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NEUROPSYCHIATRIC DISORDERS IN THE OLDEST MEDICAL TEXTBOOK IN PERSIAN WRITTEN AROUND 990 A.D.

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ABSTRACT

Written around 990 A.D., *Hidayat-Mutaallemin Fil Tibb (Student's Guide in Medicine)* is the oldest general medical text known to have been written in modern Persian. Little is known of the author other than the fact that he was apparently a well experienced practicing physician by the name of Abu Bakr Rabi' bin Ahmad al-Akhawaini from Bukhara who claimed to be a second generation student of Razi.

The neuropsychiatric sections of the book are of particular interest because the author apparently had a personal interest in and reputation for treating the insane. According to one of the manuscripts he was known as the "Physician of the Insane" by his contemporaries.

Following the line of other Islamic medical writers, the author has described the major neuropsychiatric disorders in the chapter dealing with the "Diseases of the Head and Brain". These include Melancholia, Mania, Epilepsy, Phrenitis, Lethargy, and Delerium. *Hysteria* is, however, described among the diseases of the female reproductive system.

Both the terminology used and the authorities quoted betray the author's schooling in and devotion to the Graeco-Roman medical traditions adopted by early Islamic medical writers. He emerges as a hard-headed organic physician dedicated to the humoral doctrines of mental illness.

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INTRODUCTION

The role of Islamic[1] physicians in the preservation and transmission of Greaco-Roman medical heritage during the dark ages of western civilization is well known[2-4] (Browne, 1921; Campbell, 1962; Meyerhof, 1931). What is not so well known is the major role played by Iranian physicians in the development and maintenance of what is commonly referred to as Arab or Islamic medicine[6-7] (Baasher, 1975; Browne, 1921; Campbell, 1926). This is partly due to the fact that because of the political dominance of Arabs during the first three centuries of Islamic civilization and the use of Arabic as the official language of the new faith, almost all scholarly texts had to be written in Arabic. The situation started to change at about the middle of the 10th century of the Christian era when independent Iranian dynasties came to power and the modern Persian language emerged as a viable alternative to Arabic[8-10] (Browne, 1929; Arberry, 1958).

To begin with however, the use of the new language was restricted to religious, historical and literary creations for almost another century. Thus such Islamic physicians as Rabban-e Tabari,[11] Zakariya-e-Razi[12] and Al-Majusi[13] whose non-Arabic origins are betrayed by their names, wrote exclusively in Arabic and Abu Ali ibn-e Sina (980-1037)[14] the most celebrated of the classical Muslim philosophers and physicians-

wrote most of his works, including his famous medical textbook Al-Qanun in Arabic. By the end of the 10th century however, modern Persian, the post-Islamic common literary language of Iranian people, had developed sufficiently to be used in writing some of the most significant philosophical treaties of Avicenna as well as textbooks in various branches of philosophy, mathematics, astronomy, and medicine.

The oldest medical textbook known to have been written in modern Persian belongs to the beginning of this period. It is a one-volume work written by a practicing physician who, by his own admission, had practiced the art of healing for 30 years and because of his interest and proficiency in the treatment of the mentally ill was reknown as a "Doctor of the Mad" (Pezeshke Divanagan) in his own time.[15] Thus the description of mental illnesses and their treatment as given in this book should be of particular interest to the historians of psychiatry.

DISCUSSION

The book in question is called "Hidayat-ul-Muta-allemin fil-Tibb" roughly meaning "Students' Guide to Medicine". It is written by Abu Bakr Rabi bin Ahmad al-Akhawaini al Bukhari.[16] Aside from personal references scattered throughout the text, very little is known about the author. The book itself, however, must have been well known to Iranian writers of the following centuries. Nezami Aroozi (12th Century AD)[17] in his famous "Four Discourses" (Chahar Maqala) on writership, poetry, astronomy, and medicine (Browne, 1921) has recommended it as one of the medium-sized medical texts to be carefully read by all serious students of medicine. Another medical writer of the following centuries the only manuscript of whose book (Mujaz-e komi) is preserved in the British Museum[18] also names Hidayat-ul-Muta' allemin among his references.

The Author:

Within the text itself there are a few references to the author's training and clinical experiences. These references have been used by Iranian scholars to determine the author's approximate date of birth and death. As his title, Al-Bukhari, would indicate, the author comes from the city of Bukhara[19] which was one of the main centers of Iranian cultural and political activity during this period and as the Capital of the Samanid dynasty[20] had attracted a large number of poets, physicians and scholars[21] (Le Strange, 1905). Among its cultural heritage was a well stocked royal library which has been described in Ibn-e Sina's autobiography[22] (Gohlman, 1974). There are several references to the city of Bukhara within the text and the names of several medicinal plants in the local dialect of Bukhara.[23]

The author gives the name of his teacher as Abul-Qasem Maqane'i and identifies him as one of the first students of Razi.[24] This piece of information has been used by Minavi[25] (1950) to set the author's date of death around the year 373 of the Islamic calendar (about 995 AD), almost 100 years before that of Ibn-e Sina. Since in the oldest manuscript of the book now kept in the Bodelian Library of Oxford, England, the author's son refers to his father's death shortly before the book was completed so the writing of the book must have started a few years earlier, perhaps around 990 AD. The linguistic characteristics and literary style of the book leave little doubt regarding its age. Moreover, the Bodelian manuscript referred to above bears the data of 478 h (1090 AD) as its date of completion and is believed to be the second or third oldest manuscript in modern Persian to have survived the ravages of time.[26] Another manuscript of the book, kept in the Fateh Library of Istanbul, Turkey, dates from 520 h (1132 AD). The third known manuscript is of a much later date and belongs to the Malek Library of Tehran. All three manuscripts have been used in the preparation of the printed text edited by Professor Jalal Matini from the Faculty of Letters of Mashad University[27] (Matini, 1965).

