## Ibn Al-Jazzār on Fevers

Gerrit Bos

## IBN AL-JAZZĀR ON FEVERS

This volume is part of a highly important work-Zād al-musāfir wa-qūt al-hädir-compiled by the Arab physician Ibn al-Jazzār of Qayrawān in the tenth century. Consisting of seven books that provide concise descriptions and discussions of different diseases and their treatment, from head to toe, it was one of the most influential medical handbooks in medieval Europe. Ibn al-Jazzār's Zād al-musāfir not only offered a traditional pathology, but also introduced new objects of reflection, such as mental pathology, to the Western physician for the first time. It contains many valuable quotations from the works of ancient and medieval physicians and philosophers such as Aristotle, Rufus, Galen, Polemon, Paul of Aegina and Qustạa ibn Lūqā which, in several cases, are only preserved in this work.

The section from Zād al-musäfir presented here is the seventh book, consisting of six chapters dealing with all the different simple kinds of fever known in his time. It is the first time one of the medical works of the Arab physicians dealing with fevers has been published in a critical edition and translation. This important work represents a great advance in the understanding of Islamic and Western medicine.

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Gerrit Bos is an expert on the history of medieval medicine, particularly as found in Hebrew and Arabic texts. He is the author of Ibn al-Jazzār on Forgetfulness and its Treatment, Ibn al-Jazzār on Sexual Diseases and their Treatment and, with Charles Burnett, of a work on medieval weather forecasting, with reference to the work of al-Kindi. Gerrit Bos has a PhD from the Vrije Universiteit in Amsterdam and currently holds the chair in Jewish Studies at the Martin Buber Institute, University of Cologne, Germany.

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## IBN AL-JAZZĀR ON FEVERS

## A critical edition of Zād al-musāfir wa-qūt al-hādir

Provisions for the Traveller and Nourishment for the sedentary Book 7, Chapters 1-6

The original Arabic text
With an English translation, introduction and commentary
by
GERRIT BOS

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## PREFACE

As part of my ongoing interest in Ibn al-Jazzār's medical compendium, called Zād al-musäfir wa-qūt al-hādir (Provisions for the Traveller and Nourishment for the Sedentary) I would like to present to the reader a critical edition with translation and introduction of the section from Bk. 7, chs. 1-6 which deals with the different kinds of fevers. Such an edition is an urgent desideratum in the history of Islamic medicine, since so far none of the medical works of the Islamic physicians dealing with fevers has been published in a critical edition and translation.

Ibn al-Jazzär's Zād al-musäfir is one of the most influential medical handbooks in the history of Western medicine. Already in the beginning of the 11th century it was translated into Greek. In the 12th century Constantine the African translated it into Latin; this translation was the basis for the commentaries of the Salernitan masters from the 13th century on. As part of the so-called Articella or Ars medicinae, a compendium of medical textbooks, it was widely consulted in medical schools (Salerno, Montpellier), and in universities (Bologna, Paris, Oxford). It was popular in Jewish circles as well, as is attested by the fact that it was translated three times into Hebrew.

At this occasion I thank the Trust of The Wellcome Foundation for giving me the opportunity to prepare this edition by means of a Research Fellowship at the Wellcome Institute for the History of Medicine. I thank Dr Charles Burnett for reviewing the English section of the manuscript.

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## INTRODUCTION

## 1. Biography

Abū Ja'far Ah̆mad b. Abī Khālid ibn al-Jazzār (10th century), a practising physician from Qayrawān, the medieval capital of Tunisia was a prolific author in the field of medicine. His most famous work is beyond any doubt Zād al-musäfir wa-qūt al-hādir (Provisions for the Traveller and Nourishment for the Sedentary), a medical compendium in seven books dealing with all the diseases a capite ad calcem (from head to toe). ${ }^{1}$ This work is for the major part still in manuscript; only books one to three have so far been edited by Suwaysī-al-Rādi. ${ }^{2}$ A critical edition and translation of book six dealing with sexual diseases has been prepared by the present author. The section on fevers covers chs. 1-6 of book seven of Ibn al-Jazzār's Zād al-musāfir. I have decided to edit this section on its own since it is an independent unit dealing with all the different (simple) fevers known in his days. ${ }^{3}$ Such an edition is a desideratum, since so far none of the medical works of the Islamic physicians dealing with fevers has been published in a critical edition and

[^0]translation. ${ }^{4}$

## 2. MSS consulted for the edition

The present edition is based on the following manuscripts:

1. Berlin 252 (=Qu 683); Judaeo-Arabic. Bk. 7, chs. 1-6 cover fols.130-144; the text is written in a clear oriental script. It was probably copied in the 14 th-15th cent. In my edition it bears the sign B. ${ }^{5}$
2. Dresden 209; the Zäd covers 303 folios. Bk. 7, chs. 1-6 cover fols. 248-267; this manuscript is in general not very correct; it is unvocalised, while diacritical points are sometimes omitted and often confused. It has been copied by four different hands: a. from fols. 1-78, the handwriting is rather correct; b. fols. 79-269, different handwriting, very untidy in fols. 250-260; c. fols. 270-288, different handwriting, regular and correct; d. fols. 290-339, different rather careless handwriting; fols. 290 and 291 contain marginal passages taken from the Koran as a remedy for scabies, probably added by a pious copyist; the copying of the manuscript was completed in the year 1091/1680. In my text edition it is indicated by the sign D. ${ }^{6}$

