fibre, which renders it commercially valuable, and when grown in hot climates for a peculiar resinous substance, still is exuded from the plant.

Hemp seems to have been a native of either India, or Persia, more probably the latter, judging from the Etymology of the Sanks or Kārva Bīr or Kārva Bīs; these words are derived from the word Kārva Bīs which signifies foul stream; and the latter word from Kārva a reed, the pond which signifies hemp in Persia is Canna and the Arabic, Kannah. Kannah or Kannah, these last words being derived from the Kārva to mow. There also appended as far as I could
the etymology of the English word hemp, and also
the chief names by which hemp is known in various
countries.

Persic, Canna, Beng, or Banj.
Arabic: Hanneb, Hinnab, Hinnat, Assawa, Assalb.
Turkish: Hassish, hastish, Hassanick Begische mahtan;
Greek: Cannabis.
(Sanskrit: Guni, ganika, pana, phanapat, Baja)
Latin: Cannabis, horti, platium.
Italian: Canapa.

Danish: Cannabis.

Dutch: Cannabis, or hinnin.

Czech: Canaib.

Gaelic: Cannab, Canib.

Lithuanian: Kanapas.

French: Chanvre.

Scandinavian: Hanf.

Swedish: Hanfna.

German: Hanf.

Anglo-Saxon: Hanep, canawie, hanep.

English: Hemp.

Hindi: Bhanghie, Bang, ganjah, subje, sidha
Hottentot: Dacha, Dakka, dama.
Nipal: Chere, Churnes, chomes.
The distribution of hemp may have taken the course pretty nearly in the winds following each other down the column except the three last viz. the Hindu, Atahurst, and Decauld.

Hemp is chiefly cultivated in Persia, Carcaea, Himalayas, Chipaul, the greater part of Bithynia, India, China, both European and Asiatic Turkey, in Russia as far north as Archangel, in the southern countries of Europe, especially Italy, south of France, to a small extent in Holland, Germany, and Spain in Africa from north to south, especially in Egypt, region of Saire river. In America, Mr. Doyle says it is extremely abundant in the Himalayas at elevations of 6000 and 7000 feet and it grows to luxurianity, that it rises to a height of 10 and 12 feet. And Wissett states that near Bischwiller in Alsace, are found hemp plants which at the bottom of the stalk have a diameter of more than three inches, and while the strongest man is unable to pull it up. Hemp is endowed like many other plants with a wonderful power of adapting itself to soil, and climate, and it seems capable of growing in any climate which man can.
lately hear. Of course in this paper we shall only speak of the plant as regards its cultivation for its peculiar resinous matter it affords, and not its fibrous qualities. Hemp when grown in hot climates in addition to flax, produces a peculiar glandular secretion, and this substance can only be produced under certain conditions; for though many attempts have been made in this country by various means, to produce this resin, all have hitherto failed. Among the most careful experiments, and observations upon the growth of this plant, may be considered those of Dr. A. Christie, assisted by Professor Balfour, and also observed by Dr. Christie. From these, he (Dr. A. Christie) came to the following conclusions:

1. That the minute glands under favorable circumstances would act vigorously in producing the active principle resin, which in this case was in very small quantities.

2. That a certain climate which we cannot imitate in this country is essential for this action.

3. That the Cannabis Indica, and C. Sativa are identical.
14. That the hemp plant possesses a peculiar and
sacred virtue, owing to its considerable strength,
which is not sufficiently noticed upon in the
standard works of materia medica and Botany.

The active principle of hemp, as previously stated, can
only be produced by the plant under certain condi-
tions, for although growing and ripening at full
maturity in this country, no one has obtained the
precious matter in any notable amount, and
this would seem to reside in something peculiar to
the climate in which it produces it. Many at-
ttempts have been made to explain it; so that
the plant requires to be subjected to great heats
in summer, and cold in winter, that there is
a difference of species &— and which appears to
me in no way to account for it; for placing
the plant under conditions as closely as possible
resembling a tropical climate, for instance
in a well constructed and regulated hothaus,
we fail to produce the same in any extent, and
should the little be experimented (that may hap-
en to be produced) it does not produce the
actions upon the animal economy, which the
Indian variety does, for it is minus the narc-
ic properties. That & regards it being due to
great cold in winter; witness the countries in which hemp produces the resin in the greatest quantities; where is the severe winter? who does their winter produce ice the thickness of this paper? take for instance India or other like country whose winter at the most consists almost entirely of continued rain. Others say it requires a moist climate. I do not think India, or Arabia, or Morocco, times, at least at the time when the plant has arrived at maturity, and commencing to flower; at which time the resin is said to be most actively secreted. Again, that it cannot be due to a moist atmosphere might appear evidence from this, that the air of hot-houses although tropical as regards heat, is loaded with moisture, derived in part from the soil and from the transpiration of the contained plants, and which is put into, as in a few cases, by the glass coverings. I would rather attribute it to this circumstance, that at the time of the flowering of the plant, when the resin is being secreted in the greatest quantities, the heat is most intense, the atmosphere during the day, is as it were, panting for moisture, and these circumstances stimulate the plant to
give forth the liquid resin, the water portion of which is carried off by the dry atmosphere leaving the rectified resin behind. Another fact which may assist in explaining it, that in conjunction with the former circumstances, the plants receive not that time no nourishment from rain, but from the dew, which during the nights is very plentiful. The Indian variety of hemp has a very peculiar, heavy, narcotic odour which to some is not unpleasant. It is said, that with some persons it produces headache and giddiness occasionally nauseous, should they traverse a hemp field.

