

# PHARMACY IN MEDIEVAL ISLAM AND THE HISTORY OF DRUG ADDICTION\*

by

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DRUG ADDICTION, especially through the use of poppy (*Papaver somniferum* Linn.) and hemp (*Cannabis sativa* Linn.), is the main concern of this paper. Although the use of these two plants in medieval Islam was extensive, yet little has been written on this timely subject by historians of medicine and pharmacology. Consulting contemporary original sources, it is my hope to sketch a history of their spread and consumption and the social, economic, political and medical consequences of their misuse. Other drugs of addiction,<sup>1</sup> which were also in wide use then, will not be dealt with in detail.

The places of origin of poppy and hemp are assumed. But it seems probable that poppy was indigenous to Asia Minor and northern Mesopotamia, Persia and India, areas where poppy is still cultivated.<sup>2</sup> There is no doubt that the ancient peoples of these regions used it as a remedy to relieve pain and induce pleasure or sleep.<sup>3</sup> From these Asian countries, the poppy was brought to Egypt during the 18th Dynasty, if not earlier. Of the two closely related varieties known there, *Papaver somniferum* and *P. rhoeas*, the last was reported to have been cultivated in the gardens of the pharaohs, represented in their ornaments, and depicted in ancient

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<sup>1</sup> By drug is meant any substance which by its nature and chemical structure influences the physiological function of the living organism and/or its metabolism and anatomical action. See Henry Smith, *Drugs Against Men*, New York, McBride, 1935, introduction and pp. 21-23; Louis S. Goodman and Alfred Gilman, *The Pharmacological Basis of Therapeutics*, New York, Macmillan, 1947, pp. 3-12, 183, 186; and Heber W. Youngken, *Textbook of Pharmacognosy*, 6th ed., Philadelphia, Plakiston, 1948, pp. 3-8.

I used the term 'drug addiction' in the broadest sense to mean any condition in which an individual becomes accustomed to using a drug that has an effect on his mind, nervous system, or behaviour. In his repeated intake of the drug he uses increasing amounts in order to attain the illusioned satisfaction he seeks. Continued use of the drug results in a physical and/or psychological dependence, as well as a tolerance and an urgent compulsion to get it. Under a condition of impaired consciousness and altered mood, one may engage in unpredictable and often harmful activities.

<sup>2</sup> Turkey, one of the best sources of opium at present, has in 1970 for humanitarian reasons reduced from twenty-one to seven the number of provinces permitted to grow poppies. In 1971 it is hoped that the number will be reduced still further, as reported in 'Booming traffic in drugs', *U.S. News & World Report*, 7 December 1970, pp. 40-41. A century ago, Great Britain imported 325, 572lbs. of opium from Turkey and 514,000 lbs. in 1874. See Friedrich Flückiger and Daniel Hanbury, *Pharmacographia*, 2nd ed., London, 1879, pp. 60-63. Iran reached its highest production of opium in 1955 when it produced 1,180 tons of opium (only 100 tons were used for medicinal purposes). Although forbidden in the following decade, cultivation is now higher than ever. See John Hughes, 'Iran's strict drug controls', *Christian Science Monitor*, 9 June 1970 p. 11.

<sup>3</sup> R. Campbell Thompson, *The Assyrian Herbal*, London, Luzac, 1924, pp. 39-52, 69, 81, 95, 100, 144, 147; and *A Dictionary of Assyrian Chemistry and Geology*, Oxford University Press, 1936, pp. XIII, XVII-XVIII, 52 and 173; Justin Zehnder, 'Le Pavot et son usage chez les Assyriens', *Soc. Helvét. Scien. Natur.*, Lausanne, 1928 (Section de Pharmacie); W. F. Albright, 'Assyrian *Martakal* "Haschisch" und amurtinnu "sidra"', *Ztschr. Assyriol.*, 1926, 37, 140.

## *Pharmacy in Medieval Islam and the History of Drug Addiction*

paintings.<sup>4</sup> In Greco-Roman times, Egypt, particularly the Thebes (Luxor) area of upper Egypt, became a famous centre for growing poppies and exporting opium (opium thebaicum) to the Greek islands and throughout the Mediterranean world.<sup>5</sup>

Through commercial sea routes and by way of Minoan Crete, poppy and its effective latex (juice), opium,<sup>6</sup> were carried and used by the ancient Greeks. Kritikos and Papadaki reported two legends in Homer's *Iliad* and *Odyssey*, one that Demeter, in despair over the seizure of her daughter Persephone by Pluto, ate opium or poppy (nepenthe, in Greek) to sleep and lose consciousness of her grief; and the other that Helen gave it to Telemachus and his comrade to forget their sorrows. So extensive was the poppy culture that poppy capsules were represented for ornamentation on statues of ancient Greek deities and have been found on excavated figurines, bas-reliefs, vases, tombstones, coins and jewellery.<sup>7</sup>

In addition to these early historical records and archaeological findings, Greek medical writings described the uses of this plant. In the Hippocratic corpus,<sup>8</sup> and the botanical inquiries of Theophrastus (373–287 B.C.) there are repeated references to the hypnotic, narcotic, and styptic uses of this drug besides its therapeutic effects in curing sorrow and passion, and causing indifference to ills.<sup>9</sup> But the three authors whose writing influenced Arabic medical practitioners on poppies, opium, and to a lesser degree, hemp, more than other doctors were: (1) Dioscorides of Anazarba, Cilicia (Asia Minor, first century A.D.), who mentioned five types of poppies including the *Papaver somniferum*, its external and internal therapeutic uses, and how the seeds were baked in bread;<sup>10</sup> (2) Galen of Pergamon (A.D. 130–201) who recommended soaking wool in juices and decoctions of poppies for external application. He also used opium in suppositories for its hypnotic action and to induce sleep, and pointed to the plant's intoxicating and poisoning effects;<sup>11</sup> (3) Paulus of Aegineta, in the seventh century, who was a compiler and commentator on the works of Galen, and who reported side effects of these two plants.<sup>12</sup>

Up to the advent of Islam in the seventh century, Greek culture and authors were

<sup>4</sup> Saber Gebra, 'Papaver species and opium through the ages', *Bull. Inst. Égypt*, 1956, 37, 39–54.

