

‘Alî at-Ṭabarî’s “Paradise of Wisdom”, one of the oldest Arabic Compendiums of Medicine

The late Professor E. G. BROWNE of Cambridge, England, one of the most prominent modern orientalists, made us acquainted, in the second of his « Fitzpatrick Lectures » on Arabian Medicine, (1) with one of the oldest treatises on natural philosophy and medicine written in Arabic. This is « The Paradise of Wisdom » (*Firdaws al-Ḥikma*), a book composed by ‘ALÎ IBN SAHL (RABBAN) AṬ-ṬABARÎ, a Persian physician of the IXth century A.D. BROWNE hoped to edit and perhaps translate this treatise in which he took the most lively interest. Unfortunately he died in 1923, before he could prepare more than the first pages of his intended publication. But, happily, one of his pupils, the Indian Arabist MUḤAMMAD ZUBAIR AŞ-ŞIDDÎQÎ had taken part in the task since 1922, when he was sent to Cambridge by the Government of the Indian province Bihar and Orissa as a « Research Scholar ». He could carry on his meritorious work and finish it in 1924 and, with the aid of a subsidy from the E. G. W. Gibb Memorial Trust, edit the whole treatise in 1928 (2). The publication was a laborious one, as the printing was done by a Persian printing office in Berlin, and the proofs had to be sent to Lucknow in India. This difficulty of communication, according to the editor, is responsible for the very numerous misprints in the Arabic text.

ŞIDDÎQÎ wrote a short English preface and a very elaborate Arabic introduction from which I extract the following items :

(1) E. G. BROWNE, *Arabian Medicine*. Cambridge 1921, p. 37-44.

(2) M. Z. SIDDÎQÎ, *Firdausu’l-Ḥikmat*, or *Paradise of Wisdom* by ‘ALÎ B. RABBAN AṬ-ṬABARÎ. Berlin, 1928, 8vo, XXXII+620+15 pp.

After a poem in honour of his late master E. G. BROWNE, to the memory of whom the edition is dedicated, ŞİDDÎQÎ refers to the time of the great Syriac-Arabic translators of the IXth century in Baghdâd, viz. YAḤYÂ B. MÂSAWAIH, ḤUNAIN B. ISḤÂQ, ISḤÂQ B. ḤUNAIN, ḤUBAISH, 'ÎSÂ B. YAḤYÂ and others (3). He thinks that, next to the Syriac treatises on medicine, 'ALÎ AṬ-ṬABARÎ'S « Paradise of Wisdom » was the very first medical compendium written in Arabic. This is an error; besides the early Arabic translation of AHRÔN the Syriac priest's and archiater's « Medical Pandect » (*Kunnâsh fi't-Ṭibb*) there are records of Arabic medical books as early as the period of the first Abbasid caliphs at the end of the VIIIth and the beginning of the IXth century A.D. Such writers are, for example, MÂSARJAWAIH, MASÎḤ B. ḤAKAM and the above-mentioned YAḤYÂ B. MÂSAWAIH whose treatises exist in manuscript in many libraries. Anyhow, the « Paradise of Wisdom » is so far the earliest Arabic medical compendium published in print. ŞİDDÎQÎ gives after this a bio-bibliographical sketch from which I extract the following items :

I. — LIFE OF THE AUTHOR.

ABU'L-ḤASAN 'ALÎ B. SAHL (RABBAN) AṬ-ṬABARÎ is only very briefly mentioned in a few biographical works, and his biography seems to have been taken by the writers from remarks in his own book. His, or rather his father's name has been very often mutilated by the Arab authors, so that we find him mentioned as 'ALÎ B. ZAIN, B. ZAID, B. ZAIL, B. RAZÎN, B. RAYYAN, B. RABL, B. DABAL or B. DHABAL, etc. IBN AL-QIFTÎ (4) renders the title *Rabbân* correctly but with a false explanation, taking it for the Jewish title of *Rabbi*. So 'ALÎ B. RABBAN passed into all historical works, until quite recently, as a Muslim of Jewish origin, although 'ALÎ himself, in the preface to his work, explains this title *Rabbân* as being the Syriac word for « our Master » or « our Teacher ». The late Professor HOROVITZ told me and wrote to me several years ago, that this was a Christian title; A. MINGANA gave the proof of

(3) See GEORGE SARTON, *Introduction to the History of Science*, I, Baltimore, 1927, p. 574 ff. and LECLERC, *Histoire de la Médecine arabe*, (Paris 1870) I, 202, foll.

(4) *Ta'rîkh al-Ḥukamâ'*, ed. LIPPERT (Leipzig 1903), p. 231.

this in print for the first time in 1922. 'ALÎ says in his apologetic tract « The Book of Religion and Empire » which he wrote about 855 A.D. that he himself was a Christian before he was converted to Islam, and that his uncle ZAKKÂR was a prominent Christian scholar. This tract is a defence of Islam against Christians, Jews, Hindus, Buddhists and Parsees.

Judging by autobiographical remarks taken from the preface to the «Paradise of Wisdom» ŞİDDÎQÎ thinks that 'ALÎ was born between 770 and 780 A.H. at Merw in the Persian province of Ṭabaristân.

This fixation of the time of 'ALÎ's birth, however, is based on an erroneous interpretation of the texts, of which I venture to offer a correction based on my own translation of them. In chapter 312 (p. 519 of the text) where 'ALÎ B. RABBAN writes on the celestial signs of coming events he relates the following : « There appeared in my time also a comet, and the direction of its tail (*dhû'âba*) was once to the East and once to the West, and it remained (visible) during a succession of nights. After this a large town in Ferghâna disappeared with all its inhabitants; and a host of people rose up against the Great King (i.e. the caliph) and he overcame them, but it was not long before he died and God gave the reign to HÂRÛN. And I observed in the latter's time one afternoon, when I was at *Surra-man-Râ'â* (5), a star (viz. meteor) shooting down from the direction of the South (*taiman*, Syriac word !) and falling to the North (*jarbiyâ*, Syriac), and it was spread out in the heaven and separated into flashes resembling written letters; and he (the caliph) died likewise some days later after a violent disease by which he was attacked. Several months before his death there appeared in the heaven an oblong fire remaining from midnight till nearly dawn ».

There is no doubt that the verb *inkhasafa* (to sink into the ground, to be swallowed up) means here an earthquake. Ferghâna, a large province in Transoxania (to-day in Russian Turkestan) has always been and still is a centre of violent tectonic earthquakes.

(5) An euphemistic name (« Joy of him who sees her ») for Sâmmarrâ, a second capital of the caliphate on the Tigris north of Baghdâd founded by the caliph AL-MU'ṬAŞİM in 836 A.D. It was the seat of seven caliphs and was abandoned in 889. The important ruins have been excavated by ERNST HERZFELD.

The one which was referred to by 'ALÎ AṬ-ṬABARÎ is very probably that mentioned by AL-GARDÎZÎ in the year 224 of the Hijra, i.e. 838-9, A.D. (BARTHOLD, *Turkestan down to the Mongol Invasion*, London, 1928, p. 210).

The second date referring to the accession of the caliph HÂRÛN can never be logically connected with the famous HÂRÛN AR-RASHÎD who died in 809, twenty-seven years before the foundation of Sâmarrâ (*Surra-man-Râ'â*)! It refers to the tenth caliph ABÛ JA'FAR HÂRÛN AL-WÂTHIQ BI'LLÂH (842-847 A.D.), grandson of HÂRÛN AL-RASHÎD, and to his father and predecessor AL-MU'TAṢIM, the ninth Abbasid caliph. The latter had, indeed, to deal with several revolts on the part of his Arabian, Turkish and Persian generals. The apparition of two bright comets shortly before his death (842 A.D.) is also described by IBN AL-QIṬĪ (6). HÂRÛN AL-WÂTHIQ's disease to which 'ALÎ B. RABBAN alludes and from which the ruler died in 847 A.D. was insufferable thirst, probably diabetes.

Another erroneous interpretation made by ṢIDDÎQÎ refers to a passage on p. 518, line 22 foll. of the printed edition of the *Firdaws al-Ḥikma*. It runs as follows :

« I saw in Ṭabaristân (7), while I was saying my evening-prayer with my father, a fire rising from the South (*taiman*) and passing to the North (*jarbiyâ*) in the form of a thick and long cylinder (*ustuwâna*); it was then not long before the king of its (Ṭabaristân's) mountains had to deal with trouble, was expelled from his mountains and towns, and returned there later on, after having experienced terrible misfortunes and having suffered a decrease of power ».

ṢIDDÎQÎ (p. VII) thinks that this must refer to one of the revolts of the Persian prince WANDÂD HURMUZD during the reign of HÂRÛN AR-RASHÎD, reported in IBN ISFANDIYÂR's History (8). He determines it more exactly as about the year 785 A.D., so that he fixes the date of 'ALÎ B. RABBAN's birth at about 775 A.D.

(6) *Ta'rikh al-Ḥukamâ*, p. 156.

(7) The Persian province between the Caspian Sea and the mountain chain of the Elburz.

(8) *An abridged Translation of the History of Ṭabaristân... by Muḥammad b. al-Ḥasan b. Isfandiyyâr... by EDWARD G. BROWNE* (Gibb Memorial Ser. II), Leyden, London, 1905, p. 130-1.

But, firstly, this insurrection had already occurred before the death of the caliph AL-MAHDÎ (775 A.D.), and secondly, it was a revolt of the Persian prince against the caliph, whilst the text of the «Paradise of Wisdom» clearly speaks of a revolt of the people of Ṭabaristân against their «King of the Mountains». So this must refer to one of the numerous troubles related by IBN ISFANDIYÂR (pp. 143-152) as having occurred during the caliphate of AL-MA'MÛN (813-833 A.D.). Unhappily the Persian historian gives no exact dates, and 'ALÎ B. RABBAN mentions no names. So it is not possible to determine even approximately the birth-date of the latter. It is very probable that he was a contemporary of and of the same age as the famous translator HÛNAIN B. ISHÂQ (809-877), as he quotes him frequently. According to ŞIDDÎQÎ he must have written his medical book, which forms the subject of the present essay and which he finished in 850 A.D., at the age of seventy-five, and still later have been converted to Islam, and at the age of eighty have written his apology for Islam (9)! And it would be still less possible that he could have been the teacher of the great Persian physician MUḤAMMAD B. ZAKARÎYÂ' AR-RÂZÎ who, according to a recently translated note by AL-BÎRÛNÎ, was born in 865 A.D. (10).

'ALÎ's father SAHL with the honorary title of Rabban was a medical man, but interested also in other sciences. IBN AL-QIṬṬÎ (p. 186) mentions a translation of PTOLEMY's *Almagest* by SAHL RABBAN; NALLINO shortly discusses the veracity of this assertion (11). 'ALÎ was instructed, as he himself states, by his learned father in the Syriac and Arabic languages, in medicine, mathematics and philosophy and, as he alleges, also a little in Hebrew and Greek. So 'ALÎ was able, later on, to translate his great medical treatise from Arabic into Syriac, and to quote, in his «Book of Religion and Empire», long passages from the Old Testament. But for this there is the simple explanation given by MINGANA (*l. c.* p. XVIII foll.) that 'ALÎ quoted from

(9) *The Book of Religion and Empire...* by 'ALÎ ṬABARÎ, ed. A. MINGANA, Manchester, etc. 1922.

(10) J. RUSKA, *Al-Bîrânî über das Leben und die Schriften al-Râzî's*. In *Isis* V. (1922), p. 32-33.

(11) *Al-Battânî. Albatenii Opus Astronomicum* ed. C. A. NALLINO I, p. 310 foll. He is mentioned as an astrologer in IBN ABÎ UŞAIB'A I, p. 120 foll.

one of the Syriac translations of the Bible (12). 'ALĪ is expressly called a Christian by the Historians AN-NADĪM, MUḤAMMAD AṬ-ṬABARĪ and IBN KHALLIKĀN (MINGANA pp. XI and XIII).

We learn from 'ALĪ IBN RABBAN's own words that later on he was secretary to the Persian prince MĀZIYĀR B. QĀRIN, grandson of the above-mentioned WANDĀD HURMUZD and governor of Ṭabaristān; it is, moreover, reported that he went for him to Baghdād to the court of the caliph AL-MA'MŪN and to Rayy (Rhages) where AR-RĀZĪ (RHAZES) the most celebrated of all the Arabo-Persian physicians is said to have been his pupil. ṢIDDĪQĪ accepts this assertion of IBN AL-QIFṬĪ (*l. c.* p. 231), but I think that this is not possible, as 'ALĪ B. RABBAN was a man of at least seventy-five when AR-RĀZĪ reached the age of learning. Moreover the sojourn of 'ALĪ B. RABBAN at Rayy, RĀZĪ's birthplace, seems to have been about 840 A.D., after the defeat and before the cruel execution of his master MĀZIYĀR (d. 841 A.D.). There is no evidence that 'ALĪ returned to Rayy in his later years. After the violent death of MĀZIYĀR, 'ALĪ seems to have served as a secretary to the caliphs AL-MU'ṬAṢĪM (833-842), AL-WĀTHIQ (842-47) and AL-MUTAWAKKIL (847-61 A.D.). The last-mentioned ruler converted him to Islam, and it was for him that he wrote the above-mentioned apologetic tract against Jews, Christians and Magians (13), which he finished in the third year of the caliph (*viz.* in 850 A.D.). 'ALĪ IBN RABBAN must have died some time subsequent to this date, but no historian records the year of his death (13^a).

ṢIDDĪQĪ then gives a list of 'ALĪ's literary output following

(12) As to the early version (*Peshittā*) see G. SARTON, *Introduction*, vol. I, p. 288, foll.; moreover D. S. MARGOLIOUTH, *Proceedings of the British Academy*, vol. XVI (1930), May 21.

(13) IBN ABĪ UṢAIBĪ'A relates (I, p. 309) that 'ALĪ was converted to Islam by the caliph AL-MU'ṬAṢĪM. This is not possible, as the *Firdaws al-Ḥikma*, written eight years after this caliph's death, in 850 A.D., does not contain any Mohammedan sentences or quotations from the Qur'ān; on the contrary it presents many quotations from the Old Testament. So I think that 'ALĪ's conversion took place after 850 A.D. during the reign of the caliph AL-MUTAWAKKIL. This is perfectly in accordance with the opinion of MINGANA (*l. c.* p. IX foll. and p. XVI) that 'ALĪ's conversion took place about 855 A.D.

(13^a) For more details on 'ALĪ's life, see my biographical study mentioned in note 39.

the *Fihrist*, IBN ABÎ UŞAIBI'a and occasional references in 'ALÎ's own works. It comprises fourteen books, mostly on hygiene and medicine but also on charms and two Islamic apologetic tracts. As all this output, besides three of his books, is lost, it is doubtful whether all these publications are authentic. Some of the titles seem to be synonyms for the same work.

Besides the two afore-mentioned books there is a hitherto unpublished book on Hygiene (*Ḥifẓ as-Siḥḥa*) extant in a unique copy in the Bodleian Library at Oxford (No. 578). ŞİDDÎQÎ concludes from his study of 'ALÎ's books that he was not free from superstitious practices; and we shall indeed meet such practices in the course of our analysis of the « Paradise of Wisdom ».

