Papaver somniferum

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PAPAVER SOMNIFERUM. WHITE POPPY.

Cum [illegible] opœiarum plantæ capsularum succus densatus.

Sal. [illegible] Papaver album. *Pharm. Lond. & Edinb.* Papaver [illegible] semine albo, & β Papaver hortense nigro semine. *Bauh. [illegible]* 170. *Rail Hist. p.* 853. *Synop. p.* 308. Papaver sativum [illegible] *Gerard. Emac. p.* 369. Papaver simplex album sativum. *[illegible] Theat. p.* 366. Papaver. *Hall. Stirp. Helv. n.* 1063. P. somniferum. *Hudson. Flor. Ang. p* 231. *Withering. Bot. Arr. p.* 552. *Relhan. Flor. Cant. p.* 204. [illegible] *Græcis.*

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 648.

Ess. Gen. Ch. *Cor.* 4-petala. *Cal.* 2-phyllus. *Capsula* 2-locularis, sub stigmate persistente poris dehiscens.

Sp. Ch. P. calycibus capsulisque glabris, foliis amplexicaulibus incisis.

THIS [illegible] : the stalk is round, [illegible] of a glaucous green colour, and rises two or three feet in height: the leaves are alternate, large, ovate, lobed, smooth, deeply cut into various segments, and closely embrace the stalk: the flowers are very large, terminal, and usually white or purplish: the calyx consists of two leaves, which are ovate, smooth, concave, bifid, and fall off on the opening of the flower: the corolla consists of four petals, which are large, roundish, entire, undulated: the filaments are numerous, slender, much shorter than the corolla, and furnished with oblong erect compressed antheræ: the germen is large, globular, and upon it is placed the stigma, which is large, flat, radiated, and forms a kind of crown: the capsule is one-celled, smooth, divided half way into many cells, which open by several apertures beneath the crown, and contain very numerous small white seeds. It is a native of England, usually growing in neglected gardens, or uncultivated rich grounds, and flowers in July and August.

This species is said to have been named White Poppy from the whiteness of its seeds; a variety of it however is well known to

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PAPAVER SOMNIFERUM. WHITE POPPY.

OPIUM Pharmacopœiarum plantæ capſularum ſuccus denſatus.

SYNONYMA. Papaver album. *Pharm. Lond. & Edinb.* Papaver hortenſe ſemine albo, & β Papaver hortenſe nigro ſemine. *Bauh. Pin. p.* 170. *Raii Hiſt. p.* 853. *Synop. p.* 308. Papaver ſativum album. *Gerard. Emac. p.* 369. Papaver ſimplex album ſativum. *Park. Theat. p.* 366. Papaver. *Hall. Stirp. Helv. n.* 1065. P. ſomniferum. *Hudſon. Flor. Ang. p* 231. *Withering. Bot. Arr. p.* 552. *Relhan. Flor. Cant. p.* 204. Μηκων *Græcis.*

Claſs Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 648.

Eſſ. Gen. Ch. Cor. 4-petala. *Cal.* 2-phyllus. *Capſula* 1-locularis, ſub ſtigmate perſiſtente poris dehiſcens.

Sp. Ch. P. calycibus capſuliſque glabris, foliis amplexicaulibus inciſis.

THE root is annual, tapering, and branched: the ſtalk is round, ſmooth, erect, often branched, of a glaucous green colour, and riſes two or three feet in height: the leaves are alternate, large, ovate, lobed, ſmooth, deeply cut into various ſegments, and cloſely embrace the ſtalk: the flowers are very large, terminal, and uſually white or purpliſh: the calyx conſiſts of two leaves, which are ovate, ſmooth, concave, bifid, and fall off on the opening of the flower: the corolla conſiſts of four petals, which are large, roundiſh, entire, undulated: the filaments are numerous, ſlender, much ſhorter than the corolla, and furniſhed with oblong erect compreſſed antheræ: the germen is large, globular, and upon it is placed the ſtigma, which is large, flat, radiated, and forms a kind of crown: the capſule is one-celled, ſmooth, divided half way into many cells, which open by ſeveral apertures beneath the crown, and contain very numerous ſmall white ſeeds. It is a native of England, uſually growing in neglected gardens, or uncultivated rich grounds, and flowers in July and Auguſt.

This ſpecies is ſaid to have been named White Poppy from the whiteneſs of its ſeeds; a variety of it however is well known to

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produce black ſeeds: the double-flowered white poppy is alſo another variety; but for medicinal purpoſes any of theſe may be employed indiſcriminately, as we are not able to diſcover the leaſt difference in their ſenſible qualities or effects.