The Author's Sources:

From the beginning paragraphs of the text it is evident that the author has compiled it at the request of his son who had asked him for a "light and easy" book on medicine (P.14). Although the author is a Muslim and starts his book with a brief prayer to Allah and his prophet Muhammad (PBUH), there are but few references to the holy Quran and none to the traditional Islamic teachings on health attributed to the Prophet.[28]

As mentioned above, the author regards himself as an indirect student of Razi. To emphasize his identification with the Razi school he explicitly states that "My teacher followed Razi and I have followed him" (P. 303). Thus he would seem to be firmly committed to the Graeco-Roman tradition followed by Razi. His debt to this tradition and its outstanding representatives is clearly reflected in the frequency of quotations from and/or references to their work which are as follows: Galen (45 times), Hippocrates (25 times), Razi and Serabion' Son[29] (11 times each), Yahya bin Masuyeh[30] (7 times), and Hunein bin Is-haq[31] (4 times). This does not however mean that he has uncritically accepted all the views and practices of these masters. On the contrary, he would appear to judge their opinions and recommendations by his own clinical experiences. Throughout the book there are references to the author's personal experiences in using various drugs and treatment modalities. If he has had no personal experience in using a treatment modality he admits this and asks his readers to exercise due caution in using it.[32]

On the whole, he appears as a hard-headed, organically minded clinician. His attitude regarding the practitioners of folk medicine is well reflected in his description of bone-setters: "These people who claim to be bone-setters are mostly women, Kurds,[33] Majus (Zoroastrians),[34] peasants, and other ignorant persons. As I look at them, I see nothing but a lot of false and unsubstantiated claims" (P. 626).

Organization of the Book:

The book consists of some 200 chapters (= Bab) organized into three main sections. The first section includes 51 chapters which deal with various aspects of human physiology and anatomy. The second section includes 130 chapters and deals with various diseases and their description and treatment. Both of these two sections are organized according to the various organs and parts of the body, starting from the "top of the head" and ending with the "nails of the feet." The third section has only 18 chapters devoted to such varied topics as "fevers", "urine", "preventive medicine", and "the pulse and its determinants."

Of special interest for the history of psychiatry are chapters 9 (on nerves and their sources), 12 (on the nature of the brain and its form and functions), 35 (symptoms of brain disorders), 46 (on psychic events or emotions[35] such as anger and sorrow), 55 through 75 (on diseases of the various parts of the head and the nervous system), 135-137 (on sexual dysfunctions of men), and 138 through 147 (on sexual dysfunctions of women). In addition to these, the first six chapters of the book which deal with the basic concepts of traditional Graeco-Roman-Islamic medicine (e.g., the four elements; humors and their interaction in producing various states of health and disease), chapter 19 (on the nature of heart), chapters 30 to 34 (which deal with faculties,[36] functions,[37] spirits,[38] and causes[39] and signs of health and disease), and chapter 43 (on sleep and wakefulness), are of some interest for the history of psychiatry. The section on the female reproductive organs is also of psychiatrist interest because of its inclusion of a detailed account of the classical syndrome of hysteria (Khonaq-al-Rahem, the suffocation of the uterus or womb) and false pregnancy or pseudocyesis (in Arabic, Al-Rega = hope). This same section has also devoted two and a half pages to "Methods used by women to avoid becoming pregnant" which include primitive forms of such currently popular devices as condoms (made of goats bladder), diaphrams (using walnut shells), IUD, coitus interruptus, and sperm killing chemicals.[40]

Description of Mental Disorders:

As mentioned above, the majority of disorders currently falling within the domain of neuropsychiatry are described in chapters 55 to 75 of the book which deal with the **"Diseases of the head or brain"**. These include three distinct kinds of **headache** (pp. 218-229);[4] **vertigo or dizziness**[42] (pp. 231-233); **Sarsam**[43] (= **Meningitis,** an inflamamaion of the coverings of the brain, accompained by headache, fever, loss of consciousness[44] and talking nonsense,[45] (pp. 233-237); Litharghos[46] or **cold Sarsam** (= **lethargy,** an inflammation of the anterior part of the brain caused by a concentration of **phlegm**[47] and characterized by sleep or drowsiness, closing of the eyes, absence of speech and motor activity and loss of responsivity to auditory commands, pp. 237-239); **Qatakhos**[48] (another form of **cold sarsam** which is due to the affliction of the posterior part of the brain by an accumulation of black bile, the afflicted person remaining in the same bodily posture, unable to move or to speak, pp. 239-240).

Phrenitis[50] - the general title given to acute brain syndrome in the Graeco-Roman writings (Bynum, 1983)- is not described as a separate entity, but at the end of the section devoted to **litharghos** it is added that litharghos may develop into **phrenitis** and phrenitis may change into **litharghos**. In passing, it may be noted that in this text, like most other Arabic-Persian texts, due to the close similarity of the Arabic letters **F** and **Q**, the Arabic form of the term **phrenitis** is misspelled as **Qaranitos** instead of **Faranitos**. The fact that the word is spelled as **Baranitos** (or Paranitos) in some of the existing manuscripts of the present text, would seem to indicate that the corruption occurred later and was due to the copiers' ignorance of the medical terminology. On page 267 the author makes a reference to concoctions he has described in the chapters dealing with Faranitos and Mania. The discussion on Faranitos does not however exist in the printed version of the book.

Another disorder described in this section bears the Arabic title of Sobate-Sahari[51] (i.e., sleeping while awake) which is caused by an accumulation of yellow bile[52] and phlegm in the anterior part of the brain. The main behavioral symptom attributed to these patients is a sleeping state while the eyes remain open. After discussing the various physical treatments for this disease, the author adds: "It is said that patients suffering from **total sleepiness** (Sobate Mostaghreq) should be put to bed in a brightly lit room, those suffering from **Sobate Sahari** should be put to bed in a half-litroom and patients with **phrenitis** (**Faranitos**) should be kept in a dark room" (P. 241).