[^1]3. Oxford, Bodleian Huntington 302. Bk. 7, chs. 1-6 cover fols. 179-195. The text, vocalised and provided with diacritical points, was copied in the year 738/1337, and is therefore the oldest surviving manuscript. It is indicated in my edition with the sign O . ${ }^{7}$
4. Teheran, Malik 4486; unnumbered. The text is unvocalised, but provided with diacritical points; it was copied in the year $994 / 1586$. The copyist was rather careless and did not understand the text in hand very well; this has resulted in many corruptions and omissions. It is indicated in my edition with the sign $\mathrm{T} .{ }^{8}$
5. Izmir, Milli 50/470 (26636). Bk. 7, chs. 1-7 cover fols. 145-156. The text is partly vocalised and was copied by Zayn al-‘ābidīn on 4. Shawwāl 972 H (1564). ${ }^{9}$ In general this text provides good readings with the occasional mistake typical for a copyist. In many cases it has readings similar to those of MS Teheran, indicating a common ancestor.

I did not consult MS Copenhagen 109 and Paris 2884, since both MSS have been copied from MS Dresden. ${ }^{10}$ MS Wellcome A 463, part of the former Sāmī Ibrahīm Haddād collection and

[^2]consisting of 30 fols., only covers Bk. 1, chs. 1-18. ${ }^{11}$ Other MSS which I could not consult, since, despite all my efforts, I could not obtain photostats of them, are:

1. Algiers 1746, fols. 1-75, 10 cent. H. (16th cent. A.D.).
2. Cairo VI, 37, ṭibb, maj. 37 m (fols. 1-39a, 11 cent. H. (17th cent. A.D.).
3. Rabāt 1718 (fols. 1b-222a). ${ }^{12}$

My edition is mainly based on BIOT since the readings preserved by these MSS are often better than those of MS Dresden. Moreover, the readings preserved by these MSS represent in many cases a more complete version than that in MS Dresden. Unfortunately, it proved to be impossible to establish a stemma precisely defining the relationship of these MSS, because of the contaminated state of the tradition. The textual tradition is clearly very complex but on the basis of the MSS available at the moment further clarification is impossible. ${ }^{13}$

[^3]3. Survey and evaluation of the contents of Bk. 7, chs. 1-6 of Zād al-musāfir

Before starting our survey one should note that Ibn al-Jazzār's major source is Galen. Like all Arabic physicians, he adopted Galen's humoral theory as the basis for his aetiology, and his therapeutical rule contraria contrariis curantur as the basis for the treatment of these diseases. ${ }^{14}$ The high regard he had for Galen is clear from several quotations from his works. Moreover, in some cases, as specified in the discussion of the contents of the chapters themselves, Ibn al-Jazzār's aetiology, symptology or other specific elements are similar to those mentioned by Galen and seem to be derived from him.

In this survey I will point to sources and/or parallels from ancient and Byzantine medicine, above all Galen (2nd cent.) and Paul of Aegina (7th cent.). I will, moreover, compare Ibn alJazzär's discussion of the aetiology, symptology and treatment of different fevers with that of Ibn Sinā (980-1037) and his contemporary al-Mājū̄ī, whose relation to Ibn al-Jazzār has not been researched so far. ${ }^{15}$ We shall see several close parallels between these two physicians in the arrangement and contents of their subject matter, pointing, most likely, to a common source. Both physicians, however, differ greatly in so far as Ibn al-Jazzār's discussion is usually as concise as possible, omitting issues not

[^4]relevant for a practising physician, while al-Mājūsī aims at treating every issue, both theoretical and practical, as thorougly as possible. In this aspect al-Mājūsi's methods and aims are similar to those of Ibn Sinnā.

Reviewing Ibn al-Jazzār's discussion of the different fevers, it is clear that he almost invariably adheres to a certain scheme. First of all, he gives a very concise aetiology, then a more extensive symptology, while most of his attention goes to the different ways of treatment of the disease. Within this scheme he has, moreover, organised the material in a very logical and comprehensible way. He has thus met the aim which he set himself for the composition of the Zād al-musäfir:


#### Abstract

I have seen how many great and excellent physicians have composed books on the treatment of the diseases which may affect each of the limbs [of the body], with the intention of composing a work fitted for regular consultation. Some of these works, however, are longer and more detailed than necessary, while others are shorter than necessary. Knowing this, I have composed a work on the treatment of the diseases which may affect each of the limbs of the body and I have called it "Zād al-musāfir wa-qūt al-hādir". I left out everything that might spoil it by making it too burdensome, too long, too complicated and too profound. Word of it spread in the countries and it was well received by the physicians. ${ }^{16}$


As noted above, it is probably precisely for this reason that Ibn al-Jazzār chose not to discuss the mixed fevers, since their diagnosis and treatment is too complicated. But in spite of the good reputation which the Zād al-musäfir acquired for itself, Ibn al-Jazzār was not blind to its limitations, and recognised at a

[^5]certain moment the necessity for the composition of a new work, namely, the TTibb al-fuqarā' wa-l-masākin.