<sup>5</sup> Henry E. Sigerist, *A History of Medicine*, I. *Primitive and Archaic Medicine*, New York, Oxford University Press, 1951, pp. 203, 341, 485 and 489; Alexander Tschirch, *Handbuch der Pharmakognosie*, vol. 3, pt. 1, Leipzig, Tauchnitz, 1923, pp. 644–46; and Martin Levey, 'Hashish', *The Encyclopaedia of Islam*, new ed., Vol. 3, Leiden, Brill, 1970, 266–67.

<sup>6</sup> Opium is the milky exudation obtained by incising the unripe capsules of the family *Papaveraceae* when approaching maturity. The juice is allowed to harden overnight, then is scraped into a receiver. It turns greyish brown in colour, though plastic when fresh it hardens by age. It has a strong characteristic odour, bitter taste and is narcotic. See G. E. Trease, *A Textbook of Pharmacognosy*, 8th ed., London, Baillière, Tindall & Cox, 1961, pp. 230, 296–309.

<sup>7</sup> P. G. Kritikos and S. N. Papadaki, 'The history of the poppy and of opium', *Bulletin on Narcotics*, Vol. 19, no. 3, 1966, pp. 17–37; and no. 4, pp. 6–9.

<sup>8</sup> *Ibid.*, Kritikos and Papadaki refer to the Greek works of Hippocrates: *On Internal Diseases*, Chapter 12, *On Woman's Ailments*, Chapters 20 and 192, *On Nature of Women*, Chapters 33, 58, *On Epidemics*, II, Chapter 118, *On Diet*, Chapter 39. In the English version, I consulted *Hippocrates*, by W. H. S. Jones, vol. 4, Cambridge, Mass., Harvard University Press, 1953, p. 317.

<sup>9</sup> Theophrastus, *Enquiry into Plants*, Eng. trans. by Arthur Hart, London, Heinemann, 1961 reprint, vol. 1, p. 65; and vol. 2, pp. 279–81, 290–91, and 303.

<sup>10</sup> Pedanius Dioscorides, *Materia Medica* (completed about 75 A.D.), Eng. trans. by Robert T. Gunther, New York, Hafner reprint, 1959, pp. 456–62 (Bk. IV: 64–67).

<sup>11</sup> Galen, *Simplicium medicamentorum temp. ac facultatibus*, in *Galen Opera Omnia*, C. G. Kühn's ed., vol. 12, Hildesheim, Olms reprinting, 1965, pp. 72–73, and *Compositio medicamentorum Sec. Loc.*, vol. 13, pp. 272–74.

<sup>12</sup> Paulus Aegineta, *The Seven Books*, Eng. trans. by Francis Adams, vol. 2, London, Sydenham Society, 1846, pp. 213–15, 226; and vol. 3, 1847, 155, 249–50, and commentary pp. 279–83.

dominant over medical circles in Asia Minor, Syria, Egypt and neighbouring areas. From these writers, medical information about poppies and hemp<sup>13</sup> was transmitted to Arabic authors and medical educators when Greek works in the original or in Syriac versions were translated in the ninth century by Ḥunayn b. (for ibn) Iṣḥāq and his associates. Ḥunayn's senior contemporary, Yūḥannā b. Māsawayh (777–857), prescribed poppy and opium to relieve pain from attacks of gall and bladder stones, for fevers, indigestion, eye, head and tooth aches, pleurisy, and to induce sleep.<sup>14</sup> His colleague and admirer at the Abbasid palace, Alī al-Ṭabarī, was likewise influenced by Greek information about poppy and opium. In his medical encyclopaedia, the first of its kind and size authored in Arabic, *Firdaws*, completed in 850, Ṭabarī recommended opium for a variety of therapeutic purposes: in anointing oils for external applications, for migraine and colds; and in troche (tablet) form administered mixed with other ingredients for coughs—one tablet the first night, increased to two the next, and continued until cure was achieved. He further prescribed poppy seeds, together with other plant seeds such as psyllium and dandelion, for coughs in children and consumption (phthisis). In the same work, Ṭabarī also mentioned opium among plant gums, stating that it is narcotic, styptic, causing coldness, sleep, and is incorporated as an important part of the theriac and other antidotes. He added that early Persian kings treasured it in their palaces for use in cases of poisoning. He also explained that the extract of poppy leaves was lethal, and that extracts and opium should be considered poisons. Finally, Ṭabarī, influenced by the writings of Paulus, recommended a method for detecting opium, writing that, 'if you scratch the skin of the opium user [eater], you will smell it from that individual.'<sup>15</sup> Jābir b. Ḥayyān and other Muslim alchemists of the ninth century considered opium as a poison and should be used in therapy with caution.<sup>16</sup>

With the aid of a thorough examination of medical, historical and other contemporary Arabic literature of the period, it seems safe to state that there was no spread of drug abuse or addiction in Islamic lands of either poppy or the hemp plants during the ninth century. The general trend was directed towards the therapeutic use of these drugs. Responsible Arabic authors and practitioners considered poppy and hemp as potent medicines to be administered with care and only when the therapeutic needs required their use. Yet the fact remains that dosages often tended to be on the maximum side with frequent repetition—as was also the case with patent medicines in England and in America during the eighteenth and nineteenth centuries.

This assumption is further confirmed through an examination of an abstracted, modified copy of Sabur's medical compendium, *al-Aqrābādhīn*.<sup>17</sup> This is probably an

<sup>13</sup> Hemp, *Cannabis sativa* Linn. (*C. indica*, *ganjah* or *hashish*), is a dioecious plant of which the glandular hairs on the flowering tops of the female pistillate, though shorter than the male staminate, contain the hemp's psychoactive principles. It ripens in a sticky resinous form and was referred to as 'the nectar of the gods.' Although no modern medical uses are confirmed, tops and leaves of hems are used for their intoxicating and psychodelic effects.