In ŞİDDÎQÎ's biographical sketch I find no allusion to the information imparted by European writers to the effect that 'ALÎ B. RABBAN was a pupil of ḤUNAIN B. IŞĤĀQ. This is indeed possible, as he quotes him frequently. But there is no evidence for it in Oriental sources. It is more probable that both these scholars were pupils of the venerable YAḤYĀ B. MĀSAWAIIH, (d. 857 A.D.), physician and chief of the « House of Wisdom », the library and translation institute founded by the caliph AL-MA'MŪN in Baghdād.

II. — THE « PARADISE OF WISDOM » (*Firdaws al-Ḥikma*).

This is one of the oldest complete Arabic compendiums of medicine and natural philosophy which have come down to us. In its arrangement it partly follows the Greek compendiums of e.g. ORIBASIOS and PAUL OF AEGINA, and it has been imitated in its turn by many other Arabic medical writers. What distinguishes this book and makes it unique of its kind is the sketch on Indian medicine at the end, which follows the books of CHARAKA, SUSHRUTA, the *Nidāna* (14) and the *Aṣṭāṅgahṛdaya* (15). 'ALÎ's compendium has been quoted by

(14) SUSHRUTA is the celebrated early surgeon, CHARAKA the early Indian physician who left great treatises on Medicine (see GEORGE SARTON, *Introduction to the History of Science*, vol. I, pp. 76 foll. and 284). The *Nidāna* is a famous work on pathology by a physician named MĀDHAVAKARA. This work is said to have been translated into Arabic by order of the caliph HĀRUN AR-RASHĪD (VIIIth cent. A.D.). See G. MUKHOPĀDHYĀYA, *The surgical Instruments of the Hindus* (Calcutta 1919) vol. I, p. 29.

(15) The *Aṣṭāṅga Hṛdaya Samhitā* (« Compendium of the Essence of the Octo-

many early and by a few late Arabic medical authors. ŞİDDÎQÎ enumerates as such AR-RÂZÎ (RHazes) in his *Hâwî* (*Continens*) and in the « Precious Book » (*al-Fâkhir*) (which is, however, only ascribed to him), BADR AD-DÎN AL-QALÂNISÎ (XIIIth century) and IBN AL-BAIṬÂR (XIIIth century) in their pharmacologies, and NAFÎS (B. 'AWAD) AL-KIRMANÎ (XVth century) in his commentary on (NAJÎB AD-DÎN AS-SAMARQANDÎ'S) « Causes and Symptoms ». The « Paradise of Wisdom » is, moreover, mentioned in AL-BÎRÛNÎ'S « India », (SACHAU'S translation 1910, vol. I, 282), in YÂQÛT'S Arabic Geography (III, 507, 549), in IBN ISFANDIYÂR'S « History of Ṭabaristân » (Gibb Memorial edition, p. 35-36), in AL-BALKHÎ'S « Wonders of the Things » (BROWNE Or. M. G. II (12) f. 68a) and in AD-DAMÎRÎ'S « Life of Animals » (BÛLÂQ edition II, 442). The famous Arabo-Persian historiographer MUḤAMMAD B. JARÎR AṬ-ṬABARÎ is said to have read the « Paradise of Wisdom » while he was sick and confined to bed.

As for the quotations from Greek sources which are found in the « Paradise of Wisdom » there are about 120 from HIPPOCRATES, most of which have been identified by Dr. TH. WITHINGTON and appended to the Arabic print in the English Appendix II. They include more than 60 of the *Aphorisms*, the others being from the *Prognostics*, *Airs, Waters and Places*, *Epidemics*, *De Natura Pueri*, *De Flatibus* and *Acute Diseases*. Some 20 quotations from GALEN and 13 from DIOSCORIDES' *Materia Medica* have been identified by WITHINGTON, but there are many more of them. Other medical authors who are quoted are ARCHIGENES and MAGNES OF EMESSA, besides the philosophers ARISTOTLE, THEOPHRASTUS, DEMOCRITUS, STEPHANUS, ALEXANDER and ANAXIMENES (16). PYTHAGORAS is likewise mentioned, but the Arabs

partite Science ») by VÂGBHATA II. (« the Younger ») is an extract from the *Aṣṭâṅga Saṁgraha* (« Summary of the Octop. Sc. ») by VÂGBHATA I. (« the Elder »). The dates of all these physicians are still uncertain; they probably fall within the first six centuries A.D. As to details see, besides the books quoted by SARTON, T. A. WISE, *Commentary on the Hindu System of Medicine*, Calcutta 1845, A. F. R. HOERNLE, *Studies in the Medicine of Ancient India*, Part I (Oxford 1907) pp. 1-18 and JULIUS JOLLY, *Medicin*, in *Grundriss der indo-arischen Philologie*, III, 10, Strassburg 1910.

(16) The editor could have done with WITHINGTON'S help for this part of his introduction, as he did not recognise many of these names, writing, for example, « Axominos » instead of ANAXIMENES and ALEXANDER « the Traveller » (aṭ-Ṭawwâf) instead of « THE PERIPATETIC », i.e. ALEXANDER OF APHRODISIAS.

did not possess any of his original works. The only Arabic authors who are quoted are MĀSARJAWAIH, YUḤANNĀ B. MĀSAWAIH and ḤUNAIN B. ISḤĀQ, the last two being 'ALĪ IBN RABBAN'S contemporaries. Five books which have not been identified are repeatedly quoted : A « Book of Explanation of Obesity, Emaciation and Disturbance of Coition », a « Book of Creatures » (? *Kitāb al-Ahwaz*); a « Book on the Eye » (perhaps that of ḤUNAIN B. ISḤĀQ?) (17); a « Book of the Natures of Animals » (perhaps ARISTOTLE'S *Historia Animalium*) and a « Book of Agriculture ». ṢIDDĪQĪ strove to identify the last-mentioned book; but he considered it similar to, but not identical with the translation of the Greek *Geoponica* by « QOSTŪS IBN ASKŪRASKĪNA ». We know now through the investigations of J. RUSKA that this is the *Geoponica* by CASSIANUS BASSUS. But I am inclined to be of the opinion that these passages are quoted from the « Book of Agriculture » written by VINDANIUS ANATOLIUS, which had been translated into Arabic during the caliphate of HĀRŪN AR-RASHĪD. An Arabic MS. of this translation was recently discovered in Syria by Father PAUL SBATH; but owing to his absence from Cairo I have not been able to collate the texts.

III. — THE MANUSCRIPTS.

ṢIDDĪQĪ had at his disposal five Arabic MSS. of the *Firdaws al-Ḥikma* : 1^o Arundel Or. 41 British Museum, London. This is an almost complete copy of 552 pages of 21 lines each. It is not dated, but written in Maghrebine handwriting in the XVIth century. It has been in the possession of several Indian and Persian scholars. 2^o An incomplete copy in the Berlin State Library (Landberg Fund No. 266), not dated, but doubtless from the XIIIth century and the oldest of all the existing copies. 3^o A MS. which is in the possession of the Grand-Ducal Library of Gotha (No. 856 A 1910); it is incomplete and dated 1008 A.H. (1600 A.D.). 4^o A nearly complete copy in the possession of the physician KHWĀJA KAMĀL AD-DĪN of Lucknow (India), dated 1097 A.H. (1686 A.D.); 5^o A copy of the MS. 4^o in the Library

(17) See M. MEYERHOF, *The Ten Treatises on the Eye ascribed to Ḥunain b. Isḥāq*, Cairo, 1928.

of Râmpûr (India). The text is based for the first 550 pages of the printed edition on the MSS. 1^o, 2^o, and 3^o, and for the last seventy pages also on 4^o. A list of printer's errors concludes the introduction which is followed by an index of chapters and pages.

After a careful study of the Arabic text of 'ALĪ B. RABBAN'S « Paradise of Wisdom » I have some remarks to add to ŞİDDÎQÎ'S introduction: The book is much more dependent on GALEN'S medical writings than ŞİDDÎQÎ'S and WITHINGTON'S quotations from this author show. The question is, from which translations did 'ALĪ B. RABBAN extract his paragraphs? I am of the opinion that he took them chiefly from HUNAIN'S numerous Syriac and few Arabic versions which this celebrated translator had accomplished up to 850 A.D., the date of the definite edition of the « Paradise of Wisdom ». The Arabic technical terms are, in general but not always, those created by HUNAIN. Syriac terms are rather frequent, Persian terms abound, particularly in the pharmacopoeia which is very full and includes most of the drugs recorded in the XIIIth century by IBN AL-BAIṬĀR and many others. I have been at great pains to identify the terms which are missing from the *Materia Medica* of this author (ed. L. LECLERC, *Traité des Simples par Ibn al-Beithar*, Paris 1877-83), to explain the names of compound remedies, and to restore the very much mutilated names of Greek and Persian medicines. There are many Indian drugs which were unknown to the Greeks, and many recipes, also some which had been invented by 'ALĪ himself and his father SAHL (Rabban). The frequent mention of papyrus as a medium for plasters seems to me a proof of the authenticity and the early date of the book, as the trade in papyrus ceased in Asia in the Xth century. The designation of weights and measures is sometimes remarkable, e.g. the frequency of the application of the *istâr* (plur. *asâtîr*), i.e. four *mithqâl*'s, and of the *sukurja* or « bowl » as a measure—besides the *raṭl* (pound), *dirham* (drachm), and *uqiyya* (ounce).

Popular and superstitious practices are frequently described, and 'ALĪ B. RABBAN seems to believe in their efficacy.

Considered as a whole, the « Paradise of Wisdom » is a compilation of Greek and Indian Medicine with an influx of Persian drugs, a confused and confusing piece of work. As noted already by BROWNE (p. 42), it contains very little about anatomy and

surgery. On the other hand the theoretical parts, the physio-pathological theories of HIPPOCRATES, GALEN and the Indians are too detailed, whilst the descriptions of diseases are poor or entirely missing. Clinical notes are rare. The description of therapy by internal and external remedies is very explicit and sometimes mixed with superstitious recipes. Here the Author shows considerable knowledge of the Old Testament in its Syriac version, which confirms the observations to which many passages occurring in his apologetic tract « Book of Religion and Empire » give rise. Anyhow this book is very far removed from the systematic clearness of the Greeks and from the skilful arrangement of the works of later Arabo-Persian authors, e.g. RHAZES, 'ALÎ B. AL-'ABBÂS and AVICENNA. The historical importance of the « Paradise of Wisdom », however, can hardly be overrated, and this is the reason why I have made an analysis of the contents of the bulky volume.

IV. — THE CONTENTS OF THE « PARADISE OF WISDOM »

E. G. BROWNE (*l. c.* pp. 42-44) has already given a general plan of the book which is composed of seven Parts (*nâw'*), thirty Discourses (*maqâla*) and three hundred and sixty Chapters (*bâb*), and introduced by a preface of seven pages.

In this preface 'ALÎ B. RABBAN first writes about his own scientific education, mentions (on p. 2 of the print) that he completed his book in the third year of the caliph AL-MUTAWAKKIL (i.e. 850 A.D.) at Sâmarrà (in Mesopotamia), and explains the aims of the book. He believes that he has followed the rules given by HIPPOCRATES and ARISTOTLE for the introduction to the knowledge of Philosophy and Medicine, proceeding from generalities to the special study of each branch. He thinks that he has written a more comprehensive and intelligible book than his predecessors have done.

By reason of the great length of the book I am obliged to limit my analysis to the translation of the headings of the 360 chapters, (their successive numeration being mine !), sometimes casting a glance at their contents. Rare or remarkable names of remedies or technical terms are specially mentioned and form the subject of the two glossaries appended to this paper.

PART I (pp. 8-30 of the printed edition), subdivided into 12 chapters, treats of general philosophical ideas, mostly following ARISTOTLE.

Chapter 1 : On the Name of the Book and its Composition. The Author mentions among his sources, besides HIPPOCRATES, GALEN and ARISTOTLE, expressly ḤUNAIN B. ISḤĀQ, his contemporary and pretended master.

Chapter 2 : On Matter (*hayūlā*, ὕλη), Shape, Quantity and Quality.

Chapter 3 : On simple and compound Temperaments (*ṭabā'i*) (i.e. fundamental qualities and elements) and the Refutation of the opinion of those who allege the Existence of a fifth (Temperament) (18).

Chapter 4 : On the Antagonism of these Temperaments and the Refutation of the Opinion of those who allege that the Air is cold (of temper.). The author gives (p. 14) a diagram of the four temperaments and their antagonistic action.

Chapter 5 : On the Genesis of Temperaments one from another.

Chapter 6 : On Metamorphosis (*istihāla*). PLATO is quoted.

Chapter 7 : On Genesis and Decay.

Chapter 8 : On Activity and Passivity (*fi'l wa'nfi'āl*).

Chapter 9 : On the Genesis of Things from the Elements, the Action of the Celestial Sphere and the Luminous Bodies (*nayyirāt*) therein.

Chapter 10 : On the Effects of the Action of the Elements on the Air and subterranean Conditions : meteorology, earthquake, etc.

Chapter 11 : On shooting Stars and the Colours which are generated in the Air. (Rainbow).

Chapter 12 : On the Genesis of Animals living on the Earth, in the Sea and in the Air, and on the Genesis of their Organs.

PART II (p. 30-114) : Physiology and Hygiene.

DISCOURSE I.

Chapter 13 : On the Genesis of the Embryo.

Chapter 14 : On the Period in which the Embryo is formed.

Chapter 15 : On the Cause of the Genesis of Male and Female,

(18) This chapter has been partly translated by E. G. BROWNE (*Arabian Medicine* p. 116 foll.)

the Frequency of Births, on the Cause of Malformation, Perfection and Defectiveness of Organs. Mostly following HIPPOCRATES' *De Natura Pueri*.

Chapter 16 : On the Symptoms of Pregnancy and Prediction of Sex.

Chapter 17 : HIPPOCRATES on Pregnancy and its Symptoms.

Chapter 18 : On Miscarriage and Alleviation of Delivery.

Chapter 19 : On the Causes of the Genesis of Temperaments (*mizājât* κράσεις) and Organs.

Chapter 20 : On the Stomach, the Condition of Aliments in it and the Faculties of the four Temperaments. (Following GALEN, ed. KÜHN I p. 572).

Chapter 21 : On the Causes of reflex and voluntary Movement, on the Brain, Heart and the Origin of Nerves and Blood-vessels.

Chapter 22 : On the Cause of the Rotundity of the Head and the Proofs of it.

Chapter 23 : On the Orifices (*khurūj*) of the Head and the Outlets for the Superfluities (*fuḍūl*) of the Body.

Chapter 24 : On the Skin, Hair, Nails and Teeth.

Chapter 25 : On the Cause of upright Carriage (*intiṣāb*) of Men (alone) among the Animals, the Detachment of Hands and Feet (arms and legs) and the Similarity of Men to the Microcosm. The MSS. render the latter part of the title in different ways, some reading « Macrocosm »; but the Berlin MS. which is the oldest of all gives the correct explanation that man is analogous to the parts of the world and that he is therefore called a microcosm. The « Author of the Physiognomy » (*ṣāhib al-firāsa*) is quoted (probably PSEUDO-POLEMON whose book was translated into Syriac and Arabic at an early date.).

Chapter 26 : On the Cause of Length, Shortness, Crookedness and Straightness and the Colours of the Body.