## Introduction

Ibn al-Jazzār introduces his discussion of fever by quoting Galen that it is "the most dangerous disease, the messenger of death, and the most frequent cause of the end of life." This kind of introduction is unusual in Islamic medical literature, for Islamic physicians usually start their discussion of fever with its definition. Ibn Sinā, for instance, remarks: "Fever is a strange heat that burns in the heart and spreads from it through the mediation of the pneuma and the blood through the arteries and veins in the whole body." ${ }^{17}$ And al-Mājūsī remarks that fever "is a disease arising from a hot dyscrasia and encompassing the whole body and that it is an unnatural heat arising from the heart and passing from the arteries and veins into all the organs of the body."18

These definitions go back to Galen, according to whom fever is an unnatural heat affecting the body. ${ }^{19}$ However, the next phrases in Ibn al-Jazzār's introduction, that fever "encompasses both the external and internal [parts of] the body" and that "it is harmful for the pneumata, the psychical faculties, and the natural activities [of the body]" are similar to those of Ibn Sinā and

[^6]al-Mājūsī. For Ibn Sinā remarks that fever is harmful for the natural activities (tadurru bi l-af'ál al-țabi'itya), while al-Mājūsī holds that it is harmful for the activities of the organs. ${ }^{20}$ It is clear that Ibn al-Jazzār decided not to start his discourse with a definition of fever but by quoting his revered master and the most authoritative source of Islamic physicians in general.

For it is on Galen that Ibn al-Jazzär's discussion of the different kinds of fever is based. Galen divided fevers into three kinds, namely, that due to a temporary overheating of the body, the result of some external cause, the simplest variety of which is the ephemeral, and those caused by inflammation or putrefaction of residues that have accumulated within the body. ${ }^{21}$ A three-fold division of fevers recurs in al-Mājūsis's encyclopaedia where he distinguishes between fever occurring in the pneuma (which is called ephemeral fever), fever occurring in the humours (which is called putrefactive fever), and fever occurring in the main organs (which is called hectic fever). ${ }^{22}$

Ibn Sinā refers to different divisions of fevers. One of these is a division into two kinds, namely, original and accidental fever (humā marad wa-humā 'arad). Another division is one into three kinds: hectic fever (humā diqq); humoral fever (hum $\bar{a}$ halat); and ephemeral fever (humā yawm). About this division Ibn Sinā remarks that it is closely related to the division of the seasons. In Ibn al-Jazzār's survey of the different fevers we can discern a two-fold division, distinguishing between fevers

[^7]originating from the pneumata and fevers originating from the humours (yellow bile, blood, black bile, humoral phlegm).

## Chapter one

The subject of this chapter is ephemeral fever. This fever came to denote, as Latham and Isaacs remark, "'milk-fever' in modern medicine, a slight feverish attack occurring about the third or fourth day after childbirth." ${ }^{23}$ We have seen above that al-Mājūsī also refers to the pneuma as the place of origin of this fever. About its length Ibn al-Jazzār remarks that it does not last longer than one day. According to al-Mājūsī it lasts 24 hours, but sometimes forty-eight or even seventy-two hours, ${ }^{24}$ according to Ibn Sinā it usually lasts one day and rarely longer than three days. ${ }^{25}$

Ibn al-Jazzār divides this fever into two kinds, namely, when the fever is the disease itself (original) and when it is accidental to the disease. Ibn Sinā mentions, as we saw above, a similar division for fevers in general. Isḥāq ibn Sulaymān alIsrā’īī, Ibn al-Jazzār's teacher in medicine, makes a similar distinction for "fever consequent on decline." ${ }^{26}$

Ibn al-Jazzār mentions three possible causes for original ephemeral fever: 1. External, the heat in the summer, a hot sandstorm, severe cold, and bathing in waters which obstruct the

[^8]pores of the skin, since they contain natron, alum, and sulphur, ${ }^{27}$ 2. Excess of bodily movement and excessive emotions; 3. Continuous consumption of hot food. The author thus includes physical (external) and psychic factors in his enumeration. AlMājūsī mentions four external causes similar to those enumerated by Ibn al-Jazzār, but omits psychic factors: 1. Heat [of the sun], heat of the bathhouse; 2. Bathing in waters mixed with hot ingredients like sulphur; 3 . That which compresses the pores such as cold water used in a clyster; 4. Taking a bath in water containing alum. ${ }^{28}$ Ibn Sinā states that this fever has different physical and psychic causes, and that it is a mistake to think that it only occurs after exertion of body or mind. ${ }^{29} \mathrm{He}$ then gives a detailed list of 23 different types of ephemeral fever which are called according to these causes. ${ }^{30}$ The aetiology stated by these physicians for this disease goes back to Galen, according to whom ephemeral fever "is due simply to overheating of the body by the sun, anger, exertion, heat-producing foods or drinks, or to reduction of heat loss through insufficient transpiration when the pores of the skin are obstructed. ${ }^{, 31}$

Ibn al-Jazzār now gives a detailed enumeration of the different symptoms of ephemeral fever according to its different causes. A similar enumeration is given by al-Mājūsī; however the specific symptoms mentioned by him are partly different. For instance,

[^9]in the case of ephemeral fever caused by the burning of the sun or hot air, he mentions the following symptoms: the eyes of the patient feel hot, his head is burning, the face and the skin are dry and feel hot, the pulse is small and fast. An important difference between both is that in al-Mājūsi's symptology the pulse figures prominently, while Ibn al-Jazzār only mentions it in the case of psychic causes. Following Galen, ${ }^{32}$ Ibn Sinnā gives much attention to the pulse, but also to the urine. ${ }^{33}$

As treatment for the different kinds of ephemeral fever Ibn al-Jazzār recommends a detailed regimen for each kind, based on the general principle of "contraria contrariis curantur." Important elements are bathing of the body and/or feet in different kinds of waters; ${ }^{34}$ errhines and diet.