<sup>14</sup> Yūḥannā b. Māsawayh, *al-Mushajjar fī al-Ṭibb*, Rabat ms. no. 404, fol. 94; and Khuda Bakhsh, Patna ms. no. 2167, fol. 46.

<sup>15</sup> Abū'l-Ḥasan 'Alī b. Sahl Rabbān al-Ṭabarī, *Firdaws al-Hikmah*, edited by M. Z. Siddiqi, Berlin, Gibb Mem. Trust, 1928, pp. 154, 157, 232, 234, 406, 444, 447–53 and 464–66.

<sup>16</sup> Jābir b. Ḥayyān (fl. 800), *Kitāb al-Sumūm*, Cairo ms. Ṭibb Taymūr, 393, fols. 47 and 131–32. This work was translated into German by Alfred Siggel, Wiesbaden, Steiner, 1958.

<sup>17</sup> The original *Aqrābādhīn* by Sabūr b. Sahl (d. 869) consisted of 22 sections. The only procurable copy available to consult is the Munich Cod. Arab. 808 (2) which contains only sixteen sections. The

## Pharmacy in Medieval Islam and the History of Drug Addiction

eleventh-century edition for use as a guide to the pharmacist in the famous 'Aḡudī hospital in Baghdad.<sup>18</sup> In it the compiler lists opium as well as poppy in recipes (one of them includes 200 good, white, and fat poppies) in the pharmaceutical forms of troches, lohochs (electuaries in the form of thick liquids), powders, decoctions, juleps, emplacements and enemas to be used for colds, coughs, urinary-tract ailments, gout, headaches and as an antidote.<sup>19</sup>

### THE ADDICTION PHENOMENON AND DRUG TOLERANCE

Hemp (cannabis) seems to have been introduced into Islamic countries in the ninth century from two sources. One was from India through Persia; hence it was known as Indian hemp by the Arabs who inherited the age-old tradition of Persia in its commercial relations with central and eastern Asia. The second was from acquaintance with Greek culture and medical literature. Dioscorides, who, to the Arabs, was the greatest botanist of antiquity, referred to hemp as a source for 'good, strong ropes'. He recommended its seeds to 'quench geniture' and its juice for ear-aches.<sup>20</sup> In the early tenth century Ibn Waḡshiyah in his book *On Poisons* mentioned a herb (*hashish*, *Cannabis*), known as *shārtāthā* in the Nabataean language. He noticed especially that if it was mixed with other drugs it became poisonous and caused death. Ibn Waḡshiyah's description of opium, however, is more informative. He devoted a whole chapter to treatment of opium poisoning, whether taken alone as a medicine or concealed in food and drink as poison. He also described the symptoms as ranging from shivering, numbing and severe internal pains, to intoxication, anxiety, and fainting.<sup>21</sup>

Other authors of the tenth century recommended therapeutic uses for these two plants and warned against overdosage. Foremost among them were two Persian-born physicians: Razi (d.925) who, although he mentions hemp very briefly, presents a better coverage of the therapeutic uses of poppy and opium,<sup>22</sup> and al-Majūsī who gives detailed descriptions of opium and hemlock poisoning and their treatment. In his *al-Malakī* he stated, 'If one has taken an overdose of opium, one *mīthqāl* or two *dirhams* (about 4.25–6.20 gms.), he will show the following symptoms of poisoning: lockjaw (tetanus), lethargy, heaviness, and stupor. The smell of opium can be detected on his breath or from his body odour. For treatment, vomiting should be induced immediately by giving him a hot decoction of dill, radish, common salt, and honey in water.' He also recommended poppy for headache, hypochondria (or meningitis),

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fact that it includes quotations from al-Rāzī (d. c. 925), Ibn Abī al-Ash'ath (d. c. 980), and Ibn Sīnā (Avicenna, d. 1037), confirms my belief that the copy is a later modified and extracted compilation for hospital use. See S. Hamarneh, 'Sābūr's abridged formulary, the first of its kind in Islam', *Sudhoff's Archiv*, 1961, 45, 247–60.

<sup>18</sup> The 'Aḡudī hospital was built in the Abbasids capital, Baghdad, by the illustrious Buwayhid King 'Aḡud al-Dawlah (reigned 949–83) and is considered one of the most glorious edifices of its kind to be built in Iraq throughout the whole medieval period. Since the hospital has its own drug manufacturing and dispensing shops, this copy was used as the pharmacists' manual.

<sup>19</sup> The abridged Sābūr's *Aqrābādīn*, Munich ms. Cod. Arab. 808(2), fols. 2–3, 6, 8–9, and 12–13.

<sup>20</sup> Dioscorides, *Materia Medica*, Eng. trans. by Gunther, p. 390, (Bk. III. 165).

<sup>21</sup> See Aḡ. (or Muḡ) b. 'Alī b. Waḡshiyah's *K. al-Sumūm Wā'l-Tiryāqāt* (The Book on Poisons), translated and annotated by Martin Levey in 'Medieval Arabic toxicology', *Trans. Amer. philos. Soc., Phila.*, 1966, N.S. vol. 56, pt. 6, pp. 43, 87–88. I also examined the British Museum Ms. Add.23, 604.