Chapter 27 : On the Cause of the Beard, of white Hair (*shaib*), Baldness (*ṣal'*) and the Youth of Animals.

Chapter 28 : On Puberty (*iḥtilām*) and the Menses (*tamth*).

Chapter 29 : On the Kinds of Organs, their Faculties and Functions.

Chapter 30 : On Ages, Seasons of the Year, and the Difference between Night and Day. This chapter again is followed by a diagram of the seasons and the four points of the compass.

DISCOURSE II.

Chapter 31 : Discussion of the Soul and that it is neither an *Accidens* nor one of the Temperaments. Following ARISTOTLE.

Chapter 32 : That the Soul is not compound. On Movements and the Refutation of the Opinion of those who contest them.

The « seven » movements of human beings are meant and the discussion of their ability to move. (PSEUDO-) THEOPHRASTUS and (PSEUDO-) PYTHAGORAS are quoted.

Chapter 33 : That the Soul is not in the Body like the Genesis of (other) Things one in another; and that Light is neither a Body nor Fire.

At the beginning « ALEXANDER the Sage » (OF APHRODISIAS) is quoted; the second part follows ARISTOTLE'S *De Anima* (19).

Chapter 34 : That the Body is possessed of Souls which pass away with the Body.

The souls of men, animals and plants are meant.

Chapter 35 : On Reason, Matter (*hayūli*), and the ten Things of which Speech is compounded. ARISTOTLE'S categories are meant.

Digression on PYTHAGORAS' doctrine of numbers.

Chapter 36 : On imaginative Power (*wahm*) and the other Senses.

Chapter 37 : On the perceptive Power of the Eye.

Following ARISTOTLE who propounded the theory that the light reflected from objects meets the eye (20).

Chapter 38 : On the other Senses.

Chapter 39 : That Colours, Flavours and Smells are *Accidentia* and not Bodies, as some People pretend.

Chapter 40 : On the Faculties ruling and preserving the Body.

This chapter treats of vital, animal and natural faculties, following GALEN'S *De Facultatibus naturalibus*.

DISCOURSE III.

Chapter 41 : On the Signs of the Temperaments of the Bodies.

(19) Compare M. MEYERHOF and C. PRÜFER, *Die aristotelische Lehre vom Licht bei Hunain b. Ishāq. Der Islam* II (1911) p. 117 foll., and L. CHEIKHO, *Notice sur un ancien manuscrit arabe*. Notices et manuscrits, sect. musulmane, Paris, 1897, pp. 127-142.

(20) Compare M. MEYERHOF, *An Arabic Medico-philosophical Compendium*. *Isis* X, (1928) pp. 347-8.

Chapter 42 : On the Signs of the Temperament of the Brain.

Chapter 43 : On the Signs of the Temperament of the Heart.

Chapter 44 : On the Signs of the Temperament of the Liver and Stomach.

All these chapters follow GALEN *De Temperamentis*.

Chapter 45 : On Hunger, Thirst, Sleep, Sleeplessness, Laughing, Weeping, Fatigue and the like.

Chapter 46 : On Merriness, Sorrow, Confusion (*khajal*), and Weariness (*wajal*).

Chapter 47 : On Lust (*shahwa*), Reflection (*fikra*), and Wrath (*ghadab*).

Chapter 48 : On Courage (*shajā'a*), Cowardice (*jubn*), Injustice (*jawr*), Avarice (*bukhl*), Foresight (*hilm*), Thoughtlessness (*nazaq*), Hastiness (*hidda*), Vanity (*zahw*), Modesty (*tawādu'*), Love (*hibb*) and Hatred (*bughd*).

Chapter 49 : On Levity (*khiffa*), Gravity (*thiq*), retentive and weak Memory (*hifz wa-nasayān*).

Chapter 50 : On Sneezing (*'uṭās*), Stretching of the Arms (*tamaṭṭī*), Tickling (*daghdagha*), Quivering (*ikhṭilāj*) and Numbness (*khadar*).

The author considers such movements as means to eliminate bad superfluities (*fuḍūl*, περιπτώματα) from the body. He adds yawning (*tathā'ub*) and shuddering (*qush'arīra*, horripilation).

Chapter 51 : On Dreams, evil Dreaming (*iḥtilām*) and Nightmare (*kābūs*).

Chapter 52 : On Visions (*rū'yá*) and Evil Eye (*'ain*).

This is, in general, a record of the opinions of philosophers and physicians on this subject, as well as of the wonders attributed to imaginative power by the Indians. At the end the author gives quotations from stories of miracles related by GALEN and in the Old Testament, notably the story of the resuscitation of Samuel by the prophetess of Endor. (Sam. I, c. 28).

DISCOURSE IV.

Chapter 53 : On the Nursing and Hygiene of the Newborn Child.

Chapter 54 : On the Nursing of the Grown-up Child.

Chapter 55 : On Hygiene.

Chapter 56 : On the Diet of each Temperament at every Age.

Chapter 57 : On the Diet of (the different) Organs.

DISCOURSE V.

Chapter 58 : On Diet in Spring.

Chapter 59 : On Diet in Summer.

Chapter 60 : On Diet in Autumn.

Chapter 61 : On Diet in Winter.

Chapter 62 : On Travels and Campaigns.

Chapter 63 : On thinning, fattening and appetizing Things (Aliments).

Chapter 64 : On the Kinds of Atrophy (*ḍumûr*) and on Diet useful and harmful to (the different) Organs.

All the preceding chapters follow GALEN *De Sanitate tuenda*.

PART III (pp. 114-120) : On the Cause of Nutrition (21) and the Assimilation of Aliments by Bodies.

Chapter 65 : On the Cause of Nutrition. Following ARISTOTLE.

Chapter 66 : On the Quantities of Aliments [to be taken] and on those which are [to be taken] first and last [at the beginning and end of the meal].

Chapter 67 : On the Kinds of Aliments, their Qualities and Effects. Following GALEN *De Alimentor. Facult.*

PART IV (pp. 120-356; this is the main part of the book) On Diseases and Treatments.

DISCOURSE I.

Chapter 68 : On the Number of general Diseases.

Chapter 69 : On the Kinds of general Diseases and their Causes.

Chapter 70 : On the Disease of each Stage of Life and in each Season. According to HIPPOCRATES.

Chapter 71 : On the Things which stir the four Humours (*akhlât*) when they are corrupted and disturbed.

Chapter 72 : On the Causes of the Disturbance (*hayajân*) of these Temperaments (*ṭabâ'i'*).

Chapter 73 : On the Symptoms which indicate their Disturbance.

Chapter 74 : On the Symptoms of internal Diseases.

The preceding chapters follow GALEN *De Symptomatum Causis* etc.

Chapter 75 : On the Rules (*qânûn*) of Treatment and the different Aspects (points of View) extant in them.

(21) Here several misprints disturb the sense of the Arabic text.

Chapter 76 : On the Treatment of the Organs and on Dieting in acute Diseases (*amrād ḥādda*).

Following HIPPOCRATES *De Diaeta Acutorum*.

DISCOURSE II : On the Diseases of each Organ, their Symptoms and Treatment.

Chapter 77 : On the [diseases of the Skin of the] Head : Alopecia (*dā'ath-tha'lab*), Ophiasis (*dā'al-ḥayya*), Baldness (*qara'* and *ṣal'*), white Scar (*waḍaḥ*) and Dandruff (*ibriyya*), Cosmetics for the hair, Dyes (*khiḍāb*).

Chapter 78 : On Wounds in the Head (*shajjāt*).

Chapter 79 : On the Diseases of the Brain.

Epilepsy (*ṣar'* or *al-maraḍ al-kāhinī*, i.e. divining disease, translation of HIPPOCRATES' *ἰερὴ νοῦσος*); solitariness, misanthropy, shyness (*waḥsha*); melancholy (*waswasa* i.e. demonianism); delirium (*hadhayān*); corruption of phantasy and reason (*fasād al-khayāl wa'-l-'aql*); amnesia (*nasayān*); sleeplessness (*sahar*); lethargy (*subāt*); tinnitus (*dawī*); vertigo (*dawār*); tumour (*waram*); moreover six kinds of headache : e.g. splitting headache, (*ṣudā'*), cephalalgia of the whole head (*sanwartā*, Persian-Syriac word) (22), hemicrania (*shaqīqa*); and each kind caused by the brain, or by troubles of the stomach and the abdomen (*marāqq*). The strange term *dhihāb ma' al-waḥsh* probably designates retirement through misanthropy.

Chapter 80 : On the Symptoms of Diseases of the Brain and their Accidents. Stories of sudden insanities and suicides due to hallucinations.

Chapter 81 : On the Treatment of Diseases of the Brain. « ALEXANDER THE PHILOSOPHER » and STEPHEN OF ALEXANDRIA are quoted, and a recipe for epilepsy belonging to the author's father is given (p. 145). Among the remedies is *maibufakhtaj*, an Arabo-Persian term for boiled wine.

Chapter 82 : On the Symptoms of those (Diseases) which are caused by the Stomach and the Bowels.

Chapter 83 : HIPPOCRATES' Sayings on the Brain.

Chapter 84 : On Tinnitus (Tingling of the Ears, *dawī wa-ṭanīn*).

Chapter 85 : On Vertigo (*dawār wa-sadar*) its Symptoms and Treatment.

(22) See the etymological explanation of the word by E. G. BROWNE, *Arabian Medicine*, p. 35.

Chapter 86 : On Amnesia and Nightmare, their Symptoms and Treatment.

Chapter 87 : On the Kinds of Headache and their Symptoms.

Chapter 88 : On the Treatment of Headache.

Chapter 89 : On Hemicrania and its Treatment.

Chapter 90 : On Cephalalgia of the whole head (*sanwartâ*), its symptoms and Treatment.

The Syriac word designates splitting headache in the entire brain and its membranes and is derived from the Persian *sar-band*, i.e. helmet. Among the remedies are « Greek or Persian *falûniyâ* », i.e. *φιλώνειον ἀνώδυνον*. The remedy *falûniyâ* was still known to several native Cairo bazaar druggists some twenty years ago. Another remedy is designated by a mutilated Syriac name composed with *kawkebâ*, i.e. star. A plaster of opium, dragon's blood and saffron with gum on papyrus, to be stuck to the temples, is mentioned.

DISCOURSE III.

Chapter 91 : On the Structure of the Eye.

This chapter follows GALEN'S *De Usu Partium* and partly the Arabic nomenclature of ḤUNAIN, but is independent of his « Ten Discourses on the Eye ». The Author does not give any theory of vision here.

Chapter 92 : On the Diseases of the Eye.

Among those of the conjunctiva are the bloodspot (*tarfa*), pterygium (*zafara*), ophthalmia (*ramad*), oedema (*intifâkh*), sclerosis (*jasâ*), psorophthalmia (*hikka*), conjunctival congestion (*rîh as-sabal*). In the cornea are ulcers (*qurûh*) and pustules (*bathr*); the Author falsely terms an ulcer on the pupil *mûrsaraj*, i.e. *μυιοκέφαλον* or a small prolapse of the iris owing to a perforated ulcer, the staphyloma as *'inabiyya (uwea)* instead of *'inaba*. But this may be a copyist's blunder, as well as, in the following part, *intishâr* for *intithâr al-ashfâr* (falling out of the lashes). The abscess (*gharab*), tumour (*ghudda*) and fistula (*nâsûr*) of the lachrymal caruncle. A short description of cataract (*mâ'*) and of the ocular muscles and their affections concludes this chapter.

Chapter 93 : On the Symptoms of Eye-Diseases.

Other affections of the eye described in this and the next chapter are : amblyopia (*qabâb, ghashâwa*), amaurosis (*zulma*), night-blindness (*'ashâ'*), lachrymation (*dam'a, sayalân*), symblepharon

(*shatra*), lice (*qaml*) in the lashes, trachoma (*jarab*) which is not described; but treatment with copper eye-salves is recommended. Among the remedies we meet the Greek *στατικός* (*astátiqún*), the eye-salve of HERMIAS (*shiyáf Armiyálús*) (23), another one with a Persian-Syriac name (*dabíd-murrá*) (24) and some superstitious medicines (suspending of gall-bladders and eyes of crawfish at the temples).

Chapter 94 : On the Treatment of Eye-Diseases.

Besides Greek remedies, Persian and Indian drugs (myrobolans) and superstitious remedies are mentioned. For cataract there is no mention of the couching operation. Among the eye-salves is one with a mutilated Greek name (*ishítífán*, i.e. *στακτικός* or *σταλτικός*) and another bearing a Persian name.

Chapter 95 : On the Treatment of the Lid, the Lashes, Eversion of the Lids (*shatar*) and Recipes for dry Collyria (*akḥál*).

Among the latter are noticeable the « wasp-collyrium » (*kuḥl zunbúrí*), the *τραχωματικός*, the *βασιλικόν*, for which a Persian name is *rúshaná'í* (i.e. *φωσφόρος*, light-bringing), a Theodotion by STEPHEN and ALEXANDER (OF TRALLES?), another containing *jashmízaq* (*Cassia Absus L.*), a drug unknown to the Greeks, and a recipe which 'ALÍ got from an inhabitant of 'Omán (Southern Arabia).

Chapter 96 : On the Diseases of the Ear and their Symptoms. Such diseases are suppuration (*qaiḥ*) (25), ulcers (*qurúḥ*), swelling of the tonsils (*waram al-lawzatain*) etc.

Chapter 97 : On the Treatment of the Ear. Steaming with decoctions of plants is mentioned.

Chapter 98 : On the Diseases of the Nose and their Symptoms.

Chapter 99 : On Epistaxis (*ru'áf*) and its Treatment.

Chapter 100 : On nasal Catarrh (*zukám*) and its Treatment.

Chapter 101 : On the Treatment and Cleaning of the Face.

Xanthelasma (*kalaf*), freckles (*namsh*), white spots (*waḍaḥ*) black scars (*áthár súd*), erysipelas (*ḥumra*, in Persian : *bádh-dishnám*) (26). Besides this Persian word the drug-name for

(23) Mentioned by GALEN *De composit. med. sec. locos.* and PAULUS AEGINETA I. VII.

(24) *Dabíd* is the Persian word for electuary, *murrá* Syriac for myrrh.

(25) The text always reads *qabḥ* (deformity) instead of *qaiḥ* (pus)!

(26) From *bádhijnám* (Vullers I, 162), erysipelas of the face, or *bád-dijnám* (Steingass).

zard-jubaq (Persian : *zard-chûb*, turmeric) is to be noticed.

Chapter 102 : On the Mouth, Teeth and Ozaena (*bakhr*).

Disturbance of speech by polypes (*kathîr al-arjul*) and falling out of the central incisors (*thanâyyâ*), pustule (*bathr*) in the mouth, slackening of the gums (*istirkhâ' al-luththa*), and spasm of the tongue (*tashannuj al-lisân*). Superstitious remedies are not missing, e.g. suspending at the neck a hyaena's tooth or hairs (to be read *qab'* instead of *qabb*, i.e. Uromastix lizard which has neither hair nor teeth !). Tooth-powder (*sanûn*) given disinfecting power by the addition of tar is mentioned.

DISCOURSE IV.

Chapter 103 : On Spasm (*tashannuj*) and Shivering (*kazâz*).