## Chapter two

The main topic of this chapter is ardent fever. Grmek has pointed out that it is methodologically incorrect to try to identify this disease from the viewpoint of modern pathology. Only in very specific cases can we recognise its true nature. For in the texts we have this disease-name only has a general reference. ${ }^{35}$

[^10]However, for the ancient and medieval physicians it certainly was a disease and a very dangerous one. Like some Greek and Byzantine predecessors, Ibn al-Jazzār distinguishes between two clinical forms, one authentic and severe and the other false and light. As to its causes Ibn al-Jazzār remarks that the authentic one originates from pure yellow bile that has collected in the veins adjacent to the heart, while the false one is caused by yellow bile mixed with sweet moisture or sweet vapour. Ibn Sinā distinguishes between two kinds of ardent fever according to their causes; one is called "bilious ardent fever" and the other "mucous ardent fever". ${ }^{36}$ This distinction can, as Grmek remarks, be found with later authors who had a tendency to reduce one of the two forms of kausos to disturbances in bile and the other to those in phlegm. ${ }^{37}$ It can, for instance, be found in the medical encyclopaedia composed by Alexander of Tralles (d. 605). ${ }^{38}$ Next to the symptoms recorded by Ibn al-Jazzār, namely, continuous heat and thirst, Ibn Sinā mentions several others and notes that in the case of bilious ardent fever the symptoms are worse than in that of mucous ardent fever. Some of these symptoms recorded by him are insomnia, perplexity, nosebleed, headache and relaxation of the bowels. ${ }^{39}$

Ibn al-Jazzār introduces his recommendations for the treatment of ardent fever with a lengthy quotation from Galen about three criteria to be considered by the physician for the treatment of sharp diseases in general, namely, the degree of strength of the

[^11]patient to fight the disease, the duration of the disease, and the quality of the disease. ${ }^{40}$ The amount of food should be in proportion to his strength; the quality of the food should be according to the nearness or distance of the crisis of the disease, and the general regimen should be related to the quality of the disease. Al-Mājūsī remarks on the regimen for fevers in general that it should be according to the nature of the fever, the times (phases) of the fever, the strength of the patient, the health of the body [of the patient], the appetite [of the patient], the times of the crises [of the fever]. One should also consider those factors that prevent the patient from taking food. ${ }^{41}$

As for ardent fever in particular, Ibn al-Jazzār remarks that since this fever is very dangerous and frightening, the physician should proceed in it very carefully from the beginning, he should observe the four phases of a disease, namely, beginning, progress, crisis and abatement, and apply in every phase that which is necessary. The concept of the four phases of a disease is discussed extensively by Galen, ${ }^{42}$ and is common in Islamic medicine. ${ }^{43}$

Hereafter Ibn al-Jazzār gives detailed prescriptions for the case that the ardent fever is high and severe from the beginning, and for ardent fever accompanied by constipation, insomnia, palpitation, phrenitis, dry cough, fainting, or jaundice. Ibn Sīnā

[^12]first of all recommends treating the patient in the same way as in the case of pure tertian fever and then proceeds with detailed prescriptions; like Ibn al-Jazzār he gives different prescriptions for different symptoms. ${ }^{44}$

## Chapter 3

In this chapter Ibn al-Jazzār discusses tertian fever. Its cause is, according to him, putrefied yellow bile. Paul of Aegina and al-Mājūsī refer to a similar cause. ${ }^{45}$ Ibn al-Jazzār's distinction between putrefaction outside the veins and arteries and causing intermittent tertian fever, and putrefaction inside the veins and arteries, causing either continuous tertian fever or burning fever, has a close parallel in al-Mājūsii. ${ }^{46}$

Symptoms enumerated by Ibn al-Jazzār are cold, shuddering and tremor, vomiting, diarrhoea, red fiery and fine urine, intense blazing heat and a pricking sensation in the liver. Some of these symptoms are mentioned by Galen ${ }^{47}$ and Paul of Aegina, ${ }^{48}$ while Ibn Sina adds many others and especially stresses the changes in the condition of the pulse. ${ }^{49}$ Ibn al-Jazzār mentions three

[^13]kinds of things indicating tertian fever: 1 . Natural: the patient has a hot and dry temperament, is between twenty and thirty-five years old and his body is lean with open pores; 2 . Unnatural: hot and dry weather (summer), the patient has a hard profession; 3. Extra-natural: the symptoms mentioned above. The distinction between natural and unnatural indications also occurs in alMājūsi’'s encyclopaedia . ${ }^{50}$

Ibn al-Jazzār's classification is based on Galen, according to whom tertian fever only occurs to a patient whose body is of a bilious nature, and who is in the prime of his life. It occurs, he says, especially during the summer in hot and dry countries with hot and dry weather to a patient whose mode of life is not in idleness but in hardship, anxiety, insomnia, sunburn, and little food that is hot and dry. ${ }^{51}$

Ibn al-Jazzār distinguishes between two types of tertian fever, pure and impure. The pure type mostly lasts for twelve hours and its abatement lasts for thirty-six hours; its maximum number of bouts is seven. The impure type lasts longer and has more than seven bouts. Galen, ${ }^{52}$ Paul of Aegina ${ }^{53}$ and Ibn Sinā ${ }^{54}$ use similar criteria for distinguishing between pure and impure tertian fever. Ibn al-Jazzār also remarks that if the tertian is impure and

[^14]combined with another fever, it exceeds the limit of the impure type and will last even longer; sometimes it will start in the autumn and only abate in the [next] spring.