The Resinous matter is the substance sought after, and it is collected in various ways in different countries, but in all it serves one purpose, to produce intoxication, a property which it possesses to a remarkable degree and to cause while various preparations are used both of the plant itself and of the resin.

The resin is collected in Central India (as Dr. Obadiah says) clad in leather dressed skin through the hemp fields, brushing through the plant with all possible violence; the soft resin adheres to the leather and is subsequently scraped
off, and kneaded into balls; a finer kind is collected with the hand; in some instances the lea-
then a null is dispensed with, and the resin is gath-
ered on the spines of naked cocties"—In Ve-
here, according to Captain Smith it is collected
thus, to quote an extract from his work: "The most
unmatchable drug to be found in Nepal is the
Churnus, the offspring of the plant Jeesi. It is
chiefly raised in the north part of the kingdom.
The plant differs in no respect from the hemp, ex-
cept in the odor of its leaves, which is of a most
persuasive strength. The Churnus is extracted
from the plants when the plant is in flower and
its seeds are on the point of maturity, it being ma-
terial to the purity of the extract, that the leaves
must be freshly or dry. The manipulation
consists in rubbing the leaves gently between the
hands, until these have become sufficiently
gel with the juice which adheres to the palms,
in the form of a dark viscous and tolerably
consistent substance: this being removed with
a spatula or knife is made into balls or lumps,
and in an unclarified state sold as Chur-
rous. "The Clarified Churnus is called Nima.
(from its resemblance to wax) and burns with
the brightness of a resinous flame.”

Fire Alphonso says it is collected on the skin
of naked Costeas.

The resin is thus found to be a glandular production
of the plant and when seen in mass will of course
consist of innumerable small particles mixed toget-
her; it contains all the active principles of the plant.
It has a very dark dull green color not unlike
what is called “invisible-green cloth,” an aromatic
resinous odor, a bitter, acid, and slightly pung-
ent taste; it is highly prized even in the coun-
tries in which it is produced, and in this country.
A genuine sample of the resin is still a curi-
osity. Some is said to remain soft even after
drying it possesses a fragrant resinous
odor, which becomes much stronger on applying a
little heat to it. One of the most powerful
varieties of this drug is said to be the Chinar or
Kino of Herat.

The next preparations of which we shall speak are
Gurjale, and Bang, which consist of the plant
itself—Gurjale a hashish as found in the
Bazars of Calcutta consists of the stems torn—
and the leaves and flowers agglutinated together by the resinous matter, or by the small quantities which remain after the bulk of it has been removed. It is sold in the form of bundles about 2½ to 3 feet long, and from 2½ to 3 inches in diameter; these bundles generally contain about 2½ quarts. They have a greenish color inclining to black; a faint narcotic odor, and a slightly bitter taste. Ganja is chiefly used for smoking. Bang, bugie, or belief, he is said to consist of the leaves and capsules without the stalks, or at least only the very slender ones; this is chiefly used for smoking, and also for making intoxicating beverages, etc. In a letter from W. C. Müller to Dr. Hooker in 1853 he says: "That in India there are two varieties of intoxicating drugs, one from hemp, and sold in the Bengal, one called ganja, the other bang. In this part of India (Patna) ganja is procured from the region of Rajshahie, (n of Calcutta). Bang comes chiefly from the district of Sirkhet, in Ram and foothills. In external appearance they differ considerably: ganja is sold in the form of stalks 3 or 4 feet long with the little bracteae attached; the whole having been
dried and pressed flat. The color is a dirty brown, odor strongly aromatic, and heavy; very resinous to the touch. This variety is highly intoxicating, accounted for by the abundance of resin (the Chirurus of Michael and others have sold retail (defereed of stalks) at 200 pence per pound, (80 lbs avoirdupois); the high price being due to the weight of the tax imposed on it by government. Bhang is in the form of dried leaves with only fragments of stalks, and atounds in the dried inflorescence, apparently female. Color dull green, not much deeper, and is greatly deficient in resinous matter; possesses slight intoxicating properties. Ganja is smoked like tobacco, its continual use brings on asthma. Bhang is not pushed, but is ground up into a pulp and mixed with other ingredients, so as to make a thick drink called subject, referred to be cooling, and highly conducive to health.