Chapter 104 : On the Symptoms of Spasm and Shivering.

Chapter 105 : On the Treatment of Spasm and Shivering.

Chapter 106 : On Tremor (*irti'âsh*), Contortion (*wuthâ*) and their Treatment.

Chapter 107 : On Plegia (*fâlij*, πληγῆ) and facial Paralysis (*laqwa*).

Chapter 108 : On the Symptoms of Plegia and facial Paralysis.

Chapter 109 : On their Treatment.

DISCOURSE V.

Chapter 110 : On the Throat (*ḥalq*) and the Uvula (*lahâh*).

Chapter 111 : On the Symptoms of the Diseases of the Throat, Uvula and Tonsils (*lawzatân*).

Chapter 112 : On their Treatment. Among other remedies we meet unslaked lime (*kils ghair matfi'*).

Chapter 113 : On the Diseases of Chest (*ṣadr*) and Voice (*ṣawt*), (i.e. vocal organs).

Chapter 114 : Their Treatment.

Chapter 115 : On Shortness of Breath (*ḍiq an-nafs*) and Asthma (*rabw*).

Chapter 116 : Their Treatment. Many Persian drugs and animal remedies, such as earth-worms.

DISCOURSE VI.

Chapter 117 : On the Stomach. Its diseases are : loss of appetite; perversion (*qabh*) of appetite (coal- and earth-eaters); canine appetite (*shahwa kalbiyya*); hiccough (*fawâq*); persistent vomiting (*qay'*), and eructation (*jashâ'*); spasm; tumours

(*awrâm*); diarrhoea (*istiqlâq*); atony (*istirkhâ*); obstructions (*sudud*), and ulcers (*qurûh*).

Chapter 118: On the Symptoms of the Diseases of the Stomach and Stomachache (*dubaila*).

Chapter 119: On the Treatment of Stomach [troubles] and Phthisis (*sill*). Many Persian and Syriac names of remedies, and a remedy of the Author's invention.

Chapter 120: On persistent Vomiting and its Treatment.

Chapter 121: On the Treatment of Hiccough.

Chapter 122: On the Treatment of the four Faculties and their Conservation. These are the attracting, retentive, digestive and expulsive powers (according to GALEN).

DISCOURSE VII.

Chapter 123: On the Diseases of the Liver (*kabid*): Obstructions, tumours, abscess, sclerosis and dropsy.

Chapter 124: On the Symptoms of the Diseases of the Liver.

Chapter 125: On Dropsy (*istisqâ'* or *mâ' asfar*).

Chapter 126: On the Treatment of the Diseases of the Liver.

Chapter 127: On the Treatment of Dropsy. Mostly drugs known to Galen and Dioscurides.

DISCOURSE VIII.

Chapter 128: On the Diseases of the Heart. Physiology of the heart and some anatomical remarks on the valves found by GALEN in the hearts of apes and cocks.

Chapter 129: On the Symptoms and Treatment of Heart-diseases. The diseases are not well defined;—weakness, throbbing (*khafaqân*), swoon (*ghashy*) etc. Among the remedies are Greek ones, such as the potion of THEODORETUS and the *στομαχικόν*, and Persian ones such as *faranj-mushk* (*Ocimum pilosum*, a kind of basil) (see chapter 242); and *bâdranj-bûya*, (mountain-balm, *Melissa offic. L.*); remarkable are raisins from Ṭâ'if (in Arabia) or Gushmhâ (?) near Merw (Eastern Persia).

Chapter 130: On the Diseases of the Lungs, their Symptoms and Treatment, and on Cough (*su'âl*). Abscess near the diaphragm (*hijâb*) and expectoration of its pus through the gullet (*hulqûm*).

Chapter 131: On the Symptoms of the Diseases of the Lungs and their Prognosis (*taqdimat al-ma'rifa*).

Chapter 132: On the Treatment of [diseases of] the Lungs.

Among the remedies are Persian ones : *sifistān* (27) i.e. sebestens (*Cordia Myxa L.*) and *narsiyān-dārū*, i.e. Shepherd's crook, and, as a diuretic, squill ('*unṣūlan*, *Scilla maritima L.*).

Chapter 133 : On the Treatment of Cough.

Pain in the chest is mentioned under the name of *shawṣa*. For cough in children a superstitious remedy is named, raven's dung and the stones from sponges (*isfanja*). Other noticeable names of remedies are : *aṣṭarak* = *storax* and *ḥalbanītha* (Syriac) = *galbanum*.

Chapter 134 : On Expectoration of Blood (*naḥṭh ad-damm*).

Chapter 135 : On the Symptoms of superior and inferior Hemorrhages.

Chapter 136 : On the Treatment of Expectoration of Blood. There is no good description of phthisis.

Chapter 137 : On the Gall (*mirāra*) and Jaundice (*yaraqān*).

Chapter 138 : On the Symptoms of Gall-diseases.

Chapter 139 : Their Treatment.

A superstitious remedy—still in use in the Orient—is the suspending of a yellow glass-bead, the « jaundice-bead », round the neck; the Author found it useful.

Chapter 140 : On the Spleen (*tuḥāl*).

Chapter 141 : The Treatment. The spleen is the « house of the yellow gall ».

DISCOURSE IX.

Chapter 142 : On the Diseases of the Bowels (*am'ā*), Diarrhoea (*istiṭlāq*) and Dysentery (*saḥj*).

Chapter 143 : Their Symptoms.

Chapter 144 : HIPPOCRATES' Sayings on this Matter.

Extracted from the Aphorisms. Lientery is mentioned (*zulq al-am'ā'*).

Chapter 145 : On the Treatment of Diarrhoea and Loss of Blood.

Other names for dysentery (*zahīr* or *dhūsantāriyā*), i.e. ulcer of the bowels (*qarḥ al-am'ā'*), and loss of blood (*khurūj ad-damm*, *mashā ad-damm*). Many animal remedies in the form of a *māṣūṣ*, i.e. meat or fowl cooked with vinegar; moreover Persian drug names, such as white lily (*rāziqī*) and barberry (*xīrishk jabālī*).

(27) Spelt in other passages *sipistān* or *sibistān*.

Chapter 146: On the Colon (*qúlún*, large intestine) and the Causes by which the Superfluities are retained in the Organs.

Chapter 147: On the Symptom of Pain in the Colon.

Chapter 148: On the Treatment of the Colon, Worms (*didân*) and Tape-Worms (*habb al-qar'*, Proglottides).

The name for colic is *qawlanj*, that for flatulence *riyâh*. The ileus bears its Greek name *ilâús* (ἐίλεος). The remedies for worms do not contain any efficacious drug.

Chapter 149: On the Diseases of the Kidneys.

Ulcer (*qarḥa*), corrosion (*âkla*), tumour (*waram*), obstruction (*sudud*) by stone (*ḥaşâ*) or a thick fluxion (*riḥ ghalîz*).

Chapter 150: Their Symptoms.

Chapter 151: On the Treatment of Cold (*bard*) in the Kidneys.

Diet with blanquette (*isfîd-bâgh*) (28) and mutton. The name *fandâdîqûn* may be πεντάδικον, i.e. compound of five drugs (see *fanjânûsh* in the glossary). Description of a half-superstitious remedy composed of roasted scorpions.

Chapter 152: On the Diseases of the Bladder.

Stillicidium (*taqtîr al-bawl*), relaxation (*istirkhâ'*), ischury (*asr*, *ḥuṣr al-bawl*), stone (*ḥaşâ*).

Chapter 153: Their Symptoms.

Chapter 154: Their Treatment.

Among the recipes again occur the Greco-Syriac names *falûniyâ* (φιλώνειον), *kawkabâ* (ἀστήρ, star) and *âthânâsiyâ* (ἀθανασία, «immortality», name of a remedy) which are to be noted. Burnt papyrus and superstitious remedies are cited.

Chapter 155: On the Diseases of the Penis (*iḥlîl*).

Satyriasis (*kithrat al-intishâr*), spermatorrhoea (*khurûj al-mannâ*) and aspermatism (*qillat al-mannâ*).

Chapter 156: Their Treatment, and Aphrodisiac Remedies.

This chapter is long and full of curious recipes. One e.g. consists of the testicles of seven cocks, the brains of seven ducks, chickens and sparrows, oil of the skink-lizard (*Scincus officinalis*, *asqanqûr*), wild onion (*isqîl*, i.e. σκίλλα), *Sarcostemma viminale* (? *qadabân al-'ajâjîl*), eggs of seven crawfishes, seven lily-roots and seven sparrow's eggs, etc.

(28) *Safîd-bâ* is, according to the Persian dictionaries, «a kind of white soup made from curds to which they add meat and spinach».

The tablet (*qurṣa*) of Androclus (to be read Andromachus) is mentioned among the compound remedies.

A sub-title of this chapter is : On Hernia (*adara*) and Hydrocele (*rīḥ al-khuṣiyya*).

Chapter 157 : On the Diseases of the Anus (*muq'ada*) and Fistula (*nāsūr*) and their Treatment.

Among the remedies I noticed depilatory (*nūra*, with arsenic), potash (*qilā*), *bulbus* (the Greek βόλβος, probably colchicum or the emetic onion, *Muscari moschatum Desf.*), and Persian names.

Chapter 158 : On the Diseases of the Uterus (*raḥam*).

These are barrenness (*'uqm*), loss of sperm (*izlāq az-zar'*, i.e. sterility from another cause), strangulation (*ikhṭināq*), dysmenorrhoea (*nazaf damm al-ḥaiḍa*), amenorrhoea (*iḥtibās al-ḥaiḍa*), tumours (*awrām*), corruption of the temperaments (*fasād al-mizājāt*).

Chapter 159 : Their Symptoms.

Chapter 160 : Their Treatment and on the Facilitation of Child-birth.

Among the drugs are Greek and Nabathæan resin (*'ilk al-Arwām wa'l Anbāt*, i.e. mastic and turpentine), civet's dung (*khurw as-sinnawr*), many Greek and Syrian compound remedies and a great many superstitious practices, among others the writing of amulets in Syriac from the Psalms of David (Psalm 142, v. 18).

DISCOURSE X.

Chapter 161 : On the Kinds of Fevers (*ḥummayāt*).

Chapter 162 : On the Cause of the *āfimarūs* (ἄφίμερος), i.e. One Day (ephemeral) Fever (*ḥummā yawm*).

Chapter 163 : On the Causes of the nine species of Ephemeral Fever and its Treatment.

Chapter 164 : On the Cause of Hectic Fever (*aqṭiqūs, ἔκτικός*). Amongst other causes phthisis is mentioned.

Chapter 165 : On the Symptoms of Hectic Fever.

Chapter 166 : On the Treatment of Hectic Fever and on Phthisis (*sill*).

Chapter 167 : On the Synochos (*sīnākhūs, σύνοχος*, continuous), i.e. the Blood-Fever (*ḥummā damm*). One of HIPPOCRATES' observations is related.

Chapter 168 : On the Treatment of Blood Fever.

If there is drum belly, the prognosis is bad.

Chapter 169 : On ἀμφημέριος (*anfariyáqús*, to be read *anfímá-rínús*), i.e. the mucous fever which returns every day, quotidian fever.

Chapter 170 : Its Symptoms.

Chapter 171 : Its Treatment.

Chapter 172 : On the Cause of the τριταῖος, i.e. the Tertian Ague (*humma ghibb*).

A more severe form of it is the καθσος (in the text mutilated *qawqús*) or burning fever.

Chapter 173 : Its Symptoms.

Chapter 174 : Its Treatment.

Chapter 175 : On τεταρταῖος, i.e. the Quartan Ague (*humma rib'*).

Chapter 176 : Its Symptoms.

Chapter 177 : Its Treatment.

Chapter 178 : On ἡμιτριταῖος and the other compound Fevers and their Treatment.

The Author does not know the Arabic term (*shaṭr al-ghibb*) for this semitertian fever, a combination of tertian and quartan fever (fevers with four or five days' interval).

Chapter 179 : On the Causes of the Course (*dawr*) of Fevers, the Difference of their Times and the Cause of the Cold of the Fingers.

Chapter 180 : On Pleurisy (*shawṣa wa dhât al-janb*), its Symptoms and Treatment. Discussion of the different acute diseases which are associated with fever, frequently attacking young people and prevalent during the Dog-Days (the star *al-Kalb* or *Shi'rá* i.e. Sirius).

Chapter 181 : On Erysipelas (*humra*) and Smallpox (*jadari*), their Symptoms and Treatment.

A description of some symptoms of smallpox in two lines only, followed by many recipes.

Chapter 182 : On the Causes of Swoon (*ghashy*), Sweat (*'araq*), Vomit (*qay'*), their Symptoms and Treatment.

Chapter 183 : On Crises (*buhránat*).

Quotations on the number seven; perhaps from the pseudo-Hippocratic *De septimanis*.

Chapter 184 : On Chapters from HIPPOCRATES the Sage's Book of Prognostics.

Chapter 185 : On Favourable Symptoms in Disease.

Chapter 186 : On the Signs of Death and on Symptoms intermediate between Favourable and Unfavourable.

DISCOURSE XI.

Chapter 187 : On Pain in the Hip-bones (*wirkân*), Articulations (*mafâsil*), Sciatica (*'irq an-nisâ*) and Gout (*niqris*).

Chapter 189 : On Leprosy (*judhâm*) and its Treatment.

This disease is hereditary through contagion of the sperm, and contagious like small-pox and scab. Some kinds of it are called leontiasis (*dâ' al-asad*) and elephantiasis (*dâ' al-fîl*). Among the remedies is sulphurated water.

Chapter 190 : On Vitiligo (*baraş*), Itch (*hikka*), Prickly Heat (*haşaf*), Scrophula (*khanâzîr*), Eczema (*qûbâ*) and Excoriation (*sa'fa*).

Other skin-diseases mentioned in this chapter are scab (*jarab*), wart (*thâ'lîl*), dry eczema (*raţy* (29) or *qawâbî yâbîsa*), lice (*qaml*), dandruff (*bahaq*), xanthelasma (*kalaf*) and blotch (*sharâ*).

Chapter 191 : Treatment of these Diseases.

For eczema, powder of sulphur and mercury is recommended. Some superstitious remedies are mentioned.

Chapter 192 : On Tumours (or Swellings, *awrâm*) : Cancer, erysipelas, abscesses.

Chapter 193 : Their Symptoms.

Chapter 194 : On the Treatment of Tumours (Swellings), Gangrene (*âkla*), Combustion (*hirq an-nâr*), and Contusion (*şadma*). For certain hard tumours excision is recommended, and, as an emollient, pissasphalt (*mûmiyâ'î*).

Chapter 195 : On the Treatment of Abscess (*khurâj*), Gangrene (*âkla*), Bruises (*hashm*) (30) and Plague-boils (*ṭawâ'in*). Quotation from HIPPOCRATES' *Epidemic Diseases* and narration of his pretended preventive measures against plague.

Chapter 196 : On Dissection (*baṭṭ*) and Anatomy (*tashrîh*).

The author gives in the next few chapters a short and rather poor record of the most important anatomical features. He quotes GALEN'S « Anatomy »; it is doubtful whether he follows his

(29) This term, missing from all the dictionaries, is explained by the Author himself.