<sup>22</sup> Muḡ. b. Zak. al-Rāzī, *al-Ḥāwī fī al-Ṭibb (Liber Continens)*, Hyderabad-India ed., part 20, Osmania Or. Publ. Bur., 1967, pp. 401–12; and part 21, 1968, p. 124.

melancholia, chest and lung ailments, bronchial catarrh, pleurisy, swelling in the stomach or kidneys, and for pains caused by stones in the kidney.<sup>23</sup>

From the tenth century on, Egypt once more became an important centre for growing poppy. From there it was exported east and west in Muslim lands. In North Africa, Ibn al-Jazzār of Qayrawān (c. 984) prescribed poppy syrup for restless and over-active children, a practice that was known in many countries up to modern times.<sup>24</sup> He also recommended opium mixed with other simples in an electuary for coughs. The individual dosage for adults contained  $\frac{1}{4}$  gm. of opium—less than that for children, according to age. Jazzār explained that he had tried it and found it useful.<sup>25</sup>

Interestingly, in his *Qānūn*, Ibn Sīnā (Avicenna, d. 1037) describes the method for extracting opium as follows: 'The Poppy is incised first in a circle around the capsule's top, then in straight lines on the sides, without deep penetration. The exudation is collected in a special receptacle.' He also stated that the smell of poppy juice induces sleep. The best opium is dense, with a strong smell, friable and soluble in water. It melts in the sun and ignites with an even flame. It is narcotic (anaesthetic) and sedative in every ailment from acute swellings to chronic gout, used either internally as a potion or syrup or externally as an anointing oil or suppository. The amount taken is similar in size and weight to a chick pea, a dosage and shape employed by addicts in the Middle East to the present. Ibn Sīnā was also among the first in Islam to mention that opium dulls the intellect, impairs consciousness, thwarts good counselling, weakens digestion, and causes death by freezing the natural faculties.<sup>26</sup>

A more accurate account of extracting opium and its pharmacological effects was given by Ibn Sīnā's contemporary, Al-Bīrūnī (973–1048). He mentions the white and black poppies, 'known in Syriac as *miqūnā* or *rummānī dsha 'lā* or cough pomegranates . . . and in Persia as *Kūknār*.' He quotes al-Khaṭībī as saying that the best opium is that which is obtained from the white poppy. 'They incise the unripe capsule from top to bottom on all sides. Then they let the latex (opium) flow out, to accumulate and dry. Thereafter they scrape it with a knife, collect it in a tumbler, and leave it to ferment and mature. Stumps of it are then wrapped in poppy leaves.' For the trade, basically, this method continued in use up to modern times. Al-Bīrūnī mentions also that opium causes sleep and death. He wrote, 'I have seen a case where a person died from the use of an opium suppository. Therefore it should be used with extra care.' Most important is the revelation al-Bīrūnī made concerning a social phenomenon which was fearfully developing in the Muslim world during his time. He explained, 'People who live in the tropics or hot climates, especially those in Mecca, get into the habit of taking opium daily to eliminate distress, to relieve the body from the

<sup>23</sup> 'Ali b. 'Abbās al-Majūsī (Haly Abbas, d. 994), *al-Malakī*, vol. 2, Cairo ed., 1877, pp. 228–29, 238–21, 250–21, 264, 312–13, 338 and 406–7.

<sup>24</sup> Giving potions containing opium for children was known in the United States, Europe and in the Middle East. I sold such patent medicines in my pharmacy in Jordan (1948–52). For spread use in India consult R. N. and G. S. Chopra, 'The administration of opium to infants in India', *Ind. med. Gaz.*, 1934, 69, 489–94.

<sup>25</sup> Aḥ. b. Ibrāhīm b. al-Jazzār, *Siyāsāt al-Šibyān wa-Tadbīrihim* (on paediatrics), Muḥ. al-Ḥabīb al-Haylah editor, Tunis, al-Manār, 1968, pp. 100–1, 113, and 119–20.

<sup>26</sup> Abū 'Alī al-Ḥusayn Ibn Sīnā (Avicenna, 970–1037), *al-Qānūn fī al-Ṭibb*, vol. 1, Cairo, Būlāq, 1877, pp. 256–57, 451–53.

### *Pharmacy in Medieval Islam and the History of Drug Addiction*

effects of scorching heat, to secure longer and deeper sleep, and to purge superfluities and excesses of humors. They start with smaller doses which are increased gradually up to lethal dosages.<sup>27</sup> Habituation was thus recognized by a keen observer, and a pharmacological interpretation was made.

Al-Birūnī's above-mentioned report, I believe, is the earliest clear reference to the addiction phenomenon and drug tolerance ever reported in any language.

Opium eating was brought to Mecca by Muslim pilgrims from Persia, Iraq and adjacent territories. Through the excessive utilization of opium, and poppy capsules and extracts in medical recipes, many of those involved recognized their psychotherapeutic value and gradually but surely began to use them for the sake of their psychotropic effect on man's behaviour and consciousness. Under urban, social, economic, and environmental pressures and demands, drug use provided a means for escape.<sup>28</sup> Examination of historical evidences in Islam shows that abusers, seeking flight from reality, brought dangerous consequences upon the whole Muslim community and its cultural, religious, and economic life.

#### POLITICAL UNREST, MUSLIM SECTARIANISM AND DRUG ADDICTION

The physical and political power and expansion of the Arabs brought the East as far as India and the borders of China and the West to the Iberian Peninsula and North Africa as far as Morocco into closer contact and greater commercial and cultural connexions. The geographical strategic locations of Arabia and Persia helped to establish and maintain these strong relations.<sup>29</sup> Since Islam brought radical changes in the life of the peoples of the whole region who embraced the new faith, the religious impacts were most penetrating. Thus the addiction phenomenon observed in Mecca, one of the most sacred centres in Islam, brought tremendous impact on Muslim communities elsewhere. The spread of political unrest in various parts of the Muslim domain and the rise of many religious schools of thought, mysticism, sufism and sectarianism helped further the need for ways of escape from hard realities for many, and led to the wide spread of drug addiction.

Since the rise of the caliphate, political intrigues and uprisings continually interrupted the state's functions and administration and the various steps taken to secure social justice.<sup>30</sup> New religious orders and schools of thought thus multiplied. Among the Shi'ites,<sup>31</sup> for example, there were numerous sects and parties of all shades and conviction. When they were not fighting or plotting against the Sunnites, they fought each other by all the means at their disposal.

Underground fraternities also sprang up in various parts of the Muslim domain.

<sup>27</sup> Abū al-Rayhān Muḥ. b. Aḥ. al-Birūnī, *al-Ṣaydanah fī al-Ṭibb*, Baghdad ms., Iraqi Museum library, pp. 70-72, 174-176; and S. Hamarneh, 'Sources and development of Arabic medical therapy and pharmacology', *Sudhoff's Archiv*, 1970, 54, 33-35.