For the treatment of tertian fever and especially to extinguish the heat and extract the sickening fluid, Ibn al-Jazzār gives, like Ibn $\operatorname{Sin} \overline{a ̄}^{55}$ and al-Mājūsi, ${ }^{56}$ lengthy detailed prescriptions consisting of cooling drinks, decoctions, purgations, suppositories, clysters, foot-baths and diet. A similar treatment is recommended by Galen in his Ad Glauconem de methodo medendi. ${ }^{57}$

## Chapter 4

The main subject of this chapter is blood fever (synochous fever) caused by putrefaction of the blood within the veins and arteries. Ibn al-Jazzār introduces his discussion of this disease with a statement about the role and importance of blood for the functioning of the body. It is the substance with which the body feeds itself and by which it subsists, since it is the best balanced element, sweetest in taste. This concept goes back to Galen ${ }^{58}$ and became dominant in Islamic medicine. ${ }^{59}$ Galen's view about the quality of blood as intrinsically well-tempered contrary to

[^15]the three other humours which are ill-tempered and thus can give rise to different diseases when they are excessive, points to an inconsistency in his system. For if blood is intrinsically welltempered, how can an abundance of blood lead to a disease, as Galen thought? This inconsistency was already observed by Ibn al-Jazzār's teacher Isḥāq ibn Sulaymān al-Isrā'īli. ${ }^{60}$ Following his teacher, Ibn al-Jazzār solves this problem by stating that when blood becomes too plentiful, nature stops regulating it, so that it deteriorates and putrefies. Nature is like a father who is forced to dislike and turn away from his favourite son because of his disobedience. ${ }^{61}$

As a quotation by Ibn al-Jazzār from Galen's De febrium differentiis shows clearly, the latter did not restrict the term synochous fever to blood fever only, but used it for all putrefying fevers originating within the arteries and veins. ${ }^{62}$ However, in his Ad Glauconem de methodo medendi Galen differentiates between synochous fever resulting from a blockage of the pores of the body without putrefaction of the humours which belongs to the genus of ephemeral fevers and synochous fever originating from a blockage with putrefaction which belongs to the genus of putrefying fevers. ${ }^{63}$ Alexander of Tralles distinguishes between blood fever caused by putrefied blood and that caused by yellow

[^16]bile. ${ }^{64}$ Ibn al-Jazzār differentiates between blood fever originating from the putrefaction of the blood and blood fever not originating from the putrefaction of the blood but from its boiling, and mostly followed by asthma. Ancient physicians, he says, called this fever "asthmatic heat". Ibn Sinā makes a similar distinction. ${ }^{65}$ Al-Mājūsī remarks that synochous fever is caused by putrefied blood and that it is dangerous because it does not abate. ${ }^{66}$

Ibn al-Jazzār mentions two kinds of symptoms for blood fever, namely, those preceding the actual occurrence of the disease, such as indolence, heaviness and fullness of the body, a red colour and heat, and symptoms following its occurrence, such as headache, inflammation, a fast powerful pulse, red urine. Ibn Sinā ${ }^{-67}$ and al-Mājūsi $i^{68}$ mention similar symptoms without this kind of differentiation. For its treatment Ibn al-Jazzār recommends first of all bleeding or venesection for the extraction of the superfluous blood when the strength of the patient, his age, temperament, and the time of the year are favourable. Al-Mājūsi introduces his discussion of the treatment of this fever in a similar way. ${ }^{69}$ Ibn Sīnā remarks the patient should be bled until he faints. ${ }^{70}$ Other means recommended by Ibn al-Jazzār are cooling drinks, fine foodstuff, suppositories and clysters. ${ }^{71}$

[^17]
## Chapter 5

The central subject of this chapter is quartan fever. Ibn al-Jazzār remarks that it is caused by the putrefaction of black bile. A similar aetiology can be found in Galen's De febrium differentiis ${ }^{72}$ and is repeated by al-Mājūsī ${ }^{-73}$ and Ibn Sīnā. ${ }^{74}$ Ibn al-Jazzār explains its name from the fact that it attacks once in every four days for twenty-four hours and abates for forty-eight hours. A similar explanation is given by al-Mājūsī. ${ }^{75}$

Its symptoms are, according to Ibn al-Jazzār, as in the case of tertian fever, of three kinds, namely, natural, unnatural and extranatural. The natural symptoms relate to the condition of the patient, the unnatural to the weather, and the extra-natural to the afflictions occurring to the patient during the bout of this fever. Al-Mājūsī makes the same differentiation between natural, unnatural, and extra-natural symptoms, but arranges these in a different way. For he classifies the condition of the patient and the weather as natural and the previous regimen of the patient consisting of too much food and thus causing superfluous black bile, as unnatural. The extra-natural symptoms are subdivided by him into those preceding the actual quartan fever, namely, other fevers, and symptoms simultaneous with the quartan fever, such as pain, heaviness, severe cold, and a slow and very irregular

[^18]pulse in the beginning of the fever. ${ }^{76}$
This classification is, as in the case of tertian fever, based on Galen. Having stressed the importance of the pulse for the diagnosis of this fever, he mentions other symptoms such as weather, season of the year, previous regimen of the patient, temperament of the patient, and preceding other fevers. ${ }^{77}$ Ibn Sinā does mention some similar symptoms, but the structure and arrangement of the material is totally different. ${ }^{78}$

Introducing his discussion of the treatment of this fever Ibn al-Jazzär recommends a variety of means depending on the symptoms. Some of these means are vomiting for the evacuation of the superfluous black bile, hot drinks when the patient has a cold temperament, cooling drinks when the quartan fever is preceded by tertian fever, cooling drinks and bleeding in the case that blood fever preceded the quartan fever, and laxatives or clysters in case of constipation. It is clear that the diagnosis of the particular fever preceding the actual quartan fever is of crucial importance for the correct treatment of the patient. Al-Mājūsī takes a different approach. According to him, the particular time of the year when the fever occurs is important for determining the correct treatment, next to other factors such as pulse, urine, and age of the patient.