A very interesting account of the use of hemp in Africa, by Dr. Acher, Surgeon to the Colony of Sierra Leone, in The London Journal of Botany for 1851. He says "The Diamba plant (Cannabis Indica) is considered to be
indigenous in致使 situations in the interior or western Africa near the Congo or Zaire river. A story is told of its discovery by a huntsman, who observed a number of antelopes who had browsed on the Diamba, to be stupefied and having informed his neighbours of the extraordinary circumstance, they repaired in a body to the spot. The approach of the people and the firing of the muskets had no effect in causing the animals to a sense of their danger, and accordingly they were all quickly dispatched. It is well known to the Portuguese on this coast, its seed was brought to Sierra Leone by Congoes captured by one of our cruisers, and is now distributed over the colony, and is grown by the Abora, Ebos, and many of the other liberated African tribes, and also by the Mandingo, Settim, and Cotties. Average height of this tuberous annual shrub is from 6 to 7 feet, but in fertile soils, to 12 or 13 feet and some of the larger plants occupy a space of 20 feet in circumference. Sown in April or May, flowers in August 1st. The flowers are slowly dried by fire or sun, and mixed
with seed from the drug chacoonie - the leaflets are also used but are apt to produce vi-
olent head-ache: called machado; it is suc-
hed in a large wooden pipe called uto-
do, also in a calabash or clay pipe -
used as a soothing luxury by the Afri-
cans and Créoles - when used, the pipe is
handed from mouth to mouth and soon
produces the desired effect; the smoke is drawn
in, is there detained, and a large portion
swallowed; as it slowly passes up by the
nostrils, about aqueous sensations can fol-
low; and the excitement displays itself
by heavy bursts of laughter, loud exclam-
ations, droll exhilarating conversation; but
as the debauch proceeds, its full effects fol-
low; temporary frenzy seizes the smokers,
and they issue from their haunts, singing
and shouting as they reel and staggers.
their homes. Intense and maddening head-
ache, accompanied by stupor is often the
result of these orgies; and the latter consequence
generally lasts for twelve hours. One pipe
charged with this drug is enough to pro-
duce in four persons this most delight-
ful substitution without injury, and is much esteemed by the natives for coughs, pains in the chest, and stomach. Diamu is
reputed under the names of elaoonoe and elchiaral, the former being made up into very small packets which are sold at a
halfpenny each.

Various liquid preparations are made of it, by boiling it down in water along with spices, and other substances, to increase
its power, or to add their own special properties, as musk, cinnamon, cloves, nutmegs, etc. One of the important of all the Orien-
tal preparations is made by the assistance of some fatty substance— it is done in the follow-
ing manner. The leaves are taken and boiled in water along with spices, etc., the infusion is
then filtered, and to the filtered product is added butter or other fatty material. It is then
boiled down to the consistency of syrup, and the fat which has taken up the whole of the
active principle is collected, to it is then
often added musk and attar of roses. This
fatty preparation is extremely active, and
is capable of acting most energetically upon
he animal economy, even acting as a powerful aphrodisiac. It is capable of being kept for years without undergoing any diminution in its effects; the only change seems to be that the fat occasionally becomes rancid: it is chiefly used by the Turks. The following is an extract from the Journal de Chirurgie Practique for 1857 which appeared in the British and Foreign Med. Review. It is said that the Orientals make a deplorable use of preparations of Indian hemp, which they smoke under the name of lift or hashish; or they smoke it in leaves in fat, butter, or honey, so as to extract the active resinous portion; this preparation, termed chadjaun or towem, they eat. The partners and eaters of hashish are called hashishins, whence the word assassin is said to be derived. The legalize chews besides using Indian hemp in the ways described above sometimes add to it opium or tobacco for smoking; sometimes they eat it mixed with fat, sesame, cows, camella, or ginger and when insensible to its effect from long use from long use, they add wine.
nomical, and this for a time success in pro-
curing a state of stimulation which soon
ends in insanity?"

Dr. Joubon of Bombay says that in many
provinces, as in Poona, a draught of the infu-
sion of the leaves forms a prelude to the daily
dinner, amongst the better classes. The tri-
mulus has a champagne-like transi-
ence, and is said to what the appetite and
improve the digestive process. The continual
use of Cannabis is practised by many at-
all periods of the day, speedily breaks down
the system, the lungs, generative power &c.
all yielding to its influence."

"The celebrated traveller M. D'Alberto, appears
to have made it pretty plain that our word
assassin is derived from the Arabic name
of the Indian hemp." It is well known that
it was originally employed in Syria to de-
nominate the followers of the "Old Man of the Moun-
tain" who were accustomed to devote them-
selves with blind obedience to the execution of
his orders, however barbarous their character.
These followers, according to the old traveller
Marco Polo, were selected from the worst
robut young men of the country, which was under this pignaral domination; their edu-
cation tended in every way to impress upon them the duty of absolute obedience, in return
for which they were promised after death all the sensual pleasures they could imagine; and
a foretaste of these was now and then given to them by intoxicating them with hashish
in the midst of scenes in which everything was provided to gratify their pleasures: in this
manner a sort of fanaticism was gradually induced, which made the Hachib-
chins (from a corruption of which name
the enw assasin was formed) ready to pas-
orifice either themselves or others at the dis-
erction of the chief, without the slightest hes-
pitation.