<sup>28</sup> F. Flückiger and D. Hanbury, *Pharmacographia*, 2nd ed., London, Macmillan, 1879, pp. 40-51. Also see the parallel in modern drug problems as presented in Franz Bergel and D. Davies, *All About Drugs*, London, Nelson, 1970, pp. 3-4, and 18.

<sup>29</sup> S. A. Hazayyin, *Arabia and The Far East*, Cairo, University Press, 1942, pp. 17-19, 39, 204, 208.

<sup>30</sup> John B. Glubb, *The Empire of the Arabs*, Englewood Cliffs, N. J., Prentice Hall, 1963, pp. 60-63, 102-6, 170-75, 202-9, 220-21, 234-35, 272-76, 284-85, 306-9 and 344; and *The Lost Centuries*, Englewood Cliffs, 1967, 23-25.

<sup>31</sup> On the Shi'ites, their propagandists and their branches, see Muḥ. b. Ishāq al-Nadīm, *al-Fihrist*, Cairo, Sa'ādah, 1929, 263-67; Carl Brockelmann, *Geschichte der arabischen Litteratur*, Leiden, Brill, 1943, pp. 195-99; and Moḥ. Y. Haschmi, *al-Imām al-Ṣādiq*, Aleppo, Syria, 1959, pp. 69-71.

The Brethren of Purity (*Ikhwān al-Ṣafāʾ*), a religio-philosophical brotherhood society, is a good example.<sup>32</sup> The Qarāmitites is another which, in the tenth century, menaced the very existence of the caliphate.<sup>33</sup> To escape the authority's punishment or retaliation, these societies or groups adopted a religious attitude which helped them to escape government wrath on the one hand and expand their number of adherents on the other. Many young people from all strata of the Muslim society were drawn to join these organizations. New monastery-type centres were established across the width and breadth of the Muslim world. Many of them gradually gained favours of governors and rulers and their dwellers were granted secure abode and income to carry on their religious activities. Important systems such as mystics, sufis, Nizaris, and the Dervish orders were instituted.<sup>34</sup> Use of drugs was introduced into many cells of these religious orders to help members endure the long hours of fasting, prayers, and solitary meditation. Later, this permissiveness developed into a habit that led to numerous cases of addiction. The dreadful prostitution of religion was often a cover for the pernicious influences of secret societies and the horrors of unbridled political ambitions.

A classic example of political dissidence, intrigue and drug abuse is that associated with the group called the Assassins, formed at the end of the eleventh century. This was a radical sect in Islam which became widely known in Europe during the Crusades. Many Crusaders suffered greatly from their unmerciful attacks. As a society of imposters and drugged dupes, they pretended religious aims while undermining the accepted religion and moral values of Islam. They hatched conspiracies against the Arabic state, using nihilistic, murderous terrorism.<sup>35</sup> The founder, Ḥasan-i-Ṣabbāḥ (c. 1090–1124) at his headquarters in Alamūt, Persia, planned the destruction of the Muslim empire and all his religious and political opponents in revenge. To this castle and garden paradise, with magical deception, he introduced his drugged (with opium and cannabis) followers through fantastic dreams to a taste of eternal enjoyment and bliss. In fanatical devotion and loyalty, they committed dreadful acts of assassination and terrorism, which they considered just and heroic.<sup>36</sup>

Another example is a later religious group, the Dervishes (fakirs), who believed in Muslim saints and holy places to possess and exercise spiritual powers. In their special religious circles, in order to repeat praises, prayers, and invocations of God's name

<sup>32</sup> The approximately 51 epistles, *Rasā'il Ikhwān al-Ṣafā'*, attributed to this fraternal (ikhwān) society constituted an encyclopaedia on philosophy, art, religion and natural sciences of the period. It was edited more than once. For this paper, I consulted the one by Khayr al-Dīn al-Zarkālī, in 4 pts. 2 vols., Cairo, 1928.

<sup>33</sup> The Qarāmitites (Camarthians) won central Asia and established a form of republic in Eastern Arabia, a base for militant propaganda against the *status quo*. It endangered the very survival of the Abbasid Caliph and the powers to be. See Taqī al-Dīn al-Maqrīzī, *Ittī'āz al-Ḥunafa'*, Jamāl al-Dīn al-Shayyāl editor, Cairo, Dār al-Fikr, 1948, pp. 238–50.

<sup>34</sup> Mysticism in Islam was developed to enhance man's direct intercourse with God. It encouraged denying of self and shunning of evil desires and pleasures; but in practice not a few so-called mystics failed miserably in these goals as did other similar groups in East and West. See Margaret Smith, *Studies in Early Mysticism in the Near and Middle East*, London, Sheldon, 1931, 47, 160–66, 202–16; and Adam Metz, *Der Renaissance des Islam*, trans. by Muḥ. A. H. Abū Ridāh, Cairo, 1940, pp. 97–120, 314.

<sup>35</sup> In Arabic history, it happened that when a group of Muslims opposed the state and challenged the existing order, that organization inevitably became a sect and the challenge a theology. See Bernard Lewis, *The Assassins*, London, Weidenfeld & Nicolson, 1967, 21–22.

<sup>36</sup> *Ibid.*, 11–12; and Marshall G. S. Hodgson, *The Order of the Assassins*, The Hague, Mouton, 1955, 38–42, 82 and 111–12.