The short chapter devoted to **Mania** (**Bab Mania**)[53] has also a reference to **phrenitis**. According to the author, "Mania is an illness similar to **Hot Sarsam** which results from an accumulation of burnt yellow bile in the brain. People afflicted with this illness become fearful and suspicious and eventually they go mad (**Divaneh**).[54] But the illness is associated with fever and follows hot fevers... The treatment of this illness is the same as for phrenitis... I have treated many of these

patients by these methods and they have recovered" (pp. 241-242).

Following this brief description of **mania**, almost six full pages have been devoted to a discussion of **Malikholia**[55] the corrupted Arabic form of the term melancholia used by Islamic medical writers. This term has been widely used in classic Persian literature as a general term for psychosis (often of a paranoid delusional type) and still is understood by contemporary educated Iranians. To quote the author, "the interpretation of melankholia is a senseless fear; this illness is not associated with fever; people afflicted by it talk nonsense; sometimes they cry, and at other times they laugh; if you question them they are either unable to answer you or give untrue answers; most of their statements are lies" (P. 242).

After this brief presentation of the symptoms of melankholia, the author goes on to discuss its causation-the accumulation of burnt black bile-[56] and distinguishes three different subtypes depending on the location of the accumulated burnt black bile. If the burnt black bile is accumulated in the veins of the brain and its color has become black, the dominant symptom will be fear and terror because the **mental spirit (Roohe Nafsani)** is white and bright and is frightened by the dark black bile. If the black bile is exclusively accumulated in the head and the rest of the body is not affected by it, the patient will have a lean, emaciated and sunburnt face with deeply sunken eyes and a hairless body. He/she will be constantly sad, silent, and grouchy (Torsh Roy), most of the time staring down at the ground. When the accumulation of the burnt black bile covers the whole body as well as the brain, the patient will have a totally emaciated body and will present with symptoms that may vary from one person to the other. Some of these patients claim a knowledge of the invisible or the nonpresent phenomena[57] **(Elme Gheyb)** and maintain that they are prophets receiving divine messages **(Vaby)**; others proclaim that they are kings and will reign for many years; some say that their body is made of baked earth or ceramic (sofalin) while others maintain that they have become birds and will try to fly or imitate the voice of a rooster; still others believe that if the sky stops from whirling around the earth it will fall on the earth and they keep walking with their hands over their head so that the falling sky will not hit their head."

A third kind of malikholia is related to the accumulation of black bile in the spleen **(Soporz)** and mesenterium (Masariqa).[58] The typical signs of this type of melancholia which is known as the hypochondriac melancholia **(Malikholi-e Moraqi)** is that patients show a craving for food but their digestive system does not work well (pp. 246-247).

The above account of melancholia may be supplemented by a description of **Sawda** or black bile given at a much earlier section of the book which covers the physiological background of medicine. A summary of this section is translated below:

"Now there are two kinds of **Sawda**. One of these is the natural **sawda**[59] which is a precipitate **(Dordi)** of blood and is produced by the spleen **(Soporz)**. Everyday some of this **Sawda** enters the stomach in order to increase the desire for food. When this **sawda** accumulates and becomes excessive throughout the body, the illness known as Malikholia will occur. Another kind of **sawda** results from the burning of the humours. This may be of four types. One of these is the result of the burning of the **natural sawda** which is extremely bad. Malikholia resulting from this kind of **sawda** is incurable. A second kind of **sawda** which is also bad, results from the burning of phlegm and if it leads to malikholia the patient will be confused **(Khireh)**, stupid, sleepy and soft **(Narm)**. The third kind of **sawda** results from the burning of the yellow bile **(Safra)** and may be quite harmful **(Ziankar)** so that if it leads to malikholia the patient will be agitated **(Andarjahande,** literally, **jumpy)**, aggressive and murderous **(Koshandeh)**. The fourth type of **sawda** which results from the burning of the blood is better than rest. If it leads to **malikholia the** patient will be goodhumored **(Khandandeh**, laughing) and singing"(pp 34-36).

From the descriptions given above, it would appear that the author's conception of melancholia is far broader than its current definition as a form of severe depressive illness. Yet, a short paragraph in the section dealing with the signs and symptoms of various illnesses reveals that he was familiar with the narrower definition of melancholia as a primarily depressive phenomenon. The paragraph in question runs as follows:

"To be sad all the time without a cause that may warrant it, to be suspicious and to lose hope in oneself, are the symptoms of **malikolia"** (p.781).

The remaining chapters of the section on the diseases of head and brain are devoted to such neurological disorders as epilepsy **(Sare)** (pp.249-254), apoplexy **(Sakteh)** (pp. 254-256), hemiparalysis **(Falej)** (pp. 257-260), facial paralysis **(Laqvah)** (pp. 261-264), numbness or paraesthesia **(khadr)** (pp. 264-265), tremors **(Ra'shah)** (p. 265), and convulsions **(Tashannoj)** (pp. 266-267). The psycho-motor disturbances associated with all of these disorders are attributed to some kind of humoral barrier blocking the passage of the mental spirit **(Roohe Nafsani)** to the nerves responsible for the movement of the organs concerned. In the case of epilepsy, for example, the passage of the mental spirit is believed to be blocked by some kind of crystal-like phlegm **(Balghame Zojaji)**. Depending on the origin and/or the location of the blocking phlegm, three different types of epilepsy are distinguished. If the blocking is restricted to the brain alone, the epileptic seizure will be sudden and there will be no convul-

sions. If the location of the block is in the stomach or another organ outside the brain, the patient will become aware of his oncoming epileptic attacks and will cry out for help before losing his consciousness, his mouth becoming covered by froth. If the blocking phlegm is distributed throughout the body, then the whole body will undergo convulsions. Epileptic fits may be seen in very young children in which case the mother or the nursing should be treated instead of the child. According to the author, young children afflicted by his disease usually recover by the time of puberty but those showing the first signs of epilepsy after puberty will have to live with it for the rest of their lives. Nevertheless, he refers to his own success in treating many cases of epilepsy with a drug called **Shalitha** (pp. 249-252).