There are many other preparatives of this kind, but I do not intend to comment upon any of
them, except the ootreast, which is the prepara-
tion chiefly made use of in this country:
Those made abroad (as far as I can make out)
are made by boiling down an infusion of the
leaves, to which rum is occasionally added,
to the consistence of an ootreast that made
in this country is by steeping the resinous tops in alcohol or rectified spirit, filtering the phoe- 
iminuous solution, and evaporating to the form of an extract. The spirit must be highly rectified, 
in which the resin is exceedingly soluble; gum- 
jaq is said to yield one fifth of its weight of 
alcohol when boiled in it. The resin is precipi-
tated instantly on the addition of water to the 
tincture. The genuine extract has a dark dull 
green or brown color and a rather pleasant 
ammoniacal narcotic odour which is peculiar; 
the taste is bitter, pungent, slightly astringent, and 
ammoniacal. Prof. Cohrs obtained a prepara-
tion at Bucharest, which was called Briimini-
gi, and which was taken in 10 grain doses to produce laughter. He says it was in 
the form of cakes, very tough and difficult to break; externally it was nearly black, 
and dull; a section through its middle 
was of a dirty grey-green color, had an 
uneven fracture; the taste was insipid rather 
than bitter aromatic. By long chewing, the 
tough masses were gradually dissolved, leav- 
ing behind a small quantity of a hard 
crummy substance. Long chewing produced
irritation of the throat.

Dr. Polli of Milan lately obtained some lac
chish from Dr. Peko of Damascus to pay
15. It was in a cylindrical form and of a
dark brown color; it looked like a dry extract
had a pungent smell; it was readily soluble
in water, but much more so in ether; from the
solution a black resinous substance separated
itself, having all the characters of Canad-
a bina. A gramme of this lac-chish contained
a 1/4 of a gramme of resinous matter and
burnt, it left behind half a gramme of
ash, in which was evident the presence of
breeds of Iron, Lime, Silica and Carbo-
num and Sulphuric acids

The seeds of Hemp is also used on account
of the large amount of oil they contain.

The oil is used by the Russians as an article of
food. It is employed by painters as a dry-
ing oil, and it is said to make a valuable
varnish when boiled. A large amount of
painting is made from it, it is burnt to
a limited extent in lamps but from a consid-
erable amount of resinous matter it contains,
it is apt to stop the wind. Bird fanciers
use the seed for feeding cage birds on account of its nutritive properties - it possesses according to Burnett "the singular property of changing the colour of the plumage of dull and gold finches from yellow and red to black if they are fed too long on it or in too large a quantity. I have seen cage birds fed on hemp seed and yolk of egg almost entirely, for months without noticing any perceptible change in color.

Chemistry of Hemp. The active principle due to a substance which has been called Canabine and which is found in the resin. It is said to be a soft neutral resin, which is soluble in alcohol and ether, also in the fixed and volatile oils. It is not soluble in proof spirit but in redistilled spirit, partially soluble in alkalis, insoluble in acids. It is precipitated from the solution by water and falls down in the shape of a white precipitate. When heated it gives off a strong aromatic smell, and it has a warm balsamistaste. Messrs. Smith of Edinburgh who made some elaborate experiments with it, say that it
resembles Salapine: except in respect of this, that it remains soft even after repeated drying, and in its taste and smell. From the resin a potable oil has been obtained, but as yet little or nothing is known regarding it. The fixed oil of hemp when freshly expressed has a greenish yellow color, a pungent odour, but not a disagreeable taste. Its specific gravity is 0.927 at 52°F, readily soluble in boiling alcohol and it freezes at -170°F (Pareira).

Bucholz analyzed the seed and found it to contain the following (Pareira):

- Fixed oil 19.1
- Resin 1.6
- Sugar with Dextrin 1.6
- Gummy Extract 9.0
- Solute Albumen 24.7
- Woody fibre 5.0
- Husk 38.3
- Loss 0.7
- Total 100.7

Dr. Kane made a somewhat careful analysis of the plant which led him to the following conclusion: "It is plain (people) that by the quantity of Nitrogen, Phosphoric Acid..."
Magnesia and Lime which hemp attracts from the soil, it must be an experience proves it a highly exhausting crop. The following are his analyses.

<table>
<thead>
<tr>
<th>Composition of Hemp (Exx. at 212°F)</th>
<th>Composition of Hemp (Exx. at 212°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon 33.94</td>
<td>Carbon 40.50</td>
</tr>
<tr>
<td>Hydrogen 5.06</td>
<td>Hydrogen 5.98</td>
</tr>
<tr>
<td>Oxygen 48.72</td>
<td>Nitrogen 1.82</td>
</tr>
<tr>
<td>Nitrogen 1.74</td>
<td>Oxygen 29.70</td>
</tr>
<tr>
<td>Ashes 4.54</td>
<td>Ashes 2.00</td>
</tr>
<tr>
<td><strong>Total</strong> 100.00</td>
<td><strong>Total</strong> 100.00</td>
</tr>
</tbody>
</table>

Composition of Hemp plant was found to consist of:

<table>
<thead>
<tr>
<th>Potash 7.84</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soda 0.72</td>
</tr>
<tr>
<td>Lime 4.05</td>
</tr>
<tr>
<td>Magnesia 4.88</td>
</tr>
<tr>
<td>Alumina 0.37</td>
</tr>
<tr>
<td>Silica 6.75</td>
</tr>
<tr>
<td>Phosphoric Acid 3.22</td>
</tr>
<tr>
<td>Sulphuric Acid 1.10</td>
</tr>
<tr>
<td>Carbonic Acid 31.90</td>
</tr>
<tr>
<td>Chlorine 1.53</td>
</tr>
<tr>
<td><strong>Total</strong> 100.00</td>
</tr>
</tbody>
</table>

Ashes excluded the organic content of.
Analysis of the leaves (dried at 200 F):

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorophyll extract</td>
<td>1.25</td>
</tr>
<tr>
<td>Chlorophyll soluble in Alcohol</td>
<td>4.75</td>
</tr>
<tr>
<td>&quot; Alcohol</td>
<td>9.375</td>
</tr>
<tr>
<td>Green resinous extractive</td>
<td>5.0</td>
</tr>
<tr>
<td>Coloring matter</td>
<td>10.15</td>
</tr>
<tr>
<td>Gummy extract</td>
<td>14.45</td>
</tr>
<tr>
<td>Malate of lime with extract</td>
<td>6.75</td>
</tr>
<tr>
<td>Extractive</td>
<td>6.875</td>
</tr>
<tr>
<td>Vegetable Albumen</td>
<td>8.0</td>
</tr>
<tr>
<td>Lime Magnesia and Iron</td>
<td>9.5</td>
</tr>
<tr>
<td>Lignine</td>
<td>12.0</td>
</tr>
<tr>
<td>Loss</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.000</strong></td>
</tr>
</tbody>
</table>

Locheff's analysis of the leaves of Can. Peltata:

Chlorophyll
Glutene
Phosphate of Lime
Brown Extracted
Sweetish bitter extractive
Brown Gum
Lignine
Soluble albumen
Salts of Ammonia
Salt of lime and Magnesia
Alumina and silica
The Physiological Actions - The actions of heat upon the healthy body, are very remarkable, and peculiar, consisting generally of a series of phenomena which precede each other; but this is not always the case, for often one or none of these phenomena may be entirely absent, or new and anomalous ones may be produced in their stead. Hence, in one respect, it is very like alcohol, for its effects are most intimately connected with the temperament and habit of the individual; perhaps no drug more so. Its action may be described as the following: In the majority of cases, they occur in the order given - at first and especially if the dose be small, as a diffuse excitation, if large, as an established, intense, phrenological, and macromaniacal, and it would seem, at any rate, in most countries, to act as a catalyst.

I will endeavor to illustrate these various actions by a few well-marked cases in which the drug has been taken or given for experiment.

The following are the effects as described by Salk to Dr. Polli de Chialam (which are given in the British and Foreign Medical Review for 1800) of a rapugle d'ore. There is at first a pervasion of great vacuity, and at the same time a fullness in the brain.
without any nausea or illness; there is a whistling in the ears, which changes to a bubbling; the vault of the cranium appears to be raised, and there follow pain at a certain area of heat, which rise to the head and over the face; then there is fullness and redness of the eyes, very quickly the sound in the ears clears and there is set up sudden laughter. Efforts are made to speak, but what would be said is forgotten; the words and the ideas are misplaced, and a tremendous burst of laughter breaks off the sentence begun; in a few minutes this inordinate laughter becomes irresistible; after a certain time as sort of soft languor takes possession of the patient and the powers of movement are impeded, the limbs fall as if separated from the body, all seems to be suspended around; a splendid light appears to inundate, yet with blinding sensation; the most ordinary faces appearJarabe; ideas flow one into the other, and the subject abandons himself with permission or readiness that an age appears to have been lived in a minute. These faculties of the mind, which in the normal state are most exercised are those which are most exercised during the incubation. Here are exerted no anxious propensities (!) very rarely, how even the basest may bring in melancholic
symptoms or delirium. After some hours the exaltation declines and sleep succeeds: sometimes torpor, yawn and nausea or stitch occur: a copious diaphoresis relieves the symptoms. The desire of going to bed becomes irresistible, and sound sleep ends this incubation which resembles nothing else in results and effects. The further states that while the subject is under the influence of hashish he does not feel pain from blows and the mind becomes quite dull, yielding readily to the orders of a companion.