The ſeeds, according to ſome authors, poſſeſs a narcotic power;[a] but there is no foundation for this opinion: they conſiſt of a ſimple farinaceous matter, united with a bland oil, and in many countries are eaten as food. As a medicine, they have been uſually given in the form of emulſion, in catarrhs, ſtranguaries, &c.

The heads or capſules of the Poppy, which are directed for uſe in the Pharmacopœias, like the ſtalks and leaves, have an unpleaſant ſmell, ſomewhat like that of opium, and an acrid bitteriſh taſte. Both the ſmell and taſte reſide in a milky juice, which more eſpecially abounds in the cortical part of the capſules, and in its concrete ſtate conſtitutes the officinal opium. Theſe capſules are powerfully narcotic, or anodyne; boiled in water, they impart to the menſtruum their narcotic juice, together with the other juices which they have in common with vegetable matters in general. The liquor, ſtrongly preſſed out, ſuffered to ſettle, clarified with whites of eggs, and evaporated to a due conſiſtence, yields an extract which is about one-fifth or one-ſixth of the weight of the heads. This poſſeſſes the virtues of opium, but requires to be given in double its doſe to anſwer the ſame intention, which it is ſaid to perform without occaſioning a nauſea and giddineſs, the uſual effects of opium. This extract was firſt recommended by Mr. Arnot;[b] and a ſimilar one is now received in the Edinburgh Pharmacopœia. It is found very convenient to prepare the ſyrup from this extract, by diſſolving one dram in two pounds and a half of ſimple ſyrup. The ſyrupus papaveris albi, as directed by both Colleges, is a uſeful anodyne, and often ſucceeds in procuring ſleep, where opium fails; it is more eſpecially adapted to children. White Poppy heads are alſo uſed externally in fomentations, either alone, or more frequently added to the decoctum pro fomento.

Opium, as we have already obſerved, is obtained from the heads or capſules of this ſpecies of Poppy, and is imported into Europe from Perſia, Arabia, and other warm regions of Aſia. The manner

[a] Hermann, *Cynoſur. Mat. Med. p.* 436. Junker, *Conſpec. Ther. Gen. p.* 279.
[b] *Medical Eſſays & Obſ. by a Society at Edinb. vol.* 5. *p.* 108.

in

in which it is collected has been described long ago by Kæmpfer and others; but the most circumstantial detail of the culture of the Poppy, and the method of procuring the opium from it, is that given by Mr. Kerr, as practised in the Province of Bahar: he says, " The field " being well prepared by the plough and harrow, and reduced to an " exact level superficies, it is then divided into quadrangular areas of " seven feet long, and five feet in breadth, leaving two feet of inter- " val, which is raised five or six inches, and excavated into an aque- " duct for conveying water to every area, for which purpose they " have a well in every cultivated field. The seeds are sown in " October or November. The plants are allowed to grow six or " eight inches distant from each other, and are plentifully supplied " with water. When the young plants are six or eight inches high, " they are watered more sparingly. But the cultivator strews all over " the areas a nutrient compost of ashes, human excrements, cow " dung, and a large portion of nitrous earth, scraped from the high- " ways and old mud walls. When the plants are nigh flowering, " they are watered profusely to increase the juice.

" When the capsules are half grown, no more water is given, and " they begin to collect the opium.

" At sun-set they make two longitudinal double incisions ‖ upon " each half-ripe capsule, passing from below upwards, and taking " care not to penetrate the internal cavity of the capsule. The " incisions are repeated every evening until each capsule has received " six or eight wounds; they are then allowed to ripen their seeds. " The ripe capsules afford little or no juice. If the wound was " made in the heat of the day, a cicatrix would be too soon formed. " The night-dews by their moisture favour the exstillation of the " juice.

" Early in the morning, old women, boys, and girls, collect the " juice by scraping it off the wounds with a small iron scoop, and " deposit the whole in an earthen pot, where it is worked by the " hand in the open sunshine, until it becomes of a considerable " spissitude. It is then formed into cakes of a globular shape, and " about four pounds in weight, and laid into little earthen basins to

‖ Kaempfer says, that in Persia, a five-pointed knife is used for making the incisions. *Amœn. Exot. Obs.* 15.