(30) Missing from the dictionaries.

great *Anatomicae Administrationes* which existed, about 850 A.D., in HUNAIN'S Syriac translation, but not yet in HUBAISH'S Arabic version (31).

Chapter 197: On the Number of Muscles (*'aḍalât*).

Chapter 198: On the Number of Nerves (*a'ṣāb*).

Chapter 199: On the Number of Bloodvessels (*'urûq*).

No distinction between arteries and veins is mentioned!

DISCOURSE XII.

Chapter 200: On Bleeding (*faṣḍ*, Phlebotomy).

Chapter 201: On the Situation of the Blood-vessels and the Value of opening each.

Chapter 202: On Cupping (*hijâma*).

Chapter 203: On the Rules (*qânûn*, *κάνων*) of Purgation (*is-hâl*), its Application and Aims.

Chapter 204: On Baths.

Chapter 205: On the Pulse (*majassa*), from the Books of GALEN and ARCHIGENES (*Arshâjânîs*). The systolic throbbing of the pulse is called *nabḍ*.

Chapter 206: On the Differences of the Pulse in every Age and Land.

Chapter 207: On the Pulse during Sleep, Waking, Hunger and Thirst.

Chapter 208: On the Pulses in Diseases.

Chapter 209: From the Books of learned Authors on the Urine (*bawl*).

These authors are not quoted; one of them is probably MAGNES OF EMESA who wrote a famous book on urine.

Chapter 210: On the thin white and the thick white Urine. ARCHELAOS (32) is quoted.

Chapter 211: On the Indications afforded by the thin (Urine) of different Colouring.

Chapter 212: Indications of thick (Urine) and its Colours.

Chapter 213: On the oily Colour.

Chapter 214: On the Deposit (*qâ'im*) in the Middle of the Vessel (*ânâ'*). Another name for the urine-vessel is *qârûra*.

(31) See M. MEYERHOF, *New Light on Hunain b. Ishâq and his Period. Isis*, VIII (1926), p. 693, no. 21.

(32) This is more likely to be a mis-spelling for ARCHIGENES.

Chapter 215 : On the Sediments (*rawásib*, Sing. *rásib*).

Chapter 216 : On the Sheets (*şafá'ih*, Sing. *şafiha*).

The description is not clear; the author probably means the formation of a thin film on the surface of the urine.

Chapter 217 : On the bran-like (*nakháli*) Sediment.

Chapter 218 : On the gruel-like (*sawíqí*), the sandy (*ramlí*) and the foetid (*muntin*) Sediment.

Chapter 219 : Some Quotations from the Sayings of the learned Sage GALEN.

PART V. (p. 355-373), one DISCOURSE.

Chapter 220 : On the specific Properties (*khawáşş*) of the Things.

Aliments and remedies are meant.

Chapter 221 : On the Numbers of Flavours, their Causes and Faculties. Following GALEN, *De simpl. Med. Facult.*

Chapter 222 : On the Action of each Flavour in the Body.

Chapter 223 : On the Smell-scents (*ará'ih*, Sing. *ríh*) and their Causes.

Chapter 224 : On the Causes of Colours.

No attempt at optical explanation, but attribution of the colours to heat (burning coal), cold, dryness and moisture.

Chapter 225 : On the Causes of Melting, Consolidation, Combustion, Putrefaction and the like.

Chapter 226 : On the Causes of Drying, Thickening, Splitting and Breaking.

Chapter 227 : On mineral Substances. Probably from PSEUDO-ARISTOTLE.

Chapter 228 : On the Causes of Plants, Trees and Fruits. Quotation from HIPPOCRATES' *De Natura Pueri*.

PART VI. (p. 374-500).

DISCOURSE I. The next chapters contain the names of hundreds of aliments and drugs; I intend to give only those which are rare or of special interest.

Chapter 229 : On Corn-seeds (*hubúb*).

Besides wheat, barley, etc. the products of grain are enumerated, e.g. pounded grain (*harísa*), vermicelli (*işriyya*), groats (*jáwrís*, *jáwrish*), and parched grain (*sawíq*).

Chapter 230 : On Vegetables (*buqúl*, Sing. *baql*), Pumpkin (*qar'*) and Cucumber (*khiyár*).

Worthy of mention are the Syriac name for the wild endive or succory *ṭalakhshaqûq*, (*Taraxacum*), *bâdranj-bûya* (Persian for common balm, *Melissa officinalis*), *kharâdînâ-rûya*, a Persian name for which no explanation is to be found in the dictionaries. *Sarmaj* is a synonym for Persian *sarmaq* or Arabic *qataf*, i.e. orach (*Atriplex hortensis* L.); *qûniyâ*, probably from Greek *κωνία*, as a name for «the long kind of melon» (*biṭṭikh*, probably *Cucumis melo* var. *chate* Naud.) and the Persian name *râsan* for elecampane (*Inula Helenium* L.). MÂSARJAWAIH, the Persian-Jewish physician of the VIIIth century, is quoted.

Chapter 231: On the Faculties of Fruits.

Several of them are such as were unknown to the Greeks, e.g. tamarind (*tamr hindî*), sebestens (*sibistân*, fruit of *Cordia Myxa* L) and cocoa-nut (*jawz hindî*). Sugar-cane (*qaṣab as-sukar*) and the pith of palm-trees (*jummâr*) are enumerated as fruit-aliments.

Chapter 232: On the Faculties of Meats. Many kinds of mammals and birds and their organs are mentioned.

Chapter 233: On the Faculties of Milk and Cheese.

Chapter 234: On the Faculties of Fish.

Special mention of the two Cyprinus-carps *shabbût* and *bunnî* (*bunnâj*) and the eel *mâr-mâhî* (33).

Chapter 235: On the Faculties of Oils (*ad-hân*).

Enumeration of 27 kinds. *Dihn al-khîrî* (Persian) is the oil of yellow gillyflower-seeds (*Cheiranthus Cheiri* L.).

Chapter 236: On the Faculties of Wines.

The red wine is said to form blood, astringent wine is good for diarrhoea. Wine as a medium for drugs.

Chapter 237: On the Faculties of Fruit-juices.

(Persian *afshurajât*, (34) Arabic 'aṣârât).

Chapter 238: On Confections (Ar. *murabbayât*, Persian *anbajât*).

Chapter 239: On Vinegar (*khall*) and Vinegar-sauces (*kawâ mikh*).

Chapter 240: On the Faculties of Sweetmeats.

Chapter 241: On Salts and Spices (*abâxzîra*).

Among the latter are the leaves (*anjudân*), root (*ushturghâz*) and resin (*hiltîṭ*) of *Asafoetida*! The name *kâsham* refers to a kind of lovage (*Levisticum*).

(33) In the text misspelt *mâ'mâhî*.

(34) In the text falsely spelt *aqsharajât*.

Chapter 242 : On the Faculties of Aromatic Plants, (*rayāḥīn*).

About 30 specimens, many of them bearing Persian names. So, e.g., the kinds of basil *shā-isfaram* (*Ocimum minimum* L.), *bādrūj* (*Ocimum Basilicum* L.) and *faranj-mushk* (*Ocimum pilosum* L. or a kind of *Zizyphora*); (see chapter 129).

Chapter 243 : On perfumed Aromatics (*afāwiyyat at-ṭīb*).

More than 40 kinds, some of them bearing unknown or rare Persian names. So, e.g., *khosraw-dārū* (the lesser galangal, *Alpinia officinarum* Hance), *falanja*, a kind of cubebs, and *qaṣab fārisī* (« Persian cane »), probably *Calamus aromaticus* (sweet flag).

Chapter 244 : On Garments and Furs. A very short chapter of seven lines only. Several of the following chapters, on the contrary, are very long.

DISCOURSE II.

Chapter 245 : On Simple Remedies and Drugs (*'aqāqīr*).

After quotations from GALEN and DIOSCORIDES follow about 80 drugs with their chief healing properties. The names are partly Greek, Persian and Syriac, just as they remained in the Arabic pharmacology up to our period. Some comments are necessary : *kamākhartūs* (p. 401) is a copyist's blunder for *kamādaryūs* which is the Greek *χαμαίδρυς* (*germander*, *Teucrium Chamaedrys* L.). For wild thyme (*ḥāshā*) the author gives the synonym *ḥāsa* (a popular name?). The name *anjurak* is the Persian diminutive for *anjura* (nettle); *mu'asfar* is probably an uncommon name for 'uṣfur or 'uṣfūr, i.e. safflower (*Carthamus tinctorius* L.); *būzīdān* is a salep-root (kind of orchis *Orchis Morio* L.?) ; red and white *bahman*, red lichen and white rapontic (35) has not yet been identified for certain; it is said to be the root of *Centaurea cerinthifolia* Sibth, or of *Statice Limonium* L. The name *mughāth* deserves a moment's attention. This is a drug which, until recently, had never been identified, although it is sold in all the drugbazaars of the Near East. It is a white, thick, curved and rugged root, is sold cut in pieces and is used for strengthening women after child-birth. A French physician made it an article of commerce about the middle of the XIXth century. But it was G. SCHWEINFURTH, the great explorer and botanist, who

(35) According to DR. HONIGBERGER, *Thirty-five Years in the East*. London, 1852, vol. II, p. 378.

determined its true nature; it is the root of *Glossostemon Bruguieri* D.C., a *sterculiacea* growing in the mountains on the Irako-Persian frontier east of Baghdâd. Its flower is known by the name of *Revalenta arabica* (36). *Al-jawz-mârak* is an unusual name which the author explains as « the fruit of the tamarisk (*tarfâ*) resembling gall »; it is, as a matter of fact, not the fruit but a gall growing on tamarisks, otherwise called in Persian *kazmâzak*. The Persian name *zarrîn-dirakht* (i.e. « golden tree ») designates the orange-tree. Papyrus is used as a fresh plant (*bardî*) and in the form of burnt paper (*qirâtâs*, *χάρτης*). The name *shabaṭbâtâ* is misprinted in the text; it is, according to IBN AL-BAIṬÂR (No. 1281) a Syriac name for a kind of knot-grass (*Polygonum*) called in Arabic 'aşâ *ar-râ'î* (i.e. shepherd's stick). The Persian name *shabâb bahra* seems to stand for the caper-spurge (*Euphorbia Lathyris* L.), the seeds of which are ordinarily called *mâhûb -dâna* or, in Arabic, *ḥabb al-mulûk*.

Chapter 246 : On Resins (*şumûgh*) and Substances which are extracted from the Earth.

The author gives for mastic the name *kiyya* (from Chios) : The substances « extracted from the earth » are resins such as asphalt, pitch, naphtha and the like. In the same chapter follows a section on robs (*rub*, *rubûb*) or inspissated juices of fruits.

Chapter 247 : On Shells (*aşdâf*), mineral Substances, Smoke, Ash and Vitriol (*zâj*).

For gypsum occur the names *jibs* and *jaşş*; *zanbaq* (« iris ») is a thrice repeated misprint for *zaibaq* (mercury) which is recommended for skin-diseases. Two stones deserve mention : one of them called *saraṭân hindî* (i.e. « Indian crab ») is probably a false reading for *s. nahrî* (crawfish) the ear-stones (otoliths) of which were and are used in Oriental medicine; the other « the stone which attracts paper and resembles the *zabad al-baḥr* » (i.e. « foam of the sea », or the cuttle-fish-bone, *ἀλκύνιον*, Halcyonium of the Greeks). Possibly meerschäum is meant.

Chapter 248 : On the Properties of Earth and of Terra sigillata.

Chapter 249 : On the Rectification and Preservation of Remedies.

(36) A. H. DUCROS (*Essai sur le droguier arabe etc.* Le Caire 1930, p. 127) erroneously attributes this root to the wild pomegranate (*Punica silvestris* Tourn.).

DISCOURSE III.

Chapter 250 : On the Properties and the Rectification of purging Remedies.

A long chapter discussing the qualities of 47 drugs. The Persian term *turunj* may designate citron or be a bad reading for *turunjân*, balm-gentle. All the other drugs bear well-known names which are to be found in IBN AL-BAIṬÂR'S « Book of simple Remedies ».

DISCOURSE IV.

Chapter 251 : On Man.

Medical properties of the organs and excretions of man.

Chapter 252 : On the Utility of the Parts of Horses.

Chapter 253 : Idem of Mules.

Chapter 254 : Idem of Cows.

Chapter 255 : Idem of Asses.

Chapter 256 : Idem of the Ram and Ewe.

Chapter 257 : Idem of Goats.

Chapter 258 : Idem of Pigs.

Chapter 259 : Idem of Dogs.

Chapter 260 : Idem of Camels.

Chapter 261 : Idem of Stags (or Ibexes, *iyyal*).

Chapter 262 : Idem of Lions.

Chapter 263 : Idem of Elephants.

Chapter 264 : Idem of Leopards.

Chapter 265 : Idem of Wolves.

Chapter 266 : Idem of Hyaenas.

Chapter 267 : Idem of Bears (*dibaba*).

Chapter 268 : Idem of Foxes.

Chapter 269 : On Rats.

Chapter 270 : On Weasels (*ibn 'irs*).

Chapter 271 : On Hares (or Rabbits).

Chapter 272 : On the Hedgehog (*qunfudh*).

Chapter 273 : On Hens and Cocks.

Chapter 274 : On Geese.

Chapter 275 : On Pigeons, Turtle-doves (*shifnîn*), heath-cocks (*durrâj*) and wild (ring-) doves (*warâshîn*).

Chapter 276 : On the Eggs and Parts of Cranes (or Storks, *laqlaq*).

Chapter 277 : On the Crow (*ghurâb*).

Chapter 278 : On the Partridge (*ḥajal*).

Chapter 279 : On small Birds (in general, 'aṣāfir) and Sparrows (*sūdāniyāt*).

Chapter 280 : On Falcons (*bāzī*).

Chapter 281 : On the Utility of the Bat (*khuffāsh*), Swallow (*khuffāf*), Bustard (*hubārā*) and Hoopoe (*hud-hud*).

Chapter 282 : On Flies and Locusts.

Chapter 283 : On the Use of Castoreum (*jund-bīdastar*).

Chapter 284 : On the Crawfish (*saraṭān nahrī*), Tortoise (*sulḥafā*) and Skink-(lizard) (*isqanqūr*).

Chapter 285 : On Glue (*ghirā*) and Water of Fishes.

Chapter 286 : On Frogs and Leeches.

Chapter 287 : On the Use of Vipers (*afā'i*) and Sloughs of Snakes (*silkh al-ḥayya*).

Chapter 288 : On Scorpions and Geckos (*sāmm abraṣ*) (37).

Chapter 289 : On Spiders, Ants and the long Worms which are found beneath Jars and Rubbish-heaps (Rainworms).

Chapter 290 : Description of the Properties of the Gravy of Meat, Grease, Tripe (*infahāt*) and Feet (*ki'āb*).

Chapter 291 : On Milk and Cheese.

Chapter 292 : On Curds and Whey.

DISCOURSE V.

Chapter 293 : On Poisons.

Chapter 294 : On the Symptoms and Treatment of Poison[ing].

Discussion of various poisonous things, « hot » poisons like monk's hood, cashew-nuts, spurge, the sting of scorpions, the bite of mad dogs and the like. The author states that, in the mountains of his country (Ṭabaristān), foxes and rats are frequently hydrophobic; he again gives superstitious practices for the prevention of bites of mad animals, and many recipes.