Mr. Taylor (in Paracer's chat. cited.) describes the effects upon himself, he says: "The sense of limitation — of the confinement of our senses within the bounds of our own flesh and blood — instantlyfollows. The walls of my frame were burst outward, and thumped into me; and without thinking what I was doing — losing sight even of all idea of form, I felt that I existed through a vast expanse of space.*** It is difficult to describe this sensation, or the rapidity with which it mastered me. In the state of mental exaltation in which I was then plunged, all sensations as they rose suggested more or less other- real images. They appeared themselves to me in a double form: one physical and therefore fit for certain extent tangible; the other spiritual and
Therefore revealing itself in a procession of splendid images. Curiosity was now in a way of being satisfied. The spirit (demons, shall rather not say?) of Hekkeloh had entire possession of me. The thrills which ran through my nervous system became more rapid and fierce, accompanied with sensations which thrilled my very soul being in unutterable rapture. I was accompanied by a cloud of light, thoughts which played the part harmonious colors that are born of light. While endeavoring in broken expressions I describe my feelings to my friends, who sat looking upon me incredulously—never having been affected by the drug. I suddenly found myself at the foot of the great pyramid of the Cheops. The tapering courses of yellow limestone gleamed like gold in the pew, and the pile rose so high that it seemed to lean for support on the heavens of the sky. I wished to ascend it, and the wish alone placed me immediately upon its apex, lifted thousands of feet above the wheat fields and palm groves of Egypt. I cast my eye downward and to my astonishment, saw that it was built not of limestone, but of huge square plugs of Cavendish tobaco...
most remarkable feature of these illusions was, that at the time I was most completely under their influence, I knew myself to be seated in the tower of Antonio's Hotel in Damascus, knew that I had taken hashish and that the strange gorgeous and ludicrous fancies which possessed me were the effect of it.

Dr. J. H. Ellis has given some cases in which a hallucination of the most perfect kind was produced by it. He after having left the patient alone, observes that professional readers will judge of my astonishment when I found that it remained in the posture in which I placed it. It required but a very brief examination of the limbs to find that the patient had by the influence of this narcotic been drawn into that strange and most extraordinary state of all nervous conditions — into that state which so few have seen and the existence of which so many will disbelieve; — the patient catalysed by the narcotic, had raised him to the sitting posture, and placed his arms and limbs in every imaginable attitude. A passive figure could not be more placid, or more stationary in each position, nor at the same time how contrary to the natural influence of gravity on the part. So all impressions he was meanwhile insensible. Another case in
which it had been given "as a sudden alteration in the state of laughter," and exclaimed that four spirits were springing with his feet into the air. His name we attempted to pacify him; his laughter became momentarily more and more uncontrolable. We now observed that his limbs were rather rigid, and in a few minutes, since his legs and arms could be bent, and would remain, in any desired position. He was removed to a separate room, where he soon became tranquil; his limbs in less than an hour gained their natural condition, and in two hours he expressed himself perfectly well and exceedingly hungry."

The following are cases in which poisonous effects have been produced. "Dr. Heinrich, who had previous experiments conducted by Prof. Schneff had manifested no remarkable susceptibility to the influence of hashish, took on May 6th, 1837, at half past 5 P.M., 10 grains of the preparation described before (page of this thesis). He chewed it gradually, and soon felt irritation in the nose, phlegm, head, and heart, slight malaise, and dryness of the throat, in 12 hours he began to chatter incessantly, and everything that he saw assumed
a ridiculous aspect. He was violently agitated: his face and eyes were red; and his body felt bitterly hot; he felt light in his movements. This state continued about 20 minutes, and was followed by great depression: everything seemed too narrow for him; his sight was lost; his face pale; he had a feeling of flow of blood towards the head; and when he was lifted up he experienced a sensation of pressure in the pit of the stomach; his pulse was very small, and sometimes could not be felt for a considerable time. His conviction was that he was about to die. The symptoms increased; frightful images appeared before him, and his consciousness was greatly obscured. As consciousness returned, these images became less horrible; but the patient could not restrain the tumultuous stream of ideas which passed before him, so that he was obliged to speak constantly until he again lost consciousness for a few minutes. When Dr. Schreoff saw the patient at 1/4 past 8, the latter recognized him at once. He lay in bed; his countenance was a healthy red color, but somewhat sunked; the pupils were moderately dilated; the iris was sensitive to light; the eye was easily move: the brightness of the eye was unchanged; the conjunctiva of the
bulbs of the eye was somewhat injected; the forehead was cool; the pulse in the temporal, carotid, and radial arteries was weak and not frequent; the normal; the heart beat was very feeble, sometimes scarcely perceptible; the pulse at the wrist sometimes could not be felt for a minute or more; then it would become more distinct, and rise to 78 (as the patient's normal pulse being from 58 to 60). The variations in the pulse occurred several times within an hour. The breathing was light and regular; the abdomen was somewhat enlarged, but painless; the limbs were cold, somewhat trembling, easily moved and obedient to the will; the pulse was not tender to the touch; the urine was passed involuntarily. The patient was able to sit up and drink. The senses were normal, with the exception of the cutaneous sensibility which was dull; the idea that he must die returned several times, and was always in direct ratio with the fall of the pulse.

The characteristic symptoms of this case of poisoning were the great and lasting depression of the heart's action, accompanied by the fear of death, after a short stage of excitement. The case dif

fered from others of poisoning by hydrocyanic acid
absence of inclination to help, but agreed with them in the absence of convictions. It also supports the idea that Indian Hemp and its preparations exercises the imagination a power which is possessed by no other agent; and these the great diversity in the symptoms, according to the individual.