" be

" be further exſiccated. Theſe cakes are covered over with the " Poppy or tobacco leaves, and dried until they are fit for ſale. " Opium is frequently adulterated with cow-dung, the extract of " the Poppy plant procured by boiling, and various other ſubſtances, " which they keep in ſecreſy." —— " Opium is here a conſiderable " branch of commerce. There are about 600,000 pounds of it " annually exported from the Ganges." [c]

It appears to us highly probable, that the White Poppy might be cultivated for the purpoſe of obtaining opium to great advantage in Britain. Alſton ſays, " the milky juice, drawn by inciſion from Poppy-heads, and thickened either in the ſun or ſhade, even in this country, has all the characters of good opium; its colour, conſiſtence, taſte, ſmell, faculties, phœnomena, are all the ſame; only, if carefully collected, it is more pure and more free of feculencies." [d]

Similar remarks have alſo been made by others, to which we may add thoſe of our own; for during the laſt ſummer, we at different times made inciſions in the green capſules of the White Poppy, from which we collected the juice, which ſoon acquired a due conſiſtence, and was found, both by its ſenſible qualities and effects, to be very pure opium.

Opium, called alſo Opium Thebaicum, from being anciently prepared chiefly at Thebes, has been a celebrated medicine from the remoteſt times. It differs from the Meconium, which by the ancients was made of the expreſſed juice or decoction of the Poppies. [e]

Opium is imported into Europe in flat cakes, covered with leaves to prevent their ſticking together: it has a reddiſh brown colour, and a ſtrong peculiar ſmell: its taſte, at firſt, is nauſeous and bitter, but ſoon becomes acrid, and produces a ſlight warmth in the mouth: a watery tincture of it forms an ink, with a chalybeate ſolution. According to the experiments of Alſton, it appears to conſiſt of about five parts in twelve of gummy matter, four of reſinous matter, and three of earthy, or other indiſſoluble impurities. [f]

The uſe of this celebrated medicine, though not known to Hippocrates, can be clearly traced back to Diagoras, who was nearly his cotemporary, and its importance has ever ſince been gradually advanced

[c] See *Medical Obſervations and Inquiries*, *vol.* 5. *p.* 317.

[d] *Medical Eſſays & Obſ. vol.* 5. *p.* 116.

Hence the ancients juſtly deemed the " Meconium multum opio ignavius."

[f] Vide *l. c.*

by

by ſucceeding phyſicians of different nations. Its extenſive practical utility however has not been long well underſtood; and in this country perhaps may be dated from the time of Sydenham. Opium is the chief narcotic now employed; it acts directly upon the nervous power, diminiſhing the ſenſibility, irritability, and mobility of the ſyſtem; and, according to a late ingenious author, in a certain manner ſuſpending the motion of the nervous fluid, to and from the brain, and thereby inducing ſleep, one of its principal effects.[z] From this ſedative power of opium, by which it allays pain, inordinate action, and reſtleſſneſs, it naturally follows, that it may be employed with advantage in a great variety of diſeaſes. Indeed, there is ſcarcely any diſorder in which, under ſome circumſtances, its uſe is not found proper; and though in many caſes it fails of producing ſleep, yet if taken in a full doſe, it occaſions a pleaſant tranquillity of mind, and a drowſineſs, which approaches to ſleep, and which always refreſhes the patient. Beſides the ſedative power of opium, it is known to act more or leſs as a ſtimulant, exciting the motion of the blood; but this increaſed action has been ingeniouſly, and, as we think, rationally aſcribed to that general law of the animal œconomy, by which any noxious influence is reſiſted by a conſequent re-action of the ſyſtem. By a certain conjoined effort of this ſedative and ſtimulant effect, opium has been thought to produce intoxication, a quality for which it is much uſed in eaſtern countries.

We ſhall now proceed to conſider the uſe of opium in particular diſeaſes, beginning with fevers.

In moſt continued fevers of this climate, though originating from contagion, or certain corruptions of human effluvia, &c. there is, at the beginning, more or leſs of inflammatory diatheſis, and while this continues, opium would generally aggravate the ſymptoms, and prove dangerous. Its uſe is likewiſe forbidden in the more advanced ſtage of this fever, whenever topical inflammation of the brain is aſcertained, which ſometimes exiſts and produces delirium, though other ſymptoms of the nervous and putrid kind prevail. But when irritation upon the brain is not of the inflammatory kind, and debility has made much progreſs, or where delirium is accompanied with ſpaſmodic affections, opium is a ſovereign remedy, and may be employed

[z] See Cullen's *Mat. Med.* C. ſedantia. See alſo what is ſaid of opium.

in large doſes every eight hours, unleſs a remiſſion of the ſymptoms and ſleep take place.[h]