In connection with the description of epilepsy, the author has felt it necessary to describe another illness known as **Qotrob**[60] which is said to lead to a madness characterized by a loss of reason (or wisdom, **Agl**) due to the dryness that afflicts the brain so much so that nothing gets registered in the mind and the patient becomes unable to imagine, comprehend, or recall anything. The behavioral symptoms of this illness are described as looking with wide open but sad eyes at people and remaining silent or speechless. These patients have a tendency to go out in the wilderness (**Biaban**) and run around so much so that their feet and legs are usually wounded and torn by dog bites. The author then describes his personal experience in treating one of these patients as follows: "And I treated one of these patients with plenty of oils and dampening liquids. (To do this) I had to bind his hands and feet and make an instrument from a cow's horn through which I could put food and drugs into his mouth and by these efforts I was able to rid him of his illness" (p. 248).

At the end of his discussion of epilepsy too he has added the following paragraph which would seem to deal with the mentally retarded adults. "There is another type of madness which is called **Tabeh-al-Aql**[61] (lacking in wisdom). These patients are confused (**Khireh**) and silly (**Fadm** and **Gong**), all their senses being dark and clouded so that when they speak you may think that they are little children. And the mad people wandering around the towns belong to this group and their treatment is the same as that of the epilepsy caused by phelgm" (p. 254).

The chapter dealing with the suffocation of the uterus (Khonaq-al-Rahem)[62] has devoted six pages to the description and treatment of this illness. An abridged translation of this chapter follows:

"Women are afflicted by another illness during which they become choked, suffer from a shortening of breath, cannot speak, and ultimately lose their consciousness. This illness is similar to epilepsy but it differs from the latter in that women overcome by this illness retain their reason (**Aql**, wisdom, senses) but are in a seizurelike state (**Ghashye**) and cannot speak whereas the epileptic patient loses her wisdom. On the other hand, the epileptic attack is characterized by the collection of froth in the mouth of the patient whereas the attacks of these patients are without froth. The patient feels as if a foul vapor is ascending from the area of her uterus towards her heart and makes her feel suffocated and lose her consciousness.

The cause of this illness is the flight of the uterus towards the upper parts of the body. The reason for this flight is either a foul rotten semen[63] or an accumulation of decaying blood that has become putrid. The uterus escapes from the foul smell because it is able to distinguish between good and bad odors. Mostly women who have lost their husbands, particularly those who have lost them at an early age, are afflicted by this illness. Occasionally, however, unmarried girls too may be afflicted. Before the main symptoms of the illness manifest themselves, the afflicted person becomes lazy (**Kahel**), complains of pains in her legs, and starts talking nonsense of the kind seen in the insane and her face becomes red. As the illness approaches, the patients begin to talk as if they are delirious (**Behoshane Goftan**); they do things in a very hurried manner, show signs of fear and avoidance (**Ramidan**), become confused (**Khireh**) and gradually lose their consciousness and drop down like epileptic patients. They may remain in this (seizure-like) state for one or two days or pass away without regaining their consciousness, but when they begin to regain their consciousness, sweat covers their pubic area (Khoshandgah)[64] and a foul smelling fluid runs from their vagina and uterus until they gain full consciousness. And this illness may follow an episodic course, coming and going on certain occasions. Regarding the main cause of this illness, if the woman dose not have a husband and she has her menses and the symptoms include a lowering of pulse rate and breathing so that the people may think that she is dead, then the cause of her illness is an accumulation of rotten semen (**Mani Gandeh**); if the woman has a husband but she has lost her menses and her pulse and breathing are (not)[65] totally gone, then her illness is due to the cessation of her menses." (pp. 540-545).

From the description presented above it would appear that the author, like the rest of Muslim physicians, has adopted the pre-Galenic theory of the wandering womb as the basis of hysteria (Veith, 1965). This is despite the fact that he has cited Galen's views regarding the inaccuracy of attributing an independent animal status – with sensory and motor faculties or functions of its own – to the uterus (p. 541). His proposed methods of treatment for this disorder shed further light on the role presumably played by the sexual instinct in the etiology of hysteria. These are

divided into two major groups: treatments to be applied during the episode of hysterial attack, and those to be applied once the epsiode is over. The former include methods designed to revive the patient through some kind of strong olfactory stimulation in the first place and to passify the uterus and to persuade it to return to its normal position. The latter requires that the midwife should dip her finger into some kind of sweet smelling concoction[66] (**Ghalieh Anbar**) and put it into the opening of the patient's vagina rubbing it well until semen flows down from her uterus! Applying blood-letter's cups to the pubic area or thighs of the patient is also recommended (pp. 542-543). The treatments recommended for the period of remission between attacks include finding a husband and/or applying drugs that will reduce semen. For the type of hysteria associated with the cessation of menses, blood letting and cupping are presented as the treatment of choice (p. 544).

The final section of the book which deals with such varied topics as fevers, pulse, aging, ceremonies for drinking wine, and signs and symptoms of different diseases, also includes some interesting psychological points. The psycho-somatic orientation of the author come through very clearly in these discussions. For example, it is emphasized that such emotional reactions as sorrow, fear, and anger, which would appear to be treated as basic or primary emotions, can give rise to fever (p. 652-655) and may cause seizures[67] (Ghashy) (p.772). The impact of such emotional states on the pulse and the possibility of their differentiation and diagnosis from an examination of the pulse rate are also discussed at some length (pp. 807-808).