The next case appeared in the British and Foreign Med. Chronicle Review, extracted from the Journal de Medicine et de Chirurgie Pratique. 1837. A few months ago a negro, named Soliman, aged about twenty, residing near Algiers, was tried for murdering and attempting to murder several Jews, under the following circumstances. On August 22nd after having frequent times drunk some flaxseed with opium, he entered about noon, into a Jewish Café, and remained there until 3 o'clock, smoking hashish, which is by the Algerine called Kiff. On leaving the Café he quarrelled with two Jews, whom he compelled to accompany him. One of these he attempted to strike, but was restrained by a passer by. Soliman then went home, armed himself with a cutlass, and returned to the place where he had left the Jews, but they had disappeared. He then re-entered the Café, where he began again to smoke kiff, and to eat maadjam (a pre-
paration of Indian burial.) In a furious state, he left
the Café about 4 o'clock. The day was the Jewish
Sabbath; and according to their custom, the wo-
men of the nation were standing before the doors
in their Holyday clothes. This sight was doubt re-
called to his mind the quarrel in which he had
 lately been engaged; for suddenly and without
any provocation, he madly assaulted all the
Jews in his way until some Frenchmen at-
tracted by the cries of his victims, disarmed him.
Seven persons were more or less dangerously
injured, one of whom soon died.

Another example of the effects of hemp is given by
M. Arbeau. He says: "I was engaged in conversa-
tion when I felt a prickling sensation in my feet
and in my head, a stinging while gone away
suddenly and my head seemed empty. Every
object wore a new aspect; my companions face
assumed a grotesque expression: I burst out a
laughing, and continued to laugh for almost
an hour. The nearest tinkle renewed my mirth.
Meanwhile the most varied and whimsical
ideas coursed pirlly through my mind. I
experienced the most perfect sense of comfort.
For me there was no longer past, present, or fu-
true; the fleeting moment limited my whole existence. Then followed a calm, and deep sleep over me. The whole night was but one long delightful dream. On awaking, I remembered all that had taken place, and my head was not heavy, my mouth dry as it would have been after a debauch in opium or wine."

Dr. Christison took a large dose of it for tooth-ache. It caused in a very short time complete sensation of pain, a pleasant numbness in the limbs, giddiness, a rapid succession of unassociated ideas, impossibility to follow a train of thought, frequent intervals of sleep and slight increase in the pulse: at the same time he felt quite conscious that the tooth-ache was present, although there was no pain. On the following morning he had an ordinary appetite but experienced much topicity, great defect and shortness of memory; the distraction of time was much marked: there was nothing remarkable in the circulation, or other effect.

The effects upon different individuals vary so much that to give instances of each, were it possible that it could be done, would occupy more time than...
I am now at the present time able to afford for the purpose. As regards examples I will merely add that occasionally, instead of producing effects such as have been described previously, hemp acts as a direct sedative, and produces very unpleasant symptoms. It acts, to my own self, I took one day, a very large dose, and it produced a very unpleasant state of depression which lasted for a considerable time, and which I could not remove by taking any of the ordinary stimulants.

I tried it a second time, when suffering from a slight attack of influenza, and also dyspepsia. Instead of increasing my appetite it took the little I had away, and caused a most curious state of depression which continued for two or three days. I may add that smoking tobacco of the produce it, but that it lasts only for a comparatively short time, and is much more severe than that produced by the hemp. It is also more different in kind. I instead concluding the physiological action, by giving an extract from one of the reviews, which I think admirably portrays them.

"One of the first appreciable effects of the hashish is the gradual weakening of that power of volun-
rarily controlling and directing the thoughts which is so characteristic of the vigorous mind. The individual feels himself capable of fixing his attention upon any subject: his thoughts being continually drawn off by a succession of ideas which flare themselves (as it were) into his mind, without his being able in the least to trace their origin. These speedily receive his attention, and present themselves in strange combinations, so as to produce the most fantastic and impossible creations. By a strong effort of the will, however, the original thread of the ideas may still be recovered: and the intruders may be driven away, their remembrance however being still preserved like that of a dream recalling events long since past. These lucid intervals, however, become of short duration and can be kept frequently procured by a voluntary effort: for the internal tempest becomes more violent, the torrents of disconnected ideas are so powerful as completely to arrest the attention; the mind is gradually withdrawn altogether from the contemplation of external realities, being conscious only of its own internal workings. There is al-
way preserved however, a much greater amount of self consciousness than exists in ordinary dreaming; the condition rather corresponding with that in which the sleeper knows that he dreams, and if his dream be agreeable makes an effort to prolong it, and is conscious of a few, he thinks by awaking cause the dissipation of the pleasant illusion. It is another characteristic of the act of dreaming that the succession of ideas known at first less of coherence than in ordinary dreaming, and the ideas events as not to depart from possible realities; and the disorder of the mind is at first manifested in errors of sense, in false convictions, or in the predominance of one or more extravagant ideas; these ideas and convictions are generally not altogether of our imaginary character, but are rather suggested by external impressions; these impressions being erroneously interpreted by the perceptive faculties, giving origin, therefore, to fallacious notions of the objects which excited them. It is in the state of the fantasia which immediately precedes the complete withdrawal of the mind from external things, and in which the self consciousness
and power of the will are weakened, that this per- 
verted impression becomes most remarkable; 
more especially, as the general excitement of the 
feeling causes the erroneous motives to have 
a powerful effect in arousing them. (The term of 
perception is remarkably shown in regard to time 
and space—minute seems hours, and hours seem 
months; and the past and present are confounded together.) The become the 
object of impressions of the most opposite kind; 
the course of our ideas may be broken by the 
lightest cause; we are turned by every wind. 
By a word or a gesture our thoughts may 
be successively directed to multitudes of dif- 
ferent subjects, with escapacity and with lucidity 
which are truly marvellous. The mind becomes 
possessed with a feeling of pride corresponding 
with the development of its faculties; as those in- 
crease in energy and power it becomes conscious. It will be entirely dependent on the cir-
cumstances in which we are placed, the ob-
jects which strike our eyes, the words which fall 
on our ears, whether the most lively sentiments
of gaiety or of rapture shall be produced, or passion of the most opposite character shall be excited, sometimes with extraordinary violence; for irritation shall rapidly pass into rage, dislike to hatred, and desire of vengeance; and the calmest affection to the most transporting passion. Fear becomes terror, courage is developed into rashness which nothing checks, and which seems not to be conscious of danger, and the most unfounded doubt or suspicion becomes a certainty. The mind has a tendency to exaggerate everything; and the slightest impulse carries it along.