(*dhikr*), to arouse their mental excitement, enthusiasm, and divine inspiration and to endure long hours of meditation and praise, they used both opium and hashish, often mixed with other noxious ingredients and spices. They claimed that under the intoxication and euphoria of drugs they had visionary glimpses and a foretaste of the future happiness and enjoyment that await believers. The cannabis (*hashish*) was used as a 'spiritual' soporific producing that quiescence of soul and intoxication. The doses increased as their craving for beatitude became stronger.<sup>37</sup>

The Dervish (poor in Persian) is equivalent to the *faqīr* (fakīr) in Arabic and was used by the mystics of Islam, namely the Sufis (wearers of wool), an honourable title without being vainglorious. Sufism as a system and religious order appeared near the close of the eighth century. Around 400 A.H. (1010) the *khawānik* (monastery-type, partially state-supported religious dwellings) were established in Islam. By then, as one *Ṣūfī* stated, the order had become, 'a name without a reality'.<sup>38</sup> The prolific Egyptian historian al-Maqrīzī (1364–1442) agreed that *Sufism* in his time degenerated to a worthless organization of ignorant adulterers, dupes and idiotic drunkards who loved songs, dancing and a lazy life under religious pretence.<sup>39</sup> All of this deterioration was no doubt the result of drug abuse.

As in the previously mentioned Mecca experience, addiction was introduced into Sufic ranks in a cunning and treacherous way. It deceived not only users, but the public and pious and philanthropic Muslim rulers as well. There is no better or more intriguing illustration of this than the story told by the Muslim traveller Ibn Jubayr (who started his journeys in 1183). An honest and accurate observer, he described what he saw faithfully. He not only witnessed an addiction phenomenon practised by *Sufis* but he reported cases of death caused by overdoses of opium after deep sleep. He stated: 'In Damascus there are many *khawāniks* intended for the *Sufis* who live like kings in decorated mansions with running water—not unlike garden palaces. . . . They are happy people enjoying the pleasures of this life and the hereafter. They follow remarkable and unique ways of intimate community relations, organization, and services. Their mystical habits in long meditations and spiritual longings are astonishingly beautiful and not a few among them pass away (to eternity) in their ascetic condition of eagerness and tenderness. By and large their state of affairs is wonderful and all they seek is happy and enjoyable living in a beautiful garden and palace.'<sup>40</sup>

Such incidents have been reported from the tenth century as medical cases. The cause of the death of Prince al-Manṣūr in North Africa (now Tunisia) in 948 is told as follows: 'On top of his sickness he had insomnia for many days. One of his doctors used a narcotic which put him into a deep sleep from which he never woke up'.<sup>41</sup> He apparently took a lethal dosage of opium.

<sup>37</sup> John P. Brown, *The Dervishes, or Oriental Spiritualism*, Oxford University Press, 1927, pp. 22, 58, 93, 340–43.

<sup>38</sup> Martin Lings, 'Sufism', *Religion in the Middle East*, ed. by A. J. Arberry, Cambridge University Press, 1969, pp. 253–54; and Reynold A. Nicholson, *A Literary History of the Arabs*, Cambridge University Press, 1962 pp. 228–31, 388–92, and 460–65.

<sup>39</sup> Taqī al-Dīn al-Maqrīzī, *al-Khiṭaṭ*, vol. 4, Cairo, al-Nīl Press, 1324 A. H., pp. 271–74, 292–93.

<sup>40</sup> Muḥ. b. Aḥmad b. Jubayr (d. 1218) *Riḥlāt*, Cairo, Sa'adāh Press, 1908, 264–65.

<sup>41</sup> 'Izz al-Dīn 'Alī Ibn al-Athīr, *al-Kāmil fī al-Tārīkh*, vol. 8, Cairo, Azhariyah, 1301 A. H., pp. 196–97; Abū al-'Abbās b. Khallikān, *Wafayāt al-A'yan*, vol. 1, Cairo, 1299 A. H., p. 135; and Maqrīzī, *Itti'āz al-Ḥunafā'*, Cairo, 1948, 132–33. *The Book of Jeremiah*, Chapt. Li:57, puts it in a literary sense in this way, 'They shall sleep and not wake up.'



In the twelfth century in the Iberian peninsula, poppy from which opium was extracted have been mentioned by al-Ghāfiqī (d. 1164) under *khushkhāsh* (letter *Kh*) in his materia medica (Cairo manuscript). His countryman Ibn al-Bayṭār (d. 1248) who became chief herbalist in Egypt likewise described the method of obtaining opium, its physical properties and therapeutic uses. He also stated that the best opium he knew of was from Asyūt in Upper Egypt from where it was sold all over the Muslim world. 'If the size of a vetch is taken, it relieves pain and chronic cough, and induces sleep . . . but if an overdose is administered, it puts the eater into a very deep and long sleep, with similar symptoms as those of emaciation, then it kills him. Some practitioners in Egypt take the poppy capsules and grind them with the leaves, then extract their juice by using a special press (with spiral spring or axle and wooden shafts or planks).' This is the first known reference to the use of a drug and juice presser of this kind.

Among poisoning symptoms Ibn al-Bayṭār mentions 'lockjaw [tetanus], lethargy, severe itching, eyes sunken in, tongue tied, extremities and nails discoloured, with profuse cold perspiration ejecting opium smell, then convulsion followed by death.' Convulsion as a symptom was never mentioned in this connexion by ancient or classical writers. Like his predecessors in Islam, Ibn al-Bayṭār cautioned that opium and poppy should be administered only by competent physicians and be mixed with other drugs to reduce their potency.<sup>43</sup>

As to hemp, Ibn al-Bayṭār wrote that he saw it only in Egypt. 'There it is cultivated in gardens, and is called *hashish* (the *hashishah*). If one takes more than one or two dirhams (about 3.10–6.20 grams) it leads to flippancy [levity]. Some people used it and it resulted in brain deterioration which led to madness and occasional death. I have seen the poor people using it in many different ways. Some cook the leaves very well, mash thoroughly by hand into a dough, then make troches from it. Some dry it, roast it, rub it by hand and then mix it with peeled sesame and sugar, take it by mouth and chew for a long time. They derive much pleasure, enjoyment and euphoric feeling which can cause intoxication or close to insanity, as I have personally witnessed.'<sup>43</sup>

Bayṭār's junior contemporary, Ibn al-Nafīs (c. 1210–88), the discoverer of pulmonary circulation, spoke of the way of obtaining opium, testing to determine its purity and modes of action. He said, 'opium is a strong narcotic, alleviates all pains, darkens the sight as it hardens the spirit, weakens the mind, and degenerates understanding as it corrupts the temperament of the spirit.' As to poppy, he explained that it is mixed with sugar or honey 'and given to children to increase their sleeping period.'<sup>44</sup>

Most of the above-mentioned and other medical and pharmaceutical texts of the early Arabic medieval period were translated into Latin during the eleventh through the thirteenth centuries and thus the uses of poppy and opium found access into Western medicine and wider application than ever known before. The drug for centuries continued to be imported into Europe from the Middle East. Lémery

<sup>43</sup> 'Abd Allāh b. Aḥ. b. Al-Bayṭār, *al-Jāmi'*, vol. 1, Cairo, Bulaq, 1874, pp. 45–46, 59–60.