While discussing the relationship between emotional states and fever, the author makes a distinction between two aspects of affective reaction that may be relevant to current discussions on the differentiation of anxiety and depression.[68] The two aspects are indicated by the words **Ghamm** and **Hamm**, both from Arabic origin but commonly and interchangeably used in modern Persian to imply **sadness** or dysphoria. According to the author, although these two words are semantically similar they have somewhat different connotations. "**Ghamm** is caused by somthing that has been lost, whereas **Hamm** is occasioned by the fact that you are looking for something but you cannot find it" (pp. 654-655)[69]

In the same way that the author is aware of the health consequences of emotional reactions, he also demonstrates a similar awareness of the possibility of mental illness resulting from strictly organic insults to the body. A good example of this awareness is seen in his discussion of **rabies** where he mentions that people bitten by a rabid dog[70] may develop madness and become hydrophobic (p. 634). He also has called the rabid dog a **mad** dog.[71]

Methods of Treatment:

In line with the author's organic orientation, the main methods of treatment recommended are of a somatic-pharmacological nature. They include dietary regimens, drugs made of a large variety of herbs, seeds, fruits, and such animal derivatives as milk, meat, honey, fat and certain mineral products. The application of suppositories and laxatives, blood letting and cupping occupy an important position among his treatment methods. On the whole, there would seem to be very little difference in the mode of treatment suggested for various neuropsychiatric disorders and other somatic illnesses. There are virtually no references to any spiritual or supernatural methods of healing. Psychotherapeutic and evironmental interventions are rarely mentioned in connection with specific mental disorders. There is also no mention of a need for hospitalization or use of physical restraints except in the case of the Qotrob patient cited above whose apparent lack of cooperation and refusal to take food and drug had made physical restraints and forced feeding inevitable. This lack of reference to hospitalization is interesting because from other sources[72] (e.g., Elgood, 1975) it is known that during this period major cities of the Muslim world had special hospitals for the mentally ill where the patients were kept under some measure of physical restraint. In modern Persian poetry which started from about the beginning of the 10th century A.D., there are frequent allusions to the chaining of the mentally disturbed persons. In fact to this day one of the popular similes used in poetic references to a sweetheart's long and curly hair is "chains" designed for restraining the infaturated lover!

There are but a few references to environmental interventions as part of the total therapeutic plan. We have already seen the author's recommendations for adjusting the lighting of the room with the type of illness (p. above) as well as the necessity of finding a husband for patients suffering from hysteria. Other references to such environmental manipulations are found in connection with physical disturbances – in particular fevers – caused by emotional states. For example, if the fever is believed to have been caused by anger, its treatment requires that the patient should overcome his anger by having his friends sit around him and talk in a place surrounded by flowers, sweet scents and pleasing music (p. 653). Similarly, if the fever is believed to have been brought about by sorrow or sadness, the treatment of choice would be an indulgence in playful gaity with merry people around so that the patient's preoccupation with saddenning thoughts will be reduced and he will be able to laugh and enjoy himself (pp. 654-655). Similar environmental manipulations are suggested for those patients whose seizures are believed to be caused by such emotions as sorrw, fear, and anger (P. 772). The kind of attentions

given to these emotions and their concommitant somatic manifestations makes one wonder whether these emotional states are not really the same phenomena that nowadays go under the general title of psychoneurotic reactions!

CONCLUSION

In this paper we have presented the classificatory system, nosology, definitions and characteristic symptoms of neuropsychiatric disorders given by an apparently active and experienced Iranian physican who lived almost 1000 years ago. The relatively large space devoted to these disorders in Akhawaini's text is probably a reflection of his personal interest in this branch of medicine and abundantly justifies the title of psychiatrist or "physician of the mad" that his contemporaries had bestowed upon him.

Like the rest of Islamic physicians, Akhawaini openly admits to his indebtedness to such forerunners of his profession as Hippocrates, Galen, and Razi. Indeed, on several occasions he goes out of his way to remind the reader that he is student of Maqane'i who was a student of Razi and that in his therapeutic practice he follows their teachings. How much, if any, originality there is in his work as compared with those of his predecessors remains a question which requires a thorough comparison of Akhawaini's text with those of Galen and Razi which is beyond the qualifications of the present authors. Nevertheless a brief and admittedly superficial comparison of **Hidayat-ul-Muta'llemin** with such Islamic predecessors as **Firdaus-al-Hikma** of Raban Tabari and the relevant volumes of Razi's **Al-Hawi** revealed basic similarities with regard to both the system of classification and the terminology used. The same similarity is found in comparison with the work of such later writers as ibn Sina and Sharif Jurjani (died in 1136 AD) whose **Sakhira** (**Treasury**) is commonly acclaimed as the most comprehensive medical text to have been written in Persian.[73] Yet, in fairness to Akhawaini, his presentation of neuropsychiatric disorders would seem to be much more detailed and informative than that of Tabai, more systematic and conclusive than that of Razi, and more original-in terms of references to personal clinical experiences with variousdiseases, drugs, and treatment modalities-than that of Jurjani.

With regard to the organic position taken by Akhawaini and other Iranian physicians in their treatment of psychiatric phenomena, it may be worth noting that this attitude need not have been borrowed from the Graeco-Roman medicine. There is some evidence that even in pre-Islamic Iran such behavioral deviations as unpredictability, lack of concern for social norms, and grossly unsound judgements were often attributed to brain derangement rather than possession by supernatural forces. Good examples of this kind of naturalistic explanations can be found in Ferdowsi's **Sahahnameh** or **Book of Kings** which is generally regarded as the national epic of the Iranian people (Browne, 1928; Arberry, 1958).[74] Although Ferdowsi created his poetic masterpiece in the 10th century AD, his stories are based on pre-Islamic sources, both oral and written, that go back to the dawn of Iranian civilization. In the long evenful story of **Kawus Shah**, for example, **Rostam**, the chief hero of the Iranian epic, enraged by the Shah's unsound judgements and devious schemes tells him of having somthing wrong with his brain, and tells him that he should reside in a mental hospital rather than the royal palace. Interestingly, the word used for mental hospital in this passage is **Marestan**, a persian word that was used to identity mental hospitals throughout the islamic countries of the Middle East (Baasher, 2975)[75]

The history of neuropsychiatry in Islamic medicine has not received the kind of detailed analysis and interpretation that has been enjoyed by its Graeco-Roman predecessor. Such an analysis may not only contribute to the history of psychiatry in general but may also be of much value in clarifying the social history of Islamic countries. Among other things, it may help clarify why Islamic societies of the Middle Ages, despite their basic belief in Satan and man's inherent vulnerability to satanic possession, did not demonstrate the kind of negative attitudes and practices toward the mentally ill that was so characteristic of the Christian Europe during the Middle Ages. Medjidov and Gordieva's (1980)[14] Russian monograph on the neuropsychiatry of ibn Sina's **Al-Qanun** is a recent exception. It is hoped that the present essay on a sadly neglected Persian medical textbook and its psychiatrist author will prove of interest to scholars working on the history of neuropsychiatry and will stimulate further scholarly work in this area.