DISCOURSE VI.

Chapter 295 : On Compound Remedies and Theriacs.

This is the longest chapter in the book, comprising 18 pages (p. 449-67). It is full of interesting prescriptions and partly mutilated names of remedies and physicians. The globule (*qurṣ*)

(37) The harmless gecko-lizard has always been and still is considered by Orientals to be poisonous and possessed by the evil eye. As to his medical qualities see AD-DAMIRI'S Zoological Lexicon, ed. JAYAKAR vol. II, p. 23, London and Bombay, 1908.

of « Androchoron » (Andromach?), the *Athanasia*, another prescription by a certain SALĪM AN-NAKARĀWĪ, a *Dabīd* (electuary, Persian term) of Anacardia (Arabic *balādhur*, i.e. cashewnut), Persian and Greek *falūniyā* (Philonium, see chapter 90); the *Ayārīj Fīqrā*, i.e. GALEN'S *ἐπέα πικρά*, a bitter laxative; a « Caesarian remedy » (*dawā Qaisar*), the « great Theodoretus (Dorotheus? Theodotian?) remedy », and the *Metroditos*, (i.e. Mithridates) are evidently antidotes of Greek origin. Syriac names occurring are the *kawkebā* (« star »), the *shalithā*, the *dakhmurtā*, the *sajzīnā* recommended by YAḤYĀ BAR MĀSAWAIH (d. 857 A.D.) (37a) ḤUNAIN'S teacher and the Author's contemporary, *sunūnithā* (38) or, in Arabic, *al-khatāʾif*, i.e. « the Swallows » for sore throats. A remedy of the above-mentioned Jewish Physician MĀSARJAWAIH and an electuary 'aḥyāt Allāh (God's Gift), or, in Persian, *fanjanūsh* (*panj nōsh*, i.e. made up of five remedies), must be mentioned.

Chapter 296 : On Compound Purging Remedies.

Again many Greek names : GALEN'S *Ḥabb Qūqājā* is a curious tautological name, as *ḥabb* in Arabic and *κοκκία* in Greek designate grains or pills. *Ḥabb al-Bīmāristān* are « Hospital Pills », perhaps derived from the famous *bīmāristān* (hospital) at Gondēshāpūr, the old Persian Medical School.

Chapter 297 : On Tablets or Globules (*qurṣ*).

Chapter 298 : On sweet Medicines (*jawārīsh*).

Some of them are called after Persian kings, one, e.g. *Shahriyārī*, another after the Khosraws (*al-Akāsira*, from *Kisrā*, the Arabic name for Khosraw).

Chapter 299 : On Confections (*rubūb*), Wines (*ashriba*), « Lily-Wine » (*maisūsan*, Persian, a compound potion), Juice of Quinces (*maiba*, Persian), Oxydel (*sikanjabīn*, Persian), Confection of Mulberries (*rubūb tūt*) and the like.

At the end of this chapter the Author communicates a preparation of *maisūsan* invented by his father (SAHL RABBAN), a complicated prescription which it requires no less than six months to concoct.

Chapter 300 : On Oils (*ad-hān*).

(37a) These three names which are missing from the Arabic dictionaries have been explained by HERMANN LEHMANN in *Orientalist. Literaturzeitung*, 1929, p. 871-3.

(38) The spelling of BROCKELMANN, *Lexicon Syriacum* (Halle 1928) is, however, *qaṣṣūmīthā*. The *daḥamūrīthā* is met with in the same dictionary p. 844a.

Compound oily extracts of different plants.

Chapter 301 : On the Drinking of the Milk of She-asses (*utun*), Milch-camels (*liqâh*), Goats, churned Milk (*makhîd*) and the like.

Chapter 302 : On Unguents (*marhamât*).

Again several Greek names, moreover an « Unguent of the Prophets », a Basilicum-unguent, and an unguent for scrophula from the author's own experience. An unguent invented by (the Arab warrior and poet) ABÛ MIHJAN for wounds is described and another one which is said to have been applied by SHÎRÎN the queen of King KHOSRAW. A superstitious practice is described at the end of the chapter.

PART VII.

DISCOURSE I.

Chapter 303 : On Places, Waters and Winds. Following HIPPOCRATES.

Chapter 304 : On Towns and the Conditions of (in which) their Inhabitants (live).

Chapter 305 : On Waters and their Faculties.

Chapter 306 : On the Cause of the Saltiness and Coldness of the Waters.

Chapter 307 : On the Seas and on the Cause of the perpetual Streaming of the Rivers, extracted from ARISTOTLE'S Sayings.

Chapter 308 : On the Soils and the Colour and Character of those who live on them.

Chapter 309 : On Airs (Climates) and their influence on the Body.

Chapter 310 : On Winds and their Periods, and on the Indications which they afford concerning Health and Disease.

Chapter 311 : On the Seasons and their mutual Relations.

All the preceding chapters follow HIPPOCRATES' *Airs, Waters and Places*.

Chapter 312 : On Signs in the Air pointing to coming Events.

This chapter is important not in the sense intended by the Author, but because it contains a series of allusions to political events which occurred in the Author's young years. Unhappily he avoids giving names—with the exception of that of the caliph

HĀRŪN (AL-WĀTHIQ 842-847 A.D.) (39)—probably because the kings and princes concerned were mostly Persians, Zoroastrians and rebels against the authority of the caliphs. A careful study of the history of Ṭabaristān in connection with 'ALĪ B. RABBAN'S allusions will perhaps make it possible to throw still more light on the darkness surrounding the time in which he lived.

Chapter 313: On the Signs of Animals pointing to coming Events.

Quotations from the *Book of Agriculture* (see p. 4). Here ends the excellent Berlin MS. The last 47 chapters have been edited according to the four more recent MSS. only.

DISCOURSE II.

Chapter 314: The Refutation of the Opinion of those who underrate Medicine.

The Author begins: « Some writers of our time have been led by self-conceit and ignorance of their personal worth to depreciate Medicine, pretending that there is in the things neither utility nor noxiousness to the bodies and to mankind. Those who speak this do not deserve an answer or a requital, as they are like bats and owls to whom the light of the sun is blindfolding and not salutary ». He then argues against the despisers of medical knowledge by citing a great number of efficacious remedies, and by mentioning that even animals know the salutary action of certain plants.

In the following chapters he continues his refutation in a less convincing manner by quoting a great number of popular observations and beliefs, and by enumerating many alleged specific properties of animals, plants and minerals. The main interest of these chapters concerns folk-lore.

Chapter 315: On the Properties of Things overcoming the Strength of Fire and Ice, and on Things which are influenced one by another.

'ALĪ mentions (p. 525) that he saw at Sāmarrā a Negro who ate snakes and scorpions, and a red-haired youth who did not

(39) See my correction of the editor's errors in the Introduction, p. 9. A more detailed study of this chapter will appear in the near future (M. MEYERHOF, 'Ali ibn Rabbān at-Ṭabarī, ein persischer Arzt des IX. Jahrhunderts n. Chr. In *Zeitschr. d. Deutschen Morgenländ. Gesellschaft*, 10, 38-68, 1931).

suffer from the sting of scorpions, but, on the contrary, the scorpions died after having stung him !

Chapter 316 : On the specific Qualities (*khawāṣṣ*) of some Plants which change one another or act as Antidotes to one another.

Mostly extracted from the « Book of Agriculture ».

Chapter 317 : On strange Things concerning the Nature of Animals, Waters and some Trees.

Chapter 318 : On Curiosities about Physicians and some of their Tricks.

About 16 stories of doctors and patients, some of them taken from GALEN's own experiences.

DISCOURSE II.

Chapter 319 : On the Eternity of the Spheres and the Luminous Bodies and their Creation, and that the Creator moves them without being moved Himself.

Quotations from HIPPOCRATES' *Airs, Waters and Places*, from GALEN's commentary on that book and from ARISTOTLE's *Meteorology*.

Chapter 320 : On the Succession of the Spheres and their Contents and on the Difference in their Revolution.

Chapter 321 : On the Movement of the Planets and their Light.

Chapter 322 : On the spheric Form of the Spheres, the Earth, the Sea, their Vastness, the Arguments for it and the Refutation of the Opinion of those who contradict it.

Chapter 323 : On the Distances of the Planets and their Volume. All this following Ptolemy. At the end 'ALĪ gives the Persian names of the months.

Chapter 324 : Refutation of the Opinion of those who deny that these Spheres and the Natures (i.e. natural Features) are limited (40).

DISCOURSE IV : *From the Summaries of Indian Books*, 36 chapters (41).

Chapter 325 : On the Origin of Medicine.

The Author gives an extract from Indian philosophical and medical theory and practice, which is partly in agreement, partly at variance with Greek science. He leaves the estimate as to

(40) A mistake in the text, « boundless ».

(41) See notes 4 and 5 to the Introduction to this study.

which is right to the reader. He extracted his summary from the books of CHARAKA (Arabic : *Ḥarak*), SUSHRUTA (Arabic : *Susrud*), the Nidāna (Arabic : *Nidān*), and the Ashtāṅgahṛadaya (Arabic : *Ashtāṅqahrādī*).

Most of the 36 chapters on Indian Medicine are very short. On the other hand their contents are in full accordance with our actual knowledge of old Indian Medicine. So I will refer, as concerns the literature, to GEORGE SARTON'S *Introduction to the History of Science*, vol. I, pp. 76 foll., 284, 480 foll. and 537, (Washington 1927), and, as concerns the contents, to T. A. WISE, *Commentary on the Hindu System of Medicine* (Calcutta, 1845); to J. JOLLY, *Indische Medizin*, (Strassburg 1901); to R. HOERULE, *Studies in the Medicine of Ancient India*, Part I, (Oxford, 1907); and to G. MŪKHOPĀDHYĀYA, *The Surgical Instruments of the Hindus*, (Calcutta 1913), Introduction. Important is, moreover, A. MÜLLER'S essay « Arabic sources on Indian Medicine » (*Zeitschr. Deutsch. Morgenländ. Gesellsch.* vol. 34, 1880, pp. 465-556).

After a short cosmology the Author says that according to Sushruta, the medical science was introduced by DAHMĪṬRĀ (42) who received it from Brahman (BRAHMĀ).

The following chapters are extracted from SUSHRUTA.

Chapter 326 : On the Parts of Medicine.

These are eight in number : 1° the medicine of children, (pediatry); 2° the medicine of the style (for collyrium, *mīl*, i.e. *μῆλη*): ophthalmology; 3° the medicine of the body (general medicine); 4° the medicine of the lancet (*ṭibb mibda'ī*), i.e. the art of phlebotomy; 5° the medicine of the theriac (treatment of poisoning); 6° the medicine of sexual things; 7° the rejuvenating; 8° the spiritual medicine, this being the art of expelling bad spirits by charms (*ruqā*) (43).

Chapter 327 : On the Qualities required by the Student of Medicine. Bodily and moral purity are indispensable.

Chapter 328 : On the right Estimate of Treatment and on the Avoidance of Hurry in it. Necessity of exercising the different

(42) Probably a mutilation of Dhanvantari, a legendary king of Benares and an expert on medical science.

(43) See the eight parts of Medicine enumerated by JOLLY, p. 13, according to CHARAKA, SUSHRUTA and ATREYA.

surgical interventions (probing, cutting, sewing, etc.) on plants or dead bodies of animals, exactly as described by Jolly, p. 20.

Chapter 329 : On the Genesis of Man and on the Generation (Procreation) of Animals.

Four kinds of generation : from the uterus (mankind and mammals), from the egg (birds, fishes), from the earth (Spanish flies [*dharârih*] and worms) and from dirt (lice and nits.) Then follows a short explanation of the three fundamental humours of the body, viz. wind, gall and phlegm (mucus).

Chapter 330 : On the Genesis of the Embryo and of the Members.

Procreation results from the union of the male sperm and the female menstrual blood. In the uterus the embryo develops blood from the aliments, flesh from blood, fat out of flesh, bone from fat, brain from bone, sperm from brain. The origin of life is the *awj* or blood-drops in the centre of the heart (44).

At the end of the chapter 'ALÎ B. RABBAN cites from the *Nidâna* that the three fundamental humours are called *dûs* (i.e. *dôsa*), the seven essential constituents (chyle, blood, flesh, fat, bone, brain, sperm) *dhâtu*, and the seven unclean excretions *mail* (45).

Chapter 331 : On the Action of these three Humours when they increase or diminish. All kinds of diseases are provoked by this.

Chapter 332 : On the Regulation of Health and the Means applied for this Purpose. Following the *Ashtângahṛadaya*; very detailed prescriptions for brushing the teeth, anointing the eyes, perfuming the body in the morning, very much in accordance with JOLLY's paragraph (46) on this matter. Modification of the diet and regulation according to the seasons.

Chapter 333 : On the Excretions of the Body and the Damage caused by their Retention. Following the *Ashtângahṛadaya*.

Chapter 334 : On the Aliments Excess of which has to be avoided.

Chapter 335 : On Waters.

Chapter 336 : On Flavours and Food-stuffs.

(44) Probably the same principal vital faculty as that which is mentioned by JOLLY (p. 42) under the name of *ojas* or *bala* and by WISE (p. 37) as *osah*.

(45) Corresponding to Sanscrit *mala* (WISE p. 55 foll.; Jolly, p. 43). The actual Hindûstânî term for dirt or filth, derived from Sanscrit, is still *mail* (see, e.g. SHAKESPEAR's and PLATTS' Hindûstânî-English dictionaries).

(46) JOLLY, *l. c.* p. 38 foll., WISE, p. 92, foll.

Chapter 337 : On Eating and the necessary Things before and after Meals.

Chapter 338 : On the Things to be eaten with each Kind of Wine.

Chapter 339 : On Wine.

Chapter 340 : On Milk.

Chapter 341 : On Diet in the different Seasons.

Chapter 342 : On Exhortations which I met in their Books and which I extracted altogether.

Chapter 343 : On the Signs of Diseases.

From the *Charaka Samhita* and the *Nidāna*.

Chapter 344 : On the Classes of Diseases.

Chapter 345 : On the Knowledge of the Conditions of the Diseased.

Diagnosis by inspection, feeling of the pulse and questioning of the patient.

Chapter 346 : On the Causes of Diseases and the Period in which the Disturbance of the « Wind » (*rīḥ*) is excited.

Chapter 347 : On (the Diseases) caused by the Excess of each Humour.

Chapter 348 : On the Theory of Treatment.

Chapter 349 : On Gasp (*fawāq*).

Chapter 350 : On Cough (*su'āl*), its Symptoms and Treatment.

Chapter 351 : On Thirst.

Chapter 352 : On Diarrhoea (*istitlāq*) and Consumptions (*sulāl*, sing. *sill*).

Chapter 353 : On Fevers and their Treatment.

Causes are the three humours, fatigue, wrath, love, fear, lust, sorcery, poisons, etc. No exact descriptions of the types.

Chapter 354 : On the Treatment of Fevers.

Chapter 355 : On letting Blood and arresting the Flow.

Chapter 356 : On the Signs of Slowness or Rapidity of Trespassing or other Accidents befalling the Patient.

Partly superstitious practices for prognosis.

Chapter 357 : On Spirits attacking Men.