[^19]
## Chapter 6

In this chapter Ibn al-Jazzār discusses quotidian fever. It is caused, he says, by the putrefaction of the humoral phlegm. Galen refers to the same cause in his De febrium differentiis. ${ }^{79}$ According to Ibn Sīnā it is caused by vitreous or acid phlegm. ${ }^{80}$ Al-Mājūsī remarks that this fever is caused by putrefaction of the phlegm and calls it "the persistent one" (al-muwāzaba). ${ }^{81}$ As in the case of tertian fever, Ibn al-Jazzār distinguishes between putrefaction originating inside the arteries and veins causing quotidian fever, and putrefaction outside the arteries and veins causing intermittent fever. Al-Mājūsī applies, as we saw above, this distinction to all humoral fevers.

As in the case of tertian and quartan fever Ibn al-Jazzār distinguishes between natural, unnatural and extra-natural symptoms indicating quotidian fever. Natural symptoms are the temperament of the patient, namely, cold and moist, and his age, either young or old. Unnatural symptoms are the season of the year, namely, winter, the actual weather, cold and moist, the temperament of the country, and the way of life of the patient, namely, one of comfort and rest. Extra-natural symptoms are the afflictions occurring to the patient during the bout of this fever. Al-Mājūsì makes the same classification, but considers, as in the case of quartan fever, weather conditions as natural, regimen of

[^20]the patient as unnatural, and the afflictions occurring to him as extra-natural. ${ }^{82}$ This classification is based on Galen who enumerates similar symptoms in De febrium differentiis. ${ }^{83}$

As with the other putrifying fevers, the treatment of quotidian fever recommended by Ibn al-Jazzār consists foremost of different means such as emetics, decoctions, and purgatives in order to extinguish its heat and extract the superfluous phlegm. This goal is explicitly mentioned by al-Mājūsī in the introduction to his recommendations for the treatment of this fever. ${ }^{84}$ To achieve the same goal Galen recommends administering to the patient oxymel to extinguish the heat and other drugs to expel the phlegm. ${ }^{85}$

[^21]
## ARABIC TEXT

Sigla and abbreviations:

B $\quad=$ Berlin 252 (14th- 15 th cent.)
$B^{1} \quad=$ Note in the margin of $B$
D $\quad=$ Dresden 209 (1091/1680)
$\mathrm{D}^{1} \quad=$ Note in the margin of D
I $=$ Izmir, Milli 50/470 (972/1564)
$\mathrm{I}^{1} \quad=$ Note in the margin of I
O $\quad=$ Oxford, Bodleian Huntington 302 (738/1337)
$\mathrm{O}^{1} \quad=$ Note in the margin of O
T = Teheran, Malik 4486 (994/1586)
$\mathrm{T}^{1} \quad=$ Note in the margin of T
<> = addendum
$+\quad=$ addidit

- $\quad=$ omisit
* = conieci vel correxi
inv. = invertit
ditt. = dittography
(!) = corrupt reading
(?) = doubtful reading

> بسم اللّه الرحمن الرحيم
> المقالة' السـابعة‘ من ' كتاب زاد المسا لما
> تـد أتينا بحــــد اللّه وعـونهـه في المقـالات المتـقـدّمـة من هذا
 وشـرحنا مــداوات
 السـابعـة التي جعلتـهـا ${ }^{1}$ خـاتمـة هذا الكتاب الشـريف الأدواء

'ألمقالة: ابتداء المقالة I
「السـابعة + وهي خاتمة الكتاب الذي ألّفه أحمد بن إبراهيم بن أبي خالد الـا بن الجزار في عـلاج اللأدواء التي تعرض في جميع أعضـاء البدن قال أحـمد بن إبراهيم T + وهي خاتمة الكتاب D إلـي「' B B المسافر + قال أبو جعفر أحمد ابن إبراهيم مؤلّف هذا الكتاب DIT وْعونه: ونعمته
'التي....الأدواء: -
وشرحنا + طريق DI
^مداوات تلك الأرواء: مداواتها

B Bرقه: طريقة'
"
"
BB الالدواء: بالأعضاء

بألمها' الأعضـاء الباطنة وطريق مـداواتها على المنهج الطبّي والقانون الصناعير

 لأنّهـا ${ }^{\text { ت }}$

 كثيرا مـا تعـرض من أدنى سبب وهي كثيرا مـا تـا تكن سبـا
 الحمّيات سببا لحدوثها ، ثمّ بِد " ذلك نذكر الأدواء على سبيل

DO تاتشرك: تدرك
'بألمها: ألمها D
'بَبريد: تدبّر
DOT
بُباطن الجسد وظاهره: البدن وباطنه B ظاهر البدن وباطنه I
T- : والقوّى

آلأرواح: + والقوّى النفسانية والأفعال الطبيعية B
"لأنّ: أن" Bo

T- :من ...الحمّيات أنمات
B

Tيقوي ذلك بذكر

ما رتّبنا' في صدر كتابنا .