<sup>44</sup> *Ibid.*, vol. 2, p. 39. Also the El-Escorial ms. cod. 839, fols. 20 and 227.

<sup>44</sup> Abū'l-'Alā' b. A. al-Ḥazm b. al-Nafīs, *Sharḥ al-Qānūn*, Leiden ms. Arab. 81, fols. 45 and 269.

(1645–1715) however, complained that the imported opium was invariably an impure and inferior product, Meconium, which ‘hath not the same activity and strength’ as the one used in middle east countries. Ibn Sinā and other Arab transmitters of Greek learning mentioned its preparation from the juices pressed from crushed and ground poppy capsules and leaves and formed into troches for medical use. Also influenced by Latin translations of the Arabic texts, Lémery reasoned that sleep resulted from calming of the spirits’ motion—reposed in the brain—by the cooling and condensation of humours.

Nevertheless, he praised opium as ‘one of the greatest remedies that we have, when it is properly administered and in a reasonable dose; but when it is given in too great quantity . . . spirits lose all their motion and death takes place.’<sup>46</sup> In this same chapter, Lémery most interestingly anticipated the work of later chemists who isolated the active ingredients (alkaloids) from poppies.<sup>46</sup>

Pomet, who spoke of opium as ‘a narcotick and anodyne’, reported that some Turks subsisted on it for days without any other food or nourishment. When they went to fight, he added, they took it to excess so that it might animate them and at least make them insensible to danger<sup>47</sup>—a precursor to injurious methods of drug abuses freely employed in our time.

#### THE FIRST KNOWN GOVERNMENT SANCTION AGAINST CANNABIS

By and large, Arabic cultural and scientific productivity levelled off from late eleventh to the end of the thirteenth century. Thereafter it declined very rapidly to a state of stagnation until the nineteenth century when new life began to re-awaken interest and intellectual activity. There were several reasons for the tragic medieval decline: economic, political, racial, and religious. But not unimportant among the many and complex factors involved was the addiction problem in a nation which subscribed very actively to the use and misuse of drugs since the 900s. As a matter of fact, on a small scale, the Muslim society was drug-oriented, especially in urban, wealthy and progressive centres. Drugs were used extensively—from laxatives, emetics and styptics to narcotics, sedatives and medicated cosmetics. Thus it was not strange to see the rise of the addiction phenomena rooted, as it were, in religious, medical, as well as pleasurable environments and encouraged under the pretence of cummune living circles.

A classical case arose in the rich territory of Yemen (called ‘the happy’ in Arabic, *al-Yaman al-Sa’id*) in South West Arabia, as well as in other neighbouring African countries across the water. Yemen, a fertile and prosperous country imported the *Qāt* tree (*ghat*, *Gatha edulis*), as it did the coffee-bean tree from Ethiopia, over a century before the rise of Islam. This small perennial shrub, without blossoms or

<sup>46</sup> Nicholas Lémery, *A Course of Chymistry*, trans. from the French by Walter Harris, London, 1686 ed., pp. 467–74. He records also cases of opium misuse in France in the seventeenth century.

<sup>46</sup> *Ibid.*, p. 471; here Lémery stated, ‘According to this principle then, there must be contained in opium, and all other soporificks, a certain substance that inviscates the spirits, and hinders them for some time for circulating so flat as they did before’ anticipating the presence of what we call alkaloids.

<sup>47</sup> Pierre Pomet (1658–99), *A Compleat History of Druggs*, vol. 1, London, Bonwicker-Freeman, 1712, pp. 216–17; and in the original French, *Histoire générale des Drogues*, Paris, Ducastin, 1694, pp. 295–97. See also A. Dickson Wright, ‘The history of opium’, *Med. biol. Illust.*, 1968, 18, 62–64.

seed, grew abundantly in high elevations as it still does today. Since the thirteenth century, the chewing of its leaves and twigs 'for spiritual satisfaction and bodily repose' became almost as inseparable from the life of the Yamanis as any sacred tradition or law.<sup>48</sup> They considered the *Qāt* as 'one of the bounties of Allāh' to refresh the soul and bring back energy to the body. Thus, practically the whole adult population used it despite its styptic, unpleasant taste, and hazardous psychodelic and toxic effects. They could go without food for days but not without *Qāt*.<sup>49</sup> When abstinence from wine was enforced, the chewing of *Qāt* and the brewing of coffee husks spread widely from the thirteenth up to the present century. It demoralized and degenerated the people and kept them in the darkness of the Middle Ages for more than six centuries. At the same time *Qāt* was enslaving people in Yaman, use of opium and hemp in the form of *hashish* and *kayf* (*kif*) was spreading all over the countries of North Africa, the Middle East and India. In Morocco, for example, the use of hemp (*hashish*) became a traditional part of the religious ceremonies conducted by the Sunūsis and other Muslim groups.