Therapeutical Actions — For the benefit of Indian hemp in medicine we are indebted to Dr. O'Shaughnessy, who published in 1829, an elaborate work on the uses of hemp, and it is on account of this that it was brought before the profession. Hemp is an anodyne, narcotic, antispasmodic. It has been much used for rheumatism, both acute and chronic, and pain with wonderful success — curing the disease when all other remedies have failed. Dr. O'Shaughnessy...
messy relates several instances, and it has been dis-
plotted by many others. It has proved special 
service in tetanus, especially traumatic, if not ac-
quiring the disease at any rate alleviating the horri-
ble tortures which the patient suffered. It has been 
tried in several cases of hydrophobia, but with no de-
cided advantage, unless with the alleviation of the 
symptoms. I am not able to find a single marked 
case in which this disease was cured by it—Dr. De-
ville, [Melian], tried it with a case of hydrophobia 
but with no avail. (On the 2nd of May 1860) he 
states that although 3 pinnies were taken, it nev-
erly checked the hydrophobic delirium with a quick de-
linium. The patient at once became doleful, quad-
and confiding; but the aphasia continued, and 
other the convulsions a general paralysis suc-
cedes. It has been of service in China, infe-
tile convulsions. Dr. Melian has derived 
ecellent effects from its administration in re-
some depression and palpitation of heart, ad-
dicted to the inordinate use of opium, in which other 
stimulants and narcotics have failed. His friends 
If Calcutta speaks of it as producing in a 
case of poisoning contracted after, half claming
eventual and stupor. As a medicine it seems more uncertain than opium, but stronger. Improved in chronic bronchitic affections and asthma with decided advantage. Dr. Brinton gave the Indian hemp with evident advantage in one case of anaesthesia, and in two cases of general dropsy, the dose being 20 drops of the tincture every 24 hours. The effect was a marked diuresis, with more or less diminution of the dysphasic fulness. In the two cases of general dropsy, this effect was not produced until the kidney had been acted upon by other remedies, and therefore it is to be inferred that the hemp acted by keeping up an action already begun. The collective effects of the remedy were, improvement of the appetite, relief of pain, and improvement of the spirits. Any more special action upon the nervous system (owing probably to the brunt of the action falling upon the kidney) was absent. Dr. Parlier used it with great advantage in spirit drinkers, and succeeded in producing peace whether other means had failed. It has been used as an oxytocic, and it was certainly seen, in some cases to increase uterine contraction. Dr. LeRoy of Maine tried it in 16 cases.
in mind of which there was no perceptible increase of uterine action but it succeeded in seven very well. Dr. A. Christian tried it and with success. I have tried it in several cases but from that I have seen I should only attempt its use whenever means have failed. I think it decidedly superior to eight of Rye and when eight disagrees with the patient or its use is contraindicated it is well to give hemp also if eight of Rye should fail to produce uterine contraction we may even then have recourse to the hemp. I think I have seen good derived from it in gonorrhea. I tried it by giving it internally and also by injection. It certainly relieves the inflammatory symptoms and the pain attendant upon menstruation.

Upon the whole hemp seems inferior to opium and many of the other active remedies. There are two great objections to the use of hemp, viz. its action is exceedingly uncertain, and varies with the peculiar temperament of the individual and secondly, its uncertainty of action. If we could have a certain and reliable preparation it would merit much more of our confidence. One great advantage it possesses that it does not cause
constipation, nausea or destroy the appetite, neither does it seem to lessen the various fevers. In conclusion, I would merely say, that, who can tell but that at some future date, this same drug which is at present confined to the apothecaries shelves, may be used as an excellent inebriant, when all ports of Peruvian balsam (as tempura people call them) shall have banished alcohol and its allies from public sale: it was thus with alcohol, it began as a remedy.

I had intended going much more fully into the physiological and therapeutic action of hemp, but lack of time prevents me.

Charles. [Signature]