الباب الأولّلَ في حمّى يوم
 الأرواح من غير مـادّة ولا عفونة وللـلك لا تأخذ إلا يوما واحدا الـا


 الطبيـعيـة، الأربع أعني القوّة الجـاذبة والدافعة.
 المرض نفسه ومنها ما يكن عرضا تابعا لمرض قد تـر تقدّمهـ، فما

رُتّبا: بيّنّا
الأوّلّ: + من المقالة السابعة BDO مَ

Tينبوع: مادّة
وْمادّة: وهذه 0
T- الحس": الحمى D الحسّ والحركة
T- والروح الطبيعي: الحي

D الجاذبة والماسكة والهاضمة: الحارة وهي الهاضمة والماسكة
"هي: D- هو B من

كــان منهـا هو ' المرض نفــســه كــان




 أشبـه ذلك وإفـراط الحـركـة النفســانيـة مـثل الحـر وإدمـان الفكرة في الهـهـوم والأحـران وسـائر همـوموم النـفس،



 إذا لبث فـيـهـ ولم ينحلّ سـريـــا حــي وتــفنّن وأســخن الروح

$$
\begin{aligned}
& \text { "هو : هذا B } \\
& \text { B " كان: فإنّ } \\
& \text { كا كه: لها } \\
& \text { B } \\
& \text { D- : مالثبيّة والكبريتية } \\
& \text { To } \\
& \text { الحرد: الحر DT الخزن }
\end{aligned}
$$

$$
\begin{aligned}
& \text { ألأرنبة: الأزبنة B الأربية IT }
\end{aligned}
$$


 يوم
 ونرتّب بعـبُ
 من حرارة الثمس بأنّ روس أصـحابها تسـنـن وتكون أكثر

 يعرض " لهم زكام حار" محرق للخياشيم. فأمّا الحمّى التي تعرض من وهـج السمّ السموم فإنّ حرارة أبدان


T- : الاتصّال: لاتّصالات O لتّصال الشريانات بالقالب
T- فهذه أسباب حمّى يوم D تجمل O- T-
「واحد: واحدة I
كبعق: بعد o

B- : هأصحاب هذه الحمّى
'
"آبدانهم: أبدانهز"
 BO وْكثيرا: وكثير' :

O- : يعرض:
D ("

ملتهبة جافّة من قبل أنّ حرارة السموم تتشّفّ رطوبة أبدانهم.

 وحسنه وينتقل إلى لون الغبرة ألوا والكمودة ويبرد ظاهر أبدانهم


 من عرضت له هذه الحمّى من البرد والزمهـهرير حتى أنّك إذا




أهصابها : أهلها
'وتقحل: وتنحل O
"مع: من D
ألذين: التي B الذي D
ه هذه الحمّى: الحمّى BT حمّى
'وأقحل: وأنحف DO
O جلودهم صحابها B- : جلود أصحابها B وجدت: وجدتها
O
'لبثت: لمست DO لبث I البت I
"
T- :حينا

يدك' تحلّل من أبدانهم مــا كــان قـد احــــقن فـيـهـهـا لتكاثف






 ولذلك يجدون في وقت منتهى الحمّى حرارة في أكبادهم.

「
DIT بخرات: بحرات: بحرارة
حارّة: حادّة BI

الالدم: البدن I
D وتنتشر : وتبرز اليدن

مُنه: فيه
ه
"مائية: يأتيه I I
D- الام:
IT ${ }^{\text {ro }}$
آأكبادهم: ككودهم DIT

$$
\begin{aligned}
& \text { "جلمودهم: أبدانهم O } \\
& \text { 'يدك: أبدانهم }
\end{aligned}
$$

فـأمّا حمّى يوم العـارضـة من التعب الجسـداني فإنّ أبدان

 منتهى حمّاهم دون العرق الحادث في سائر صنـا دنوف حمّى يوم. وذلك أنّ هذه الحمّى إذا زالت رسـومهـا وأخذت في الانـي الانحطاط


 يرتفع" من ' عمق البدن.
 وجـوه أصـــابهـا وجـحظ" " أعينهم ${ }^{\prime}$ وسـرعـة حـركتــهـا

$$
\begin{aligned}
& \text { 'تحلة: نحلة } \\
& \text { O- } \\
& \text { 'ثني: + أبدانهن } \\
& \text { B وألما قويا دائما: دائما قويا } \\
& \text { T } \\
& \text { 'نداوة: ندا I } \\
& \text { "من: اند } \\
& \text { I- : كثير } \\
& \text { "يرتفع: -B- مرتفع } 0
\end{aligned}
$$

$$
\begin{aligned}
& \text { "وجحظ: وشحط B } \\
& \text { Y أَعينهم: عيونم }
\end{aligned}
$$

 ألوانـهم واعـتـرتهم رعــدة. ويكون ذلك إلذا خــالطُ الحـردْ والغضب الفزع







D- :'
Tمجستّهم: مجستها
'
غ غ خالط: خلط
D الحرد : الحدة D
أعين: عيون DIO
VO V'
"
"تعمّ: تعرض D
B وأقرب: وأكثرضيرنر"
"يميّز بـه بذلك: يعتريه ذلك D يميّز ذلك Tا
r'أمر : من D
Tأنَّ العينين: - T
غ غور: غوير BT غيور





 بأصحابها ' إلى الحمّام.