The Qur'an, since its promulgation in the early seventh century, prohibited the use of wines,<sup>50</sup> which were widely known in pre- and early Islamic Arabia. But neither hemp nor opium was then known. Of course, no specific prohibition was made against their use in the Qur'an. This left the door open to misuse. Even in the case of prohibited wines, very few among leaders, caliphs and the well-to-do had ever followed the prohibition faithfully. Under the Fātimid King al-Ḥākim (reigned 996–1021) and the Ayyūbid King Al-Afḍal (1197), respectively, however, edicts were issued to prohibit the sale of liquors and to close all taverns and liquor stores throughout Syria and Egypt.<sup>51</sup>

The first known sanction by a government, however, not only against wines but also *hashish* (*cannabis*) was enacted and enforced by the courageous King al-Zāhir Baybars (1266–79). He ordered all taverns and brothels closed in his domain.<sup>52</sup> There were several reasons why this took place under Baybars' leadership, but suffice to mention three: (1) his sincere religious and moral convictions and the demoralizing effects of drug and liquor misuse; (2) he was a warrior who fought many battles on many fields and he noticed the effects of such drugs on the moral and mental capacities of his soldiers whom he wished to keep strong and dependable; (3) the widespread misuse of drugs.

Add to this his great courage to enforce fearlessly what he believed was good for

<sup>48</sup> G. Wyman Bury, *Arabia Infelix*, London, Macmillan, 1951, p. 113, and Nazih M. al-'Azam, *Riḥlah fi bilād al-'Arabīyah al-Sa'idah*, Cairo, Ḥalabī, 1355, A.H., pp. 60–64. 'Azam describes a particular dark den-type room where special groups gathered to chew qāt as well as the methods, tradition and utensils used. Although many of its addicts lived in poverty and ill health, Yamanis despised minority groups who drank wine but did not eat qāt, 'the gift of Allāh', and which was praised by their poets with flowery verses of thanksgiving.

<sup>49</sup> Ameen F. Rihani, *Arabian Peak and Desert Travels in al-Yaman*, Boston and New York, Mifflin 1930, pp. 30–40, 88, 97, 104, 112–14, and 152–54. He also mentioned that *Katha edulis* was first classified by the Danish botanist, Forskal, during his 1763 expedition of Yaman.

<sup>50</sup> *Holy Qur'an, Sūrat al-Baqarah*: 216–18, *al-Nisā'*: 42; *al-Ma'idah*: 89–92 and other chapters. For comparison several verses can also be quoted from the Bible: *Leviticus* 9;10: *Judges* 13:4, 14; *Proverbs* 20:1; 23:20, 30–31; *Isaiah* 5:11–12, 28:7 and *Habakkuk* 2:5.

<sup>51</sup> Ahmad al-Maqrīzī, *al-Khiṭaṭ*, 2:386; and Stanley Lane-Poole, *A History of Egypt in the Middle Ages*, New York, Haskel, 1969, p. 126.

<sup>52</sup> *Ibid.*, p. 273; and al-Maqrīzī, *al-Sulūk Lima 'rifat Duwal al-Mulūk*, vol. 1, Cairo, Dār al-Kutub, 1936, pp. 182, 359, 450, 578 and 641.

him and his subjects regardless of strong opposition. The Maqrizī reports that ‘On Monday 14th Dhuū’l-Ḥijjah, 664 A.H. [1265] the governor of Egypt, Prince ‘Izz al-Din al-Ḥilli, arrived at the court room in the palace of justice with the supreme and other judges. As the prince took his usual seat and all others sat down, a man rushed through the lines of spectators, visitors, and dignitaries to stand before the prince, waving what looked like a letter in his hand. He soon took out a knife, hidden in his clothes, and stabbed the prince,’—an incident that brings to mind similar recent happenings. Upon investigation, the criminal was found to be a standard-bearer in the cavalry, who was a *hashīsh* addict. He had been a mental case ‘and his madness increased by the increased use of the *hashīsh*’.<sup>53</sup> That same year in Damascus, Baybars prohibited *hashīsh* and ordered disciplinary measures against violators. But secretly people continued to indulge in drug and wine abuse. King al-Mansūr Qalawūn in 1279 tried to be ‘liberal and objective’. He allowed certain merchants to sell wine with other intoxicating drugs after paying certain franchise fees to the state treasury. This enriched the state revenue, but encouraged their use so that people no longer needed to take them in secret. The situation got out of hand, and the king was forced to prohibit their use once more.<sup>54</sup>

Unfortunately the political conditions of these countries was moving from bad to worse and the social system was so corrupt that reform failed to lift the people’s moral and ethical standards. Secret use of drugs continued to plague these societies for centuries.

#### CONCLUSIONS

In pre-Islamic Arabia, neither poppy nor hemp (*cannabis*) was known. Around 800, poppy, as well as its product, opium, entered the drug armamentarium. For almost two centuries, its use was mostly restricted to the therapeutic realm, although the dosages often exceeded medical need and were repeated more often than not. Socially-minded and well-educated practitioners repeatedly cautioned against opium’s poisonous effects on body and mind. The first recorded drug phenomenon was traced to the late tenth century. It appeared in the holy city of Mecca with opium brought from Persia, Egypt, and neighbouring countries. Persia, in the late eleventh century, was the centre of the Assassins, who used opium, *hashīsh*, and other spices and potent drugs to induce mental and physical euphoric feeling and excitement. This group—together with other religious systems, some of whose members were drug-addicted—appeared in Syria, Egypt, and other parts of the Muslim world. In the thirteenth century, wine and *hashīsh* were widespread in the whole area and in India. Persia, Syria, and Egypt continued to be centres for drug export as well. Egypt was a world famous producer until *hashīsh* and opium were prohibited by the government in 1941, although its secret use has not declined substantially to the present.<sup>55</sup>

<sup>53</sup> *Ibid.*, pp. 550–51; and Sa‘id A. ‘Ashūr, *al-Zāhir Baybars*, Cairo, Ayyām al-‘Arab series no. 14, 1963, pp. 180–86.

<sup>54</sup> Maqrizī, *al-Sulūk*, pp. 133–34 and 668.

<sup>55</sup> Morphine, which was isolated from opium in 1805, by F. Sertürner of Germany, was not introduced into the Arabic countries until late in the nineteenth century. In the 1880s, however, through the British army in the Middle East and India the use of cocaine spread widely up to the time of the Second World War. Since then, heroin (obtained from morphine by acetylation), tranquillizers, and hallucinogenic drugs have been finding many users.