The author excuses himself for having extracted this chapter from the books of the Indians. He records that most of the people in the world believe in evil spirits; that the Prophets mentioned Devils and Ghosts (*jinn*), but that the Greek philosophers always denied their existence.

Chapter 358 : On Purgatives and Emetics and the Treatment of Fevers.

Chapter 359 : From the Books of an Indian Woman (47), on the Cleansing of the Face and on the Treatment of the Orifice of the Uterus.

A series of recipes, probably from a book on Midwifery.

Chapter 360 : On compound Remedies and on strange Figures.

A very difficult chapter, full of mutilated names of persons and remedies. A recipe by « BARHAM AR-RASÂ'INÎ » is probably that of one of the alteratives (*rasâ'yana*) known in Sanskrit Medicine. I was able to identify the terms *shûnâq* (*shonaka* = *Bignonia Indica*), *balmûl* (*palwal* = *Trichosanthes*), *kashmîzaj* (*Cassia Absus L.*) and *qandaqârî* (*kanṭakârikâ* = *Solanum Jacquini W.*); ŞİDDÎQÎ the editor corrected some of the names of drugs without giving any explanation, e.g. *pandûk-parnî*, *sâl-parnî*, *parshanb-parnî* and *stâwârî*. The names of other drugs are given by 'ALÎ AṬ-ṬABARÎ himself in Arabic or Persian. A remedy called *salajît* is not to be found in the works on Sanscrit Medicine, another *maḥadayânâ* is probably identical with the reconstituent *medhâjanana* mentioned by JOLLY (p. 58).

The « strange figures » follow at the end; they are the « chess-board-like figures » for the arrangement of remedies. 'ALÎ gives eleven such figures; according to the combination of the drugs contained in the vertical or horizontal columns one or another form of compound remedy (enema, incense, dentifrice etc.) is obtained. I give on the next page one of these schemes as an example.

The last nine pages are filled with recipes for aromatic compounds (*dharîra*) and perfumes (*ghâliya*), partly bearing Indian names, e.g. *hârmâkaraht*. The last sentence runs :

« End of the book of 'ALÎ IBN RABBAN on Medicine and all the Kinds of Wisdom ». Then follow Muslim religious phrases added by copyists.

The « chess-board-like » scheme for the composition of remedies is very simple : the numbers give the quantities of drachms or lesser weights of each drug, and the horizontal or vertical columns,

(47) IBN ABÎ UŞAIB'Â ('*Uyûn al-Anbâ'* II, 32 line 27), calls her RÛSÎ THE INDIAN.

	Incense (<i>bakhār</i>)	(Pills) for the mouth	Reconstituent for fever	Toothpowder (<i>samtān</i>)	Toothpowder	Toothpowder	Incense
Perfumed fumigation (<i>dakhāna</i>)	nard 8	cubebs (<i>falaŋġa</i>) 11	unguis odoratus 3	sandal-wood 7	aloes-wood 6	artichokegum (<i>hanġar-sad</i>) 6	odoriferous moss 13
Pills for the mouth	lac 6	costus 5	nard 4	sugar 9	frankincense 10	coriander 3	<i>sukk</i> (compound perfume) 3
Embrocation (<i>filā'</i>) for the bath	cinnamon 4	mace 3	cardamom (<i>qāqulla</i>) 12	ptarmic 10	odoriferous tree-moss (<i>uṣṣma</i>) 7	costus 6	cytius (?) (<i>qandala</i>) 11
Friction (<i>masāḥ</i>)	costus 10	nard 11	sweet basil 6	aloes-wood 7	sandal-wood 5	? (<i>namāḥ-ġr</i>) 3	pine-resin (<i>ġair</i>)
Perfumed fumigation	lac 3	ptarmic (<i>kaṣāḍus</i>) 8	sandal-wood 9	costus 10	cyperus-root (<i>si'd</i>) 12	aloes-wood 2	cloves 3
(missing)	valeriana(?) (<i>bāla</i>) 4	cinnamon 10	unguis odorat. 13	dry storax (<i>ġimāḥ yābis</i>) 17	sweet basil 13	nard 10	costus 6
(missing)	aloes-wood 8	costus 7	red roses 5	mahaleb (<i>maḥlab</i>) 4	nutmeg 2	cloves 17	nard 15

the composition of the compound indicated in the top part or to the left.

In the following *glossaries* all terms, unless specially designated otherwise, are Arabic. In the compound or foreign words A = Arabic, G = Greek, P = Persian, I = Indian, S = Syriac (in parentheses).

Entries refer to the numbers of chapters, as everyone who wishes to use the book will be obliged to number the chapters for himself.

(Cairo).

MAX MEYERHOF.

A. — *Glossary of Technical Terms*

' <i>adal</i> , muscles	197	<i>buhrân</i> , crisis	183
<i>adara</i> , hernia	156	<i>bukhl</i> , avarice	48
' <i>ain</i> , eye, evil eye	52	<i>dâ' al-asad</i> , leontiasis (form of	
<i>âkla</i> , corrosion, gangrene		leprosy)	189
	149, 194, 195	<i>dâ' al-fil</i> , elephantiasis	189
<i>am'â'</i> (sing. <i>mî'â'</i>), bowels	142	<i>dâ' al-hayya</i> , ophiasis	77
<i>amrâḍ</i> (sing. <i>marad</i>), diseases <i>passim</i>		<i>dâ' ath-itha'lab</i> , alopecia	77
<i>amrâḍ ḥâdda</i> , acute diseases	76	<i>ḍabâb</i> , « mist », dimness of sight	93
<i>ânâ'</i> , (urine-) vessel	214	<i>daghdagha</i> , tickling	50
<i>arâ'ih</i> , see <i>rîḥ</i>		<i>dam'a</i> , lachrymation	93
' <i>araq</i> , sweat	182	<i>dawâr</i> , vertigo	79, 85
' <i>aṣab</i> (pl. <i>a'ṣâb</i>), nerve	198	<i>dawî</i> , tinnitus	79, 84
' <i>ashâ'</i> , night-blindness	93	<i>dhât al-janb</i> , pleurisy	180
<i>asr al-bawl</i> , ischury	152	<i>dhâtu</i> (I), essential parts of the	
<i>âthâr sûd</i> , black scars	101	body	330
<i>awj</i> (<i>ojas</i> ? I) ; essential vital		<i>dhihâb ma'al-waḥsh</i> , retirement	
faculty	330	through melancholy	79
<i>bâdh-dishnâm</i> (P), erysipelas of		<i>dîdân</i> (sing. <i>dûd</i>), worms	148
the face	102	<i>ḍîq an-nafs</i> , oppression,	
<i>bahaq</i> , dandruff, white lepra	190	orthopnoea	115
<i>bakhr</i> , ozaena	102	<i>dubâila</i> , stomach-ache	118
<i>baraṣ</i> , vitiligo, white lepra	190	<i>ḍumûr</i> , atrophy	64
<i>bathr</i> (pl. <i>buthûr</i>), pustule	92, 102	<i>dûs</i> (<i>doṣa</i>) (I), fundamental	
<i>baṭṭ</i> , dissection	196	humour	330
<i>bawl</i> , urine	152, 209	<i>fâlij</i> (G), plegia	107
<i>bîmâristân</i> (P), hospital	296	<i>fasâd</i> , corruption	158
<i>bughâ</i> , hatred	48	<i>faṣḍ</i> , phlebotomy	200

<i>fawāq</i> , hiccup, gasp	117, 349	<i>ikhtilāj</i> , quivering	50
<i>fikra</i> , reflection	47	<i>ikhthināq</i> , strangulation	158
<i>fi'l</i> , activity, function	8	<i>īlāūs</i> (G), ileus	148
<i>fudūl</i> (sing. <i>faḍl</i>), superfluities, residues, excess	23, 50	<i>'inaba</i> , staphyloma	92
<i>ghaḍab</i> , wrath	47	<i>'inabiyya</i> , uvea of the eye	92
<i>gharab</i> , lachrymal abscess	92	<i>infi'āl</i> , passivity	8
<i>ghashy</i> , swoon	128, 182	<i>intifākh</i> , oedema	93
<i>ghishāwa</i> , « veil », dimness of sight	93	<i>intiṣāb</i> , upright carriage	25
<i>ghudda</i> , lachrymal tumour	92	<i>intithār</i> (<i>al-ashfār</i>), falling out (of the lashes)	92
<i>ḥabb al-qar'</i> , tape-worm	148	<i>'irq</i> (pl. <i>'urūq</i>) blood-vessel	199
<i>hadhayān</i> , delirium	79	<i>'irq an-nisā'</i> , sciatica	187
<i>ḥalq</i> , throat	110	<i>irti'āsh</i> , tremor	106
<i>ḥaṣā</i> , stone (in the kidney or bladder)	149, 152	<i>is-hāl</i> , purgation	203
<i>ḥaṣaf</i> , prickly heat	190	<i>istiḥala</i> , metamorphosis, transubstantiation	6
<i>hashm</i> , bruises	195	<i>istirkhā'</i> , slackening, relaxation	
<i>hayūli</i> (G), matter	2, 35	paralysis,	102, 117, 152
<i>ḥibb</i> , love	48	<i>istisqā'</i> , dropsy	125
<i>ḥidda</i> , hastiness	48	<i>istiḥlāq</i> , diarrhoea	142, 117, 352
<i>ḥifz</i> , memory	49	<i>izlāq az-zar'</i> , (sterility caused by) slipping of the sperm	158
<i>ḥijāb</i> , diaphragm	130	<i>jadarī</i> , smallpox	181
<i>ḥijāma</i> , cupping	202	<i>jarab</i> , scab, trachoma, (in the eye)	93, 190
<i>ḥikka</i> , itch, psorophthalmia	92, 190	<i>jasā</i> , sclerosis (of the eyelids)	92
<i>ḥilm</i> , forbearance	48	<i>jashā</i> , eructation	48
<i>ḥirq an-nār</i> , combustion	194	<i>jawr</i> , injustice	117
<i>ḥulqām</i> , gullet	130	<i>jinn</i> , ghosts	357
<i>ḥummā</i> , fever	161, foll.	<i>jubn</i> , cowardice	48
<i>ḥummā ḍamm</i> , « blood fever », i.e. chronic fever	167	<i>judhām</i> , leprosy	189
<i>ḥummā ghibb</i> , tertian fever	172	<i>kabid</i> , liver	123
<i>ḥummā rib'</i> , quartan fever	175	<i>kābūs</i> , nightmare	51
<i>ḥummā shaṭr al-ghibb</i> , semiter- tian fever	178)	<i>kalaf</i> , xanthelasma	101, 190
<i>ḥumma yawm</i> , ephemeral fever	162	<i>kathīr al-arjul</i> , polyp	102
<i>ḥumra</i> , erysipelas	101, 181	<i>kazāz</i> , shivering	103
<i>ḥusr al-bawḍ</i> , ischury	152	<i>khadar</i> , numbness	50
<i>ibriyya</i> , dandruff	77	<i>khafaqān</i> (<i>al-qalb</i>), throbbing (of the heart)	129
<i>ihlāl</i> , penis	155	<i>khāṣṣa</i> (pl. <i>khawāṣṣ</i>), specific property	220, 316
<i>ihṭilām</i> , a) puberty	28	<i>khajal</i> , confusion	46
b) evil dreaming	51		

<i>khalt</i> , pl. <i>akhlât</i> , humour, temper	71	<i>nûra</i> , depilatory	157
<i>khanâzîr</i> , scrophula	190	<i>qabḥ ash-shahwa</i> , perversion of appetite	117
<i>khiffa</i> , levity	49	<i>qaiḥ</i> , suppuration	96
<i>khurâj</i> , abscess	195	<i>qâ'im</i> , deposit (in the urine)	214
<i>khurîj</i> , outlet	23	<i>qaml</i> , lice	92, 190
<i>khurîj al-mammâ</i> , spermatorrhoea	155	<i>qânûn</i> (G), rules	75, 203
<i>kiithrat al-intishâr</i> , satyriasis	155	<i>qara'</i> , baldness (partial)	77
<i>lahâh</i> , uvula	110	<i>qarḥa</i> (pl. <i>qurûḥ</i>), ulcer	96, 117, 149
<i>laqwa</i> , facial paralysis	107	<i>qarḥ al-am'â</i> , dysentery	145
<i>al-lawzatân</i> , the tonsils	96, 111	<i>qawlanj</i> (G P) colic	148
<i>mâ'</i> , « water », cataract in the eye	92	<i>qay'</i> , persistent vomiting	117, 182
<i>mâ' asfar</i> , « yellow water », dropsy	125	<i>qillat al-mannâ</i> , aspermatism	155
<i>mafsil</i> (pl. <i>mafâsil</i>), joint, articulation	187	<i>qûbâ</i> (pl. <i>qawâbî</i>), eczema	190
<i>maïl</i> (I), unclean excretions of the body	330	<i>qûlûn</i> (G), colon, large intestine	146
<i>majassa</i> , pulse	205	<i>qush'arîra</i> , horripilation	50
<i>marâd kâhinî</i> , (psychical form of)	79	<i>rabw</i> , asthma	115
epilepsy	79	<i>raḥam</i> , uterus	158
<i>marâqq</i> , abdomen	79	<i>ramad</i> , ophthalmia	92
<i>mibḍa'</i> , lancet	326	<i>râsib</i> (pl. <i>rawâsib</i>), sediment	215
<i>mîl</i> (G), probe, style for collyrium	326	<i>râsib muntin</i> , foetid sediment	218
		<i>râsib nakhâlî</i> , bran-like sediment	217
<i>mirâra</i> , gall	137	<i>râsib ramlî</i> , sandy sediment	218
<i>mizâj</i> , temperament, mixture	19	<i>râsib sawîqî</i> , gruel-like sediment	218
<i>muq'ada</i> , anus	157	<i>raṭy</i> , dry eczema	190
<i>mûrsaraj</i> (P) « ant's head », a small prolapse of the iris	92	<i>rîḥ</i> , one of the three Indian vital humours, smell-scent	346
<i>nabḍ</i> , pulsation, systole	205	<i>rîḥ al-khuṣiyya</i> , hydrocele	156
<i>naftḥ damm</i> , haemoptysis	134	<i>rîḥ as-sabal</i> , conjunctival congestion	92
<i>namsh</i> , freckles	101	<i>rîḥ ghalîz</i> , fluxion, congestion	149
<i>nasayân</i> , forgetfulness, amnesia	48, 79	<i>riyâḥ</i> , flatulence	148
<i>nâsûr</i> , fistula	92, 157	<i>ru'âf</i> , epistaxis	99
<i>nayyîra</i> , luminous celestial body	9	<i>ruqâ</i> , exorcism	327
<i>nazaq</i> , fickleness, thoughtless- ness	48	<i>rû'yâ</i> , visions	52
<i>nazaf damm al-ḥaiḍa</i> , dysmenorrhoea	158	<i>sadar</i> , vertigo	85
<i>niqrîs</i> , gout	187	<i>sadd</i> (pl. <i>sudud</i>), obstruction	117, 149
		<i>ṣadma</i> , contusion	194
		<i>ṣadr</i> , chest	113
		<i>sa'fa</i> , excoriation	190