In intermittent fevers, opium, in combination with other medicines, was much uſed by the ancients; but ſince the introduction of the Peruvian bark, opium is ſeldom truſted to for the cure of theſe diſorders. This medicine however has been ſtrongly recommended as an effectual means of ſtopping the recurrence of the febrile paroxyſms; and has been given before the fit, in the cold ſtage, in the hot ſtage, and during the interval, with the beſt effects;[i] producing immediate relief, and in a ſhort time curing the patient, without leaving thoſe abdominal obſtructions which have been aſcribed to the bark. But in theſe fevers perhaps the beſt practice is to unite opium with the bark, which enables the ſtomach to bear the latter in larger doſes, and adds conſiderably to its efficacy.[k]

In inflammatory diſeaſes the uſe of opium has been much condemned; and Young has eſtabliſhed a general rule, "that opium is improper in all thoſe diſeaſes in which bleeding is neceſſary:"[l] this however has been much diſputed;[m] and there are certainly numerous exceptions to it, which we ſhall now recite in the words of Dr. Cullen. "Such are thoſe caſes in which the inflammatory ſtate ariſes "from irritation in a particular part, producing ſpaſm, and ſupervening "inflammation. Thus in caſes of jaundice, I have found a biliary "ſtone, in paſſing the biliary ducts, give ſuch an irritation as to "produce a conſiderable inflammatory ſtate in the ſyſtem; and "though I have found it neceſſary, for moderating this, to employ "blood-letting, yet, as I conſidered the paſſage of the ſtone to be "chiefly interrupted by a ſpaſmodic conſtriction of the ducts, I have "employed opium for taking off this with great advantage. Similar

[h] Vide Cullen *l. c.*

[i] Berryat, who is a ſtrenuous advocate for the uſe of opium in intermittents, recommends it to be given along with an infuſion of centaury an hour before the acceſſion of the paroxyſm. See *Memoires preſentés à L'Acad. Royal des Scien.* 1755. *T.* 2. *p.* 254.

Lind prefers giving it half an hour after the commencement of the hot fit. Vide *Diſ. in hot climates*, *p.* 316. See alſo Murray's *Med. Pract. Bib. vol. p.* 321. On this ſubject ſee Brandreth, *Diſſ. inaug. de febr. interm. Ed.* 1770. Stoerck, *Ann. Med.* 1. *p.* 77. Tralles, *De Opio Sect.* 2. *p.* 70. And others.

[k] Cullen *l. c.* [l] *Treatiſe on Opium, ſect.* 39.

[m] See Remmet *Diſſ. inaug. de opii uſu in morb. inflam. Ed.* 1774. Triller, *Diſſ. de ſuſpecta opii ope in pluritide*, *p.* 4. Alſo Tralles *l. c.* De Haen *Rat. Med. P. i. p.* 24. *&c.*

"circumſtances

" circumſtances have frequently occurred in the caſe of urinary " calculi paſſing the ureters, in which I have found it neceſſary to " employ opium and blood-letting at the ſame time.

" In like manner as opium is uſeful in moderating excretions, ſo " when the irritation occaſions an increaſe of theſe excretions, which " is attended with affections which irritate the whole ſyſtem, opium " becomes eſpecially uſeful. Hence it becomes ſo generally uſeful " in catarrhal affections, and the cough attending them; and pro- " bably it is this analogy that has brought the uſe of opium to be " frequently employed in pneumonic inflammations. It is poſſible " that there may be caſes of ſuch inflammations wherein the opium " may be more uſeful in taking off the cough, than hurtful by aggra- " vating the inflammatory ſtate of the ſyſtem: but I have hardly " met with ſuch caſes; and even in the recent ſtate of catarrhs from " cold, I have found the early uſe of opium hurtful: and in caſes of " pneumonic inflammation, I have always found it to be very much " ſo, if exhibited before the violence of the diſeaſe had been mode- " rated by repeated blood-letting. When that indeed has been done, " I have found the opium very uſeful in quieting the cough, and I " have hardly ever found it hurtful by ſtopping the expectoration. " It may ſuſpend this for ſome hours; but if the glands of the " bronchia have been duly relaxed by bleeding and bliſtering, the " expectoration after the uſe of opiates always returns with more " advantage than before. The mucus which had iſſued before had " been poured out from the follicles in an acrid ſtate; but, by being " made to ſtagnate, it becomes milder, and is diſcharged in what the " ancients called a concocted ſtate, with more relief to the lungs." *

When opium is ſo managed as to procure ſweat, it will tend to remove an inflammatory ſtate of the ſyſtem, and may prove generally uſeful; a notable inſtance of this we obſerve in the cure of acute rheumatiſm by means of Dover's powder.