FOOTNOTES

(1) As distinguished from Muslim physicians, many of the early founders of Islamic medicine were Christians, Jews, and Zoroastrians living in the Islamic world.

(2) Browne, E.G., Arabian Medicine. Cambridge: The University Press, 1921.

(3) Campbell, D.E.H., **Arabian Medicine and its influence on the Middle Ages.** London: Kegan Paul, 1926.

(4) Meyerhof, M., **Science and Medicine in the Legacy of Islam**. Oxford: Clarendon Press, 1931.

(6) Baasher, T., "The Arab countries" in **World History of Psychiatry,** edited by J.G. Howells. New York: Brunner-Mazel, 1975.

(7) Ullmann, M., **Die Medizin in Islam.** Leiden: Brill,

1970.

(8) Browne, E.G., **A Literary History of Persia.** Cambridge: The University Press, 1929.

(9) Arberry, A.J., **Classical Persian Literature.** Dordrecht, Holland: D. Reidel Publishing Company, 1968.

(10) Rupka, J., **History of Iranian Literature.** Dordrecht, Holland: D. Reidel.

(11) Ali-ibn Sahl Rabban at-Tabari, born in Merw (now in the Uzbekistan USSR) in 810 A.D. and died not long after 855 A.D. His main work, **Firdaus al-Hikmah** (The Paradise of Wisdom) is one of the earliest systematic medical texts written in Arabic. Its coverage of neuropsychiatric disorders, particularly epilepsy, is of interest. (C.F., Ullmann, op cit, pp. 119-122).

(12) Abu Bakr Muhammad ibn Zakariya ar-Razi (Rhazes in Latin), was born in the ancient city of Ray, near the present city of Tehran, around 850 A.D. and died in 932 A.D. Of his numerous books, the most important is **Al-Hawi** (Liber Continens in Latin) of which one entire book or volume is devoted to diseases of the head and brain or neuropsychiatry. (C.F., Ullmann, op cit, pp. 128-136).

(13) Ali ibn al-Abbas al-Majusi (Haly Abbas of Latin translators), died around 950 A.D. His title, al-Majusi, is indicative of his Zoroastrian origins. His major work, **Kamil ul-Sina'a at-tibbiya** or **Kitab al-Maliki** (Liber Regius in Latin translation) was very popular in medieval European medical centers. Some of his successors held this book to be superior, from a practical point of view, to the **Qanum** of Ibn Sina. (C.f., Ullmann, op cit, pp. 140-146).

(14) Avicenna of Latin writers. Most of the miraculous cases attributed to Ibn Sina in Persian literature are of a psychiatric nature. C.f. Browne, 1921, op cit; Ullmann, op cit, 152-156; and W.E. Gohlman, **The Life of Ibn Sina.** Albany State University of New York, 1974. The neuropsychiatric aspects of Ibn Sina's techings are presented in detail by N.M. Madjidov & V.D. Gordieva, **Neurological Views of Abu Ali Ibn Sina** (in Russian, with a one page preface and table of contents in English). USSR, Tashkent: Meditsina, 1980.

(15) This statement is found only in the manuscript of the book kept in the Bodellian Library of Oxford. It studies as follows: and do not give up hope because I treated many (of these patients) and they recovered at my hands so much so that they called me the doctor of the mad (people). (Hidayat al-Muta'allemin, p. 246, footnote 6).

(16) Brown (1921) op cit and Elgood (1979), following some manuscripts of **Chahar Maqala,** have given him the name **al-Ajawaini**. This is most probably a misreading caused by the close similarity of letter J and **Kh** in Persian alphabet. See Browne, op cit; Elgood, C., **A Medical History of Persia and the Eastern Caliphate.** Amsterdam: APA-Philo Press, 1979.

(17) Abul-Hasan Nezam ud-Din Ahmad ibn Omar ibn Ali al-Nizami as-Samarqandi (died around 560 H./ 1188 A.D.) See Browne, E.G., **Revised Translation of the Chahar Maqala (Four Discourses) of Nizami Aruzi of Samarqand.** London: Cambridge University Press, 1921.

(18) In a collection of Persian manuscripts registered under number Add. 23560, f.273b and f.280b.

(19) Now in the Soviet Socialist Republic of Uzbekistan.

(20) Middle of the 3rd/9th century to the end of the 4th/10th century.

(21) For a detailed account of Bukhara in early Islamic centuries, see G. Le-Strange, **The Lands of the Eastern Caliphate**. Cambridge: The University Press, 1905.

(22) Gohlman, op cit.

(23) For example, see pages 160 and 604.

(24) Apparently this is the only reference to a man by this name among Razi's students. See M. Muhaghegh, **Biography of Muhammad Zakariya Razi** (in Persian). Tehran: Anjuman Asar Melli, 1975.

(25) Minawi, M., Introducing an old manuscript of a textbook in medicine in modern Persian. **Yaghma,** 1940, 3, 12 (in Persian).

(26) It may be of interest to note that the oldest existing manuscript in modern Persian (prepared in 447 H/1075 A.D.) is also a medical text called **Al Abniah an Haqayeq-al-Adviah** (roughly meaning the fundamental facts about drugs), writtern by Abu Mansur Muwaffaq Herawi who is believed to have lived in the 10th century A.D. This old but uniquely interesting and well-preserved manuscript belongs to the University of Vienna, Austria. See C.H. Talbot, **Codex Vindobonesis A F 340 sive Medici Abu Mansur Muwaffak Bin Ali Heratensis.** Akademische Druck-u-Verlagsantstalt, Graz, Austria, 1972.