<i>ṣafīḥa</i> (pl. <i>ṣafā'ih</i>), film on the surface of the urine	216	<i>taqṭīr al-bawl</i> , stillicidium	152
<i>ṣahj</i> , dysentery	142	<i>ṭarfa</i> , bloodspot in the eye,	92
<i>sal'</i> , baldness	27, 77	<i>tashannuj</i> , spasm	102, 103
<i>sanūn</i> , tooth-powder	102	<i>tashrīḥ</i> , anatomy	196
<i>sanwartā</i> (S P), cephalalgia	79, 90	<i>tathā'ub</i> , yawning	50
<i>ṣar'</i> , (spasmodic) epilepsy	79	<i>tawādu'</i> , modesty, humbleness	48
<i>ṣawt</i> , voice, vocal organs	113	<i>ṭawā'in</i> , plague-boils	195
<i>sayalān</i> , downflow, lachrymation	93	<i>tha'līl</i> , wart	190
<i>shahwa</i> , lust, appetite	47, 117	<i>thanāyā</i> , central incisors	102
<i>shahwakalbiyya</i> , canine appetite	117	<i>thiql</i> , gravity, clumsiness	49
<i>shaib</i> , white hair	27	<i>ṭuhāl</i> , spleen	140
<i>shajā'a</i> , courage	48	<i>'uṭās</i> , sneeze	50
<i>shajja</i> , wound in the head	78	<i>'uqm</i> , barrenness (of uterus)	158
<i>shaqīqa</i> , hemiparesis	79	<i>wadaḥ</i> , white scar	77, 101
<i>sharā</i> , blotch	190	<i>wahm</i> , imaginative power	36
<i>shatar</i> , inversion of the lids	95	<i>waḥsha</i> , shyness, nostalgia	79
<i>shatra</i> , symblepharon	93	<i>wajal</i> , weariness	46
<i>shawṣa</i> , pain in the chest, intercostal neuralgia	133, 180	<i>waram</i> , tumour, swelling, (pl. <i>awrām</i>)	79, 149, 117, 158, 192
<i>sahar</i> , sleeplessness	79	<i>waswasa</i> , demonianism, melancholy	79
<i>sill</i> (pl. <i>sulāl</i>) phthisis, consumption	119, 166, 352	<i>al-wirkān</i> , the hipbones	187
<i>su'āl</i> , cough	130, 350	<i>wuthā</i> , contortion	106
<i>subāt</i> , lethargy	79	<i>yaraqān</i> , jaundice	137
<i>ṣudā'</i> , headache	79	<i>zafara</i> , pterygium	92
<i>ṭabā'a</i> (pl. <i>ṭabā'i</i>), nature, temper, constitution	3, 72	<i>zahīr</i> , dysentery	145
<i>tamaṭṭī</i> , stretching of the arms	50	<i>zahw</i> , vanity	48
<i>tamth</i> , menses	28	<i>zūkām</i> , cold, nasal catarrh	100
<i>ṭanīn</i> , tinnitus	84	<i>zulma</i> , dullness of sight, amaurosis	93
<i>taqdīmat al-ma'rifa</i> , prognosis	131	<i>zulq al-am'ā</i> , « slipping of the intestines », lientery	144

B. -- *Names of Drugs and Remedies.*

<i>abzār</i> , <i>abāzīra</i> (sing. <i>bizr</i>), spices	241	<i>anbaj</i> , (P), fruit-confection	238
<i>ad-hān</i> , oils, see <i>duhn</i> .		<i>anjudān</i> , (P), leaves of <i>Asafoetida</i>	241
<i>af'ā</i> (pl. <i>afā'i</i>), viper	287	<i>anjura</i> } (P), nettle	245
<i>afāwiya</i> , aromatics	243	<i>anjurak</i> }	
<i>afshuraj</i> , (P), pressed fruit-juice	238	<i>'aqāqīr</i> (sing. <i>'aqqār</i>), simple drugs	245

'aṣā ar-rā'i, knot-grass (Polygonum)	245	<i>dabīd-i-murrā</i> (P S), myrrh-electuary	93
'aṣāra, pressed fruit-juice	237	<i>daḥmurtā</i> (S), name of a compound remedy	295
aṣḍāf, shells, see ṣadaf	247	<i>dawā Qaiṣar</i> , « Caesar's remedy » a compound	295
'aṣfūr (pl. 'aṣafīr), small birds, finches, sparrows	279	<i>dibaba</i> , see <i>dubb</i>	
<i>ashriba</i> , see <i>sharāb</i>		<i>dharārīḥ</i> , Spanish flies	329
<i>asqanqūr</i> (G S), see <i>isqanqūr</i>		<i>dharīra</i> , aromatic compound	360
<i>aṣṭarak</i> (G P), storax	133	<i>dubb</i> (pl. <i>dibaba</i>), bear	267
<i>aṣṭāṭīqun</i> (G), staticum-eye-salve	93, 94	<i>duhn</i> (pl. <i>ad-hān</i>), oil	235, 300
<i>āthānāsiyā</i> (G), name of a remedy	154, 295	<i>durrāj</i> , heath-cock	275
'aṭīyat- <i>Allāh</i> , name of a remedy ; see <i>fanjānūsh</i>	295	<i>falanja</i> (P), a kind of cubebs	243
<i>ayārīj fīqrā</i> (G), hiera picra, a bitter purgative	295	<i>falūniyā</i> (G S), Philonium-remedy	90, 154, 295
<i>bādranj-būya</i> (P), mountain-balm (Melissa officin. L.)	129, 230	<i>faṇḍādīqūn</i> (G), ΠΕΝΤΑΔΙΚΟΝ and	151
<i>bādrūj</i> (P), basil-royal (Ocimum Basilicum L.)	242	<i>fanj-ānūsh</i> (<i>panj-nōsh</i>) (P), names of a remedy (« five-fold »)	295
<i>balmūl</i> (<i>palwal</i> , I), Trichosanthes (cucumerina L.?)	360	<i>faranj-mushk</i> (P), a kind of basil, Ocimum pilosum	129, 242
<i>bahman abyad</i> (P A), white rapontic	245	<i>ghāliya</i> (A P), an aromatic compound	360
<i>bahman aḥmar</i> (P A), red behen	245	<i>ghirā</i> , glue	285
<i>balādhur</i> , cashew-nut (Anacardica)	295	<i>ghurāb</i> , crow	277
<i>baql</i> (pl. <i>buqūl</i>), vegetable	230	<i>ḥabb</i> (pl. <i>ḥubūb</i>), corn-seed, pill	229
<i>bardī</i> , papyrus-plant	245	<i>ḥabb al-bīmāristān</i> (A P), « hospital pills », name of a compound remedy	296
<i>bāzī</i> (P), falcon	280	<i>ḥabb al-mulūk</i> , seeds of Euphorbia Lathyris L.	245
<i>biṭṭīkh</i> , (water-) melon	230	<i>ḥabb al-qūqāya</i> (A G S), a kind of pills	296
<i>bizr</i> (pl. <i>abzār</i> and <i>buzūr</i>) seed, grain	241	<i>ḥalbanīthā</i> (G S), galbanum	133
<i>bulbus</i> (G), emetic onion (?)	157	<i>harīsa</i> , pounded grain	229
<i>bunnāj</i> (A P), kind of carp (Cyprinus Bynni)	234	<i>hāshā'</i> (<i>hāsa</i>), wild thyme	245
<i>būzīdān</i> (P), salep-root (Orchis Morio L.) (?)	245	<i>hiltīt</i> , resin of Asa foetida	241
<i>ḍabb</i> , uromastix-lizard	102	<i>ḥubārā</i> , bustard	281
<i>dabīd</i> (P), electuary	93, 295	<i>hud-hud</i> , hoopoe	281
		<i>ibn 'irs</i> , weasel	270
		' <i>ilk al-Anbāt</i> , turpentine	158

'ilk al- <i>Arwām</i> , mastic	158	<i>khuttāf</i> , swallow	281
<i>infāha</i> , tripe	290	<i>kiyya</i> (G), mastic	246
<i>isfanja</i> (G), sponge	133	<i>kuhl</i> (pl. <i>akhāl</i>), dry collyrium	95
<i>isfīd-bāgh</i> (P), blanquette	151	<i>laqlaq</i> , stork, crane	276
<i>ishtūtīfān</i> , see <i>astātīqūn</i>		<i>liqāh</i> , (sing. <i>liqha</i>) milch-	
<i>isqanqūr</i> (G S), skink-lizard	156, 284	camels	301
<i>isqīl</i> (G), wild onion	156	<i>maḥadayānā</i> (<i>medhājanana</i>) (I)	
<i>itriyya</i> , vermicelli	229	a tonic	360
<i>iyyal</i> , stag, ibex	261	<i>māhūb-dāna</i> (P) seeds of	
<i>jashmīzaj</i> (P), seeds of Cassia		Euphorbia Lathyris L.	245
Absus L.; see <i>kashmīzaj</i>	95	<i>maiba</i> (P), juice of quinces	299
<i>jaṣṣ</i> , gypsum	247	<i>maibufakhtaj</i> (P), wine boiled	
<i>jawārish</i> (P) sweetmeats, sweet		down to a consistency	81
remedies	298	<i>maisūsan</i> (P), « lily-wine », a	
<i>jāwris</i> , <i>jāwrish</i> (A P), groats	229	compound potion	299
<i>jawz hindī</i> , cocoa-nut	231	<i>makhūd</i> , churned milk	301
<i>jawz mārak</i> (A P), gall of		<i>marham</i> , ointment	302
tamarisks	245	<i>mārmāhī</i> , (P), eel	234
<i>jībs</i> (G), gypsum	247	<i>māšūš</i> , meat cooked in vinegar	145
<i>jummār</i> , piths of palm-trees	231	<i>mu'asfar</i> , safflower (see ' <i>usfur</i> ')	245
<i>jund-bīdastar</i> , (P), castoreum	283	<i>mughāth</i> , Glossostemon	
<i>ka'b</i> (pl. <i>ki'āb</i>), ossicle, ankle-		Bruguieri D.C. (root)	245
bone	290	<i>mūmiyā'ī</i> (P), pissaspalt	194
<i>kamādariyūs</i> (G), germander	245	<i>murabbā</i> , confection of fruits	238
<i>kāmikh</i> (pl. <i>kawāmikh</i>), vinegar-		<i>narsiyan-dārū</i> (P), shepherd's	
sauce	239	crook (plant)	132
<i>kāsham</i> (P), lovage (Levisticum)	241	<i>qaḍabān al-'ajājīl</i> , Sarcostem-	
<i>kashmīzaj</i> (P), seeds of Cassia		ma viminale R. BR. (?)	156
Absus L.; see <i>jashmīzaj</i>	360	<i>qandaqārī</i> (<i>kaṅtakārīkā</i> , I),	
<i>kawokebā</i> (S), « star », name of		Solanum Jacquini W.	360
a compound remedy	90, 295	<i>gar'</i> , pumpkin	230
<i>kāz mazāk</i> , gall of tamarisk	244	<i>qaṣab fārisī</i> , calamus aromaticus,	
<i>ki'āb</i> (see <i>ka'b</i>), feet (of sheep		sweet flag (?)	243
as dish)	290	<i>qaṣab sukar</i> , sugar-cane	231
<i>khall</i> , vinegar	239	<i>qaṭaf</i> , orach; see <i>sarmaj</i>	230
<i>kharādīnā-rūya</i> (P), ??	230	<i>qilā</i> , potash	230
<i>khatātīf</i> (pl. of <i>khuttāf</i>), « swal-		<i>qirtās</i> (G), papyrus-paper	245
lows », name of a compound		<i>qūniyā</i> (G), long melon, Cucu-	
remedy (see <i>sununīthā</i>)	295	mis melo.var. ChateNaud.	230
<i>khidāb</i> , dyes for the hair	77	<i>qunfudh</i> , hedge-hog	272
<i>khuffāsh</i> , bat	281	<i>qurṣ</i> (pl. <i>aqrās</i>), tablet, globule,	
<i>khurw as-sinnaṭwr</i> , civet's dung	160		156, 295, 296

<i>raiḥân</i> , (pl. <i>rayâḥîn</i>), aromatic plant	242	sebestens (<i>Cordia Myxa</i> L.)	132, 231
<i>râsan</i> (P), elecampane (<i>Inula Helenium</i> L.)	230	<i>sajzânâ</i> (S), name of a compound	
<i>râziqî</i> (P), white lily	145	remedy	295
<i>rubb</i> (pl. <i>rubûb</i>), rob, inspissated fruit-juice	246, 299	<i>sikanjabîn</i> (P), oxymel	299
<i>rubb tût</i> , confection of mulberries	299	<i>silkh ḥayya</i> , slough of snake	287
<i>rûshanâ'î</i> (P), « lightbringer », name of a collyrium	95	<i>sûdâniyya</i> , sparrow	279
<i>şadaf</i> (pl. <i>aşdâf</i>), shell	247	<i>sulḥafâ</i> , tortoise	284
<i>şamgh</i> (pl. <i>şumûgh</i>), resin	246	<i>şumûgh</i> , see <i>şamgh</i>	
<i>sâmm abraş</i> , gecko-lizard	288	<i>sunûnithâ</i> (S), « swallows », name of a remedy ; see <i>khaṭâṭîf</i>	295
<i>sanûn</i> , toothpowder	102	<i>talakhshaqûq</i> (G P), wild endive, wild succory	230
<i>saraṭân</i> , crab, <i>saraṭân nahrî</i> , crawfish	247, 284	<i>tamr hindî</i> , tamarind	231
<i>sarmaj</i> } (P), orach (<i>Atriplex hortensis</i> L.)	230	<i>ṭarfâ</i> , oriental tamarisk	245
<i>sarmaq</i> }		<i>ṭîb</i> , scent, perfume	243
<i>sawîq</i> , parched grains	229	<i>turunjân</i> (P), balm-gentle	250
<i>şabâb-bahra</i> (P), <i>Euphorbia Lathyris</i> L., caper-spurge	245	' <i>uşulân</i> , squill (<i>Scilla maritima</i> L.)	132
<i>şabaṭbâtâ</i> (S), knot-grass (<i>Polygonum</i>)	245	' <i>uşfur</i> , ' <i>uşfûr</i> , safflower (<i>Carthamus tinctorius</i> L.)	245
<i>şabbûṭ</i> , cyprinus-carp	234	<i>uṣthurghâz</i> (P), root of <i>Asa foetida</i>	241
<i>şalîthâ</i> (S), name of a compound		<i>utun</i> (sing. <i>âtân</i>), she-asses	301
remedy	295	<i>warâşân</i> , wild (ring-)dove	275
<i>şarâb</i> (pl. <i>aşrîba</i>), wine	299	<i>zabad al-bahr</i> , cuttle-fish-bone, halcyonium	247
<i>şifnûn</i> , turtle-dove	275	<i>zaibaq</i> , mercury	247
<i>şiyâf</i> (S A), eye-salve	93, 94	<i>zâj</i> , vitriol	247
<i>şûnâq</i> (<i>shonaka</i> , I), <i>Bignonia Indica</i>	360	<i>zanbaq</i> (P), iris	247
<i>sifistân</i> (<i>sipistân</i> , <i>sibistân</i>) (P),		<i>zard-jûbaq</i> (<i>zard-çûb</i> , P), yellow-wood, turmeric	101
		<i>zarrîn-dirakht</i> (P), orange-tree	245
		<i>zirishk</i> (P), berberis	145