In the ſmall-pox opium, ſince the time of Sydenham, has been very generally and ſucceſsfully preſcribed, eſpecially after the fifth day of the diſeaſe; but during the firſt ſtage of the eruptive fever, we are told that it always does harm; an opinion which our experience at the Small-pox Hoſpital warrants us to contradict: for even at that

* Cullen *l. c.*

period

period of the diſorder we often find the pulſe languid, and the countenance pale, though pains in the loins and head are at the ſame time very ſevere; theſe ſymptoms, with reſtleſſneſs, and other ſigns of irritability, which appear for ſome days after the attack of the diſeaſe, are conſiderably relieved by opium; to which however we uſually add camphor and vinum antimonii tartariſati, taking care always to keep the body ſufficiently open by the frequent uſe of a proper cathartic.

In hæmorrhagic diſorders the uſe of opium is inferred from its known effects in reſtraining all the excretions, except that of ſweat; but unleſs the hæmorrhages be of the paſſive kind, or excited by irritation, unattended with inflammation, opium may produce conſiderable miſchief, and therefore its uſe in theſe complaints requires great circumſpection.

In dyſentery opium, though not to be conſidered as a remedy, may however be occaſionally employed to moderate the violence of the ſymptoms.

In diarrhœa, eſpecially when the acrimony has been carried off by a continuance of the diſeaſe, opium is a certain and efficacious remedy.

In cholera and pyroſis, opium is the remedy chiefly truſted to.

In cholic it is employed with laxatives; and no doubt often prevents ileus and inflammation, by relieving the ſpaſm.° Even in ileus and in incarcerated hernia, it is often found to allay the vomiting, the ſpaſms, the pain, and ſometimes to diminiſh the inflammation, and prevent the gangrene of the ſtrangulated gut.

Opium has been lately recommended for the cure of the venereal diſeaſe; and inſtances are adduced in which this medicine ſucceeded, where mercury had failed; yet few practitioners, we apprehend, will truſt to opium alone in theſe complaints: it is generally allowed, however, to be an uſeful auxiliary, and to greatly aſſiſt the action of mercury. Its uſe in preventing and ſtopping the progreſs of gangrene is well eſtabliſhed.

Opium is ſucceſsfully uſed in different ſpecies of tetanus, and affords relief to various ſpaſmodic and convulſive ſymptoms occuring in ſeveral diſeaſes, which it would exceed our limits to deſcribe partilarly; of theſe we may mention aſthma, epilepſy, dyſpepſia, hypochondriaſis, rabies canina, chorea ſancti viti, mania, &c. &c.

° See Mead, *Mon. et præcepta medica*, *p.* 64. Pringle, *Diſ. of the Army. p.* 152. Haen *Rat. Med. P.* 3. *p.* 94. *P.* 9. *p.* 137.

Reſpecting

Respecting the external application of opium authors seem not sufficiently agreed. Some alledge that when applied to the skin it allays pain and spasm, procures sleep, and produces all the salutary or dangerous effects which result from its internal use; while others assert that, thus applied, it has little or no effect whatever. But there is no doubt that, when mixed with caustic, it diminishes the pain, which would otherwise ensue, probably by decreasing the sensibility of the part. Injected up the rectum, it has all the effect of opium taken into the stomach, but to answer this purpose double the quantity is to be employed. Applied to the naked nerves of animals, it produces immediate torpor, and loss of power in all the muscles with which the nerves communicate. Opium taken into the stomach, in an immoderate dose, proves a narcotic poison, producing vertigo, tremors, convulsions, delirium, stupor, stertor, and finally fatal apoplexy.

The officinal preparations of this drug are opium purificatum, pilulæ ex opio, pulvis opiatus, tinctura opii, and tinctura opii camphorata; it also enters the pulvis sudorificus, balsamum anodynum, electuarium japonicum, pulvis e creta composita, &c.

The requisite dose of opium varies in different persons, and in different states of the same person. A quarter of a grain will in one adult produce effects which ten times the quantity will not do in another; and a dose that might prove fatal in cholera or cholic, would not be perceptible in many cases of tetanus or mania. The lowest fatal dose, to those unaccustomed * to take it, seems to be about four grains; but a dangerous dose is so apt to produce vomiting, that it has seldom time to occasion death. When given in too small a dose, it often produces disturbed sleep, and other disagreeable consequences; and in some cases it seems impossible to be made to agree in any dose or form. Often, on the other hand, from a small dose, sound sleep and alleviation of pain will be produced, while a larger one occasions vertigo and delirium. Some prefer the repetition of small doses; others the giving a full dose at once: its operation is supposed to last about eight hours.

* It is well known, that by the continued use of opium the dose requires to be increased to produce the effect desired; and we are told of one instance in which it was increased to ten drams a day. See *Garcias Ab Horto Arom. vers. Clus.*

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