(27) J. Matini, **Hidayat-al-Muta'allimin fi l'Tibb by Abu Bakr Rabi' b. Ahmad al-Akhawaini al-Bukhari.** Meshed, Iran: Meshed University Press, 1965 (in Persian).

(28) **Tibb-al-Nabi** or **the Prophet's Medicine.** For a detailed account, see C. Elgood, the medicine of the prophet. **Medical History**, 1962, 6, 146-153.

(29) Yohanna bar Serapyon, in Hebrew, and Yuhanna ibn Sarabiyun, in Arabic, lived in the 9th century A.D. His **Aqrabadin** or pharmacopea was very popular among early Islmic physicians. See Ullmann, op cit, pp. 102-103.

(30) Abu Zakariya Yuhanna ibn-Masawaih (777-857 A.D.), one of the founders of the Baghdad School of

Medicine and a member of the circle of translators commissioned to render Greek works into Arabic. (Ullman, op cit, pp. 112-115).

(31) Hunain ibn Ishaq al-ibadi (808-877 A.D.) the most outstanding translator of Greek medical texts into Arabic (Ullmann, op cit, pp. 115-119).

(32) In the text of **Hidaya** there are references to at least two other books written by the same author: one dealing with **the pulse (Nabz),** the other on **Materia Medica (Qarabadin).** Neither of these is known to have survived.

(33) Kurdish tribes are now mostly concentrated in the mountainous region shared by Iran, Iraq and Turkey. There is however some historical evidence of the presence of Kurds around Bukhara and other parts of north eastern Iran during this period. A relatively little known Kurdish poet of this era by the name of Lukari in a line apparently addressed to his Samanid patron, excuses his decision to leave Bukhara by saying that "My master, you know that Bukhara is much nicer than (my birthplace) Lukar; but a Kurd cannot bear to live without his desert sourmilk." (See Z. Safa, **A History of Persian Literature, volume I, pp. 352-3.** Tehran: University of Tehran Press, 1959 (in Persian).

(34) Mughan = Magi = Zoroastrian. From Narshakhi's **History of Bukhara,** originally written in Arabic in the 10th century A.D. and later translated into Persian, it is known that there was a large Zoroastrian minority, with its own separate living quarters, in Bukhara during this period.

(35) **A'araz Nafsani** or **Hawadeth Nafsani,** literally meaning "states or conditions that befall the soul".

(36) **Quwa** (plural of **Quwwat** = force, power).

(37) **Afa'l** (plural of **Fe'l** = action, function).

(38) **Arwah** (plural of **Ruh** = spirit).

(39) **Asbab** (plural of **Sabab** = cause).

(40) Our knowledge of Islamic attitudes to and instructions, both medical and theological, on family planning and birth control has been very much enriched thanks to the recent work of B. Musallam, **Sex and Society in Islam.** London: Cambridge University Press, 1983.

(41) **Soda', Shaqiqah,** and **Khodhah.**

(42) **Sadar** and **Dowar.**

(43) **Sarsam,** apparently from Persian **Sar** (head) + **Sam** (inflammation?), is also used in Arabic medical texts of this period (e.g., Razi's **Al-Hawi,** vol. 1, p. 194, of the Hydarabad, 2955, edition). A similarly derived medical term of Persian origin is **Barsam** (from **Bar** = chest, breast + Sam), which literally means any disease causing pain or discomfort in the area of chest and stomach but has often been used as the specific term for pleurisy (J. Richardson, **Persian, Arabic and English Dictionary.** Lahore: 1984 (originally published in London, 1829). Razi (op cit, pp. 197-198 and 202) would seem to have used the two interchangeably in describing the delirium caused by an inflammation of the meninges (**mananjus**).

(44) **Az Hoosh Raftan**

(45) **Bihoshane Goftan**

(46) From Greek **lethargos** meaning **forgetful.** Razi (op cit, pp. 184-192) has devoted a whole chapter to the discussion of **Litharghus** and its differential diagnosis from **phrenitis.**

(47) **Balgham.**

(48) From the Greek **Catochus,** from **Katoche,** i.e., epilepsy or seizure, catalepsy (Veith, I., **Hysteria: the History of a Disease.** Chicago: University of Chicago Press, 2965, p. 23, f. 20). Razi (op cit, p. 184) has given both **Qados** and **Qatukhos.**

(49) **Sawda** (Arabic, literally meaning something black).

(50) **Faranitos,** from the same Greek origin as the English frenzy and phren. Razi (op cit) discusses phrenitis (always written as **Qaranitos**), first in connection with **Litharghus** and **Qados** (= **Qatukhos**) (pp. 148-192) and again in chapter 10 when the differences between phrenitis and madness (= **Junun**) and some other mental disorders are considered at length (pp. 193-222).

(51) See Razi op cit, pp. 193-222.

(52) **Safra** (Arabic, literally meaning something yellow).

(53) Razi (op cit, p. 208) has given a very brief description of **Manya,** defining it as "excited madness" (al-Junun-al-Ḥayej). According to Razi, the main difference between mania and phrenitis is that mania is mostly **without fever.**

(54) A Persian term meaning mad or crazy. Its literal meaning is "like **a div** or demon". The world **div** comes from the same root as **dieu, zeus,** and **divine.** After the Iranians adopted Zoroastrianism as their national religion sometime between 7th and 12th centuries B.C., some of the deities (**devas**) of their pre-Zoroastrian Indo-Iranian polytheism were expelled as demons or anti-gods. People demonstrating alien, bizarre, or markedly deviant behaviors were believed to be under influence of these demoted deities. The word **divaneh** is still the most commonly used term in current Persian to denote **mad** or **crazy**.

(55) Melancholia, commonly spelled as **Malikhulia** in both Arabic and Persian literature, would seem to have received much attention from early Islamic physicians. Yuhanna ibn Masawaih (777-857 A.D.) is probably the earliest Islamic writer to have written about melancholia. Razi in his long chapter on Malikhulia (Al-Hawi, vol. 1, pp. 61-86) refers to ibn Masawaih's book on malikhulia (p.73). Ishaq ibn Imran's (c. 907 A.D.) **Meqala fi l-Malikhulia".** See

Ullmann, op cit, p. 125, and Boubaker Ben Yahia's Les Origines Arabes du De Melancholia de Constantin l'Africain, **Revue de l'histoire des sciences,** 1954, 7, 156-162.

(56) **Sawdae Sukhtah**

(57) **Elme Ghayb** literally means knowledge of things or events that are not present or visible to other observers. It also implies an ability to foresee and foretell future events.

(58) **Masariqa,** presumably from the Latin **venae mesaricae** (Skinner, H.A., **The Origins of Medical Terms,** 2nd edition, p. 272. Baltimore: William & Wilkins, 1961).

(59) **Sawdae Tabi'i**

(60) Steingass (1884) in his classic **Arabic-English dictionary** has offered the following definitions for this apparently Arabic word: "Qotrub = wicked demon, werewolf: melancholy; demonical possession; a small, ever-moving animal." M.J. Mashkoor (1978) in his multi-volume **Comparative Dictionary of Semitic and Iranian Languages** (in Persian) has traced this word to the Greek word **Kunanthropus,** literally meaning dog-man or wolf-man, hence werewolf. Richardson (1828) in his **Persian Arabic-English Dictionary** adds: "A wolf, hence a species of deep melancholy which makes men fancy themselves wolves and run howling to the woods." The idea of werewolf does not seem to have any strong roots in either Islamic culture or medical traditions. According to Ismail Jurjani (died 531 H/1136 A.D.) **Qotrob** is some kind of melancholia and these patients are called Qotrob because of their ceaseless motility (agitation?) which resembles that of the perpetually moving small water-living mosquito called by the same name. **(Zakhireh Kharazmshahi,** facsimile edition, Tehran: Bonyad Farhang Iran, 1974, p. 303). Razi has given a very brief account of qotrob in his chapter on phrenitis and madness (op cit, pp. 205-206).

(61) The word **Tabeh** in the sense implied by this combination could not be found in Arabic and Persian dictionaries available to us. From the context and the words **Fadm** (Arabic) and Gong (Persian) the author has used to explain it, there is no doubt that the term **Tabeh Aql** should mean "lacking in reason" or "retarded/demented".

(62) **Khonaq al Rahem** literally means "strangulation or suffocation of the uterus." Other medical writers in Arabic and Persian have used **"Ikhtenaq al Rahem"** which is from the same Arabic origin (e.g., Thabit ibn Qurrah c. 825-900 A.D, **Al Zakhira fi Ilm el Tibb.** Cairo: Government Press, 1928, pp. 116-117). Ibn Sina has also discussed this disorder under the title **Ikhtenaq al Rahem.** (Al Qanun, op cit, vol. 2, pp. 599-602). The common prevalence of this disorder in the early Islamic centuries is reflected in the fact that the author of the above mentioned Persian Pharmacopea **Al Abniyah an Haqayeq al Adviyah** has referred to several drugs as being useful for Ikhtenaq al Rahem. For comparison with earlier and later conceptions of hysteria Veith's (1965) **Hysteria: the history of disease** remains the most authoritative source. For a contemporary treatment of hysterical seizures as distinguished from epileptic fits, see M.R. Trimble, "Hysteria and other non-epileptic convulsions" in **Epilepsy and Psychiatry,** edited by E.H. Reynolds and M.R. Trimble, Edinburgh: Churchill Livingstone, 1981, (pp. 92-112).

(63) **Mani Gandeh (Persian).**

(64) Khoshandgah, old Persian combination apparently from **khosh-** (= pleasure, satisfaction) and **gah** (suffix meaning place). The combined form does not appear in existing Persian dictionaries but Richardson (op cit) has recorded the term khoshni as immodest woman or harlot.

(65) In the original, "... her pulse and breathing are totally gone." From the context of the sentence, however, it would appear that "are not" may be more appropriate.

(66) **Ghaliah Anbar.** From Ghaliah (= civet, a perfume) + (= Ambergris, a rich perfume and cordial). Ghaliah Anbar = a composition of musk, ambergris, camphor and oil of ban nuts (Richardson, op cit), J.R. Whitwell, quoted by Trimble, op cit, has traced this method of treating hysteria to Aretaeus. According to Trimble (op cit) Willis (1684) was the first person to suggest that hysteria, like the rest of mental disorders, was due to brain dysfunction rather than being seated in uterus.

(67) **Ghashy:** being stupefied, fainting. (Richardson, op cit).

(68) See, for example, M. Roth and C.Q. Mountjoy, The distinction between anxiety states and depressive disorders." In E.S. Paykel, ed., 1982, **Handbook of Affective disorders.** New York: The Guilford Press. PP. 45-58.

(69) Among the books attributed to Ibn Sina, there is a **Kitab al Hamm wal-Ghamm** (M. Najmabadi, **Tarikh Pezeshki Iran** (A History of Iranian medicine), Tehran: University of Tehran Press, 1968). From its title, this book must have dealt with affective disorders as they are defined now.

(70) **Kalb al Kelab** (Arabic)

(71) **Sage divanah** (Persian)

(72) E.g., Elgood, op cit.

(73) C.F. Browne 1921, op cit; Elgood, 1979, op cit; Ullmann, 1970, op cit.

(74) Browne, E.G., 1929, **A Literary History of Persia.** Cambridge : The University Press. (Vol. 2, pp. 129-149); Arberry, A.J., 1958, **Classical Persian** Literature. New York: Macmillan.

(75) Baasher, op cit.