 المكث فيه ويفرش بين أيديهم الرياحين الباردة المسكّنة للبخـار

$$
\begin{aligned}
& \text { 'نعامٌ لجميع: فيعمْ جميع } \\
& \text { أَعني: من o } \\
& \text { D- : والسهر : } \\
& \text { أَنّْ: ني } \\
& \text { أصنغ: أصبع D أسبغ I أشبع T } \\
& \text { o-: }{ }^{\circ} \\
& \text { T أكثر : بأكثر }
\end{aligned}
$$

$$
\begin{aligned}
& \text { T- التي ...الحمَام: } \\
& \text { B بأصحابها : + بالدخول" } \\
& \text { " } \\
& \text { I' الحمّى: I- }
\end{aligned}
$$

مـثـل الورد والبنفــــج والخــلاف' وصدق البـزرقطونا وترطب خياشيهم في كلّ وقت بدهن البنفستج ودهن النيلوفر وتمسح



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 سكّر طبـرزد ويتّخذن من الأشـربة الجـلاب وشـراب البنفسـج




$$
\begin{aligned}
& \text { ' } \\
& \text { r'مضروبا: المضروب D مضروب I } \\
& \text { B روسهم: رؤوسههم } \\
& \text { عوسهم: رؤوسهم B } \\
& \text { " نليحذروا: فليحذرن I } \\
& \text { 'ويقتصروا: ويقتصرون BDI } \\
& \text { " }
\end{aligned}
$$

$$
\begin{aligned}
& \text { ويغذّوا: ويغذنّن BDO } \\
& \text { B- : أيضا. } \\
& \text { " "ويمص": ومص״ }
\end{aligned}
$$

زوال الحــرارة بـالدرّاج والفــراريـج بمـاء الرمّـــانين أو بمـاء الحصرم.







 روائحّ" ذكية مثل المرزنجوش واليـاسمـين والخيري ومـا أشبـه


ذلك ويدتّرون' بالثـياب ويجـطلمن بالقرب منهم نار جمـر تمنع برد الهـواء من الوصــول إليـهـ وتطلى التي تسخن إسخـانا معتدلا مثل دهـن البابونج أو دهن الثشبٌ أو دهن الخيري أو دهن السوسن وما أشنـا ألشه ذلك.

 بعد انقضاء سورة الحمّى وانهزامها وبعد أن تنزل أرجلهم في




' ويدثّرون: ويتثّرنّ
T وتطلى روسهم: وتنطل أبدانهم
r'
الحمّى: الحمّايات T
DT أيمنعوا: يمنع BO
T شاكل: أشبه
لويؤمروا: ويئمرون BD ويؤمروا بالانكباب: ويدمنون الانكباب BDO

$$
\begin{aligned}
& \text { BDO فيدلكوا: فيدلكون ايون } \\
& \text { ر'رفيقا : خقيقا } \\
& \text { 'ويصبّبٌا: ويصبّنٍ BDO } \\
& \text { "مسامّها: مسامّهم BOT }
\end{aligned}
$$

ويحذروا’ الدهن في الحمّام فإنّه يسدّ مسامّ مّ الأبدان ويحصر







 بالجـلاب أو بالسكّر 「＂الطبرزد ويسقى بعد ذهاب الـمّىّى من ＇ويحذروا：ويحذر T
'من: في D

$$
\text { 「علاج: مداوات } 1
$$

T- :لأنّها ...فيها
©مسامّها : + وتفتح بخارهـا I

「المنحصر: المتصر I I

ويستعملوا: ويستعملون BDO
BD ويسقوا: ويسقنن'
""ممزوجا: ممزوج IT
「'ممزوجا: ممزوج I

 أو شـراب الورد ويـضـمــد ُ الكبـد بـالطحلب أو بـالرجلـة ولعـاب البزرقطونا وقشور القرع أو بصندل ودقيق شعير وشيء من

 البزرقطونا أو بشراب الرمّانين.
فإن عرضت هذه الحمّى مـن التعب الجسـداني ْ هينبغي أن يلتمس لهم الهـدوء والراحــة وتمر خ أبدانهم تمريخـا



 أقرصة: أقراص B أَقرصة: أقراصه

'ؤيمزع: ويمزجن B + + لهم D ويمزوا (!) ويمزجوا T
D- الجسداني
"تمريخا: مرخا Bo
D- :بنفستج ...بدهن:
o ويذخلا: ويدخلن
وهوائه ومائه: مائه وهوائه وئه
B- العذب:
B- :ماء الرمّانين مـع

البنفـسـج أو شـراب الإجّـاص أو شــراب الجــلاب. ويتـغــذّن
 والسـك النهري فـإن عـرضت


 بضـروب من الملاهـي المطربة المفرّحـة والنظر إلى الأشـيـاء التي
 المقـبـولة. ويلتـمس فيـهـم مـع إصــلاح النفس بمـا ذكـرنا من

> 'المرطّبة: -O الرطبة D
> r النهري: الطري '
> O
> O (!) O المتعب: المنفت
> ونفاه: وينفيه DO ونافاه D
> وْبالفعال: والفعل B ويالفعل D

ضادّه: يضادّده D ضادّده B يضاده O

T يشاغلوا B يشاغل O يتشاغلوا : يشتغلوا و
'لها: إليها
"'

إصـلاح البدن بما يرطبه' ويزيل عنـه يبسـه العـارض له مـثل






 والورد والبنفـسـج والآس ويمصـّـوا" "مـاء الرمّا
'يرطبه: يطربه DI

「「الغمز: التعرق D المقام
" يُيسا: عسا
o ونلك: وكذلك
IT يؤمرون: يؤمروا
 B

اليمانية: الحمقا المعا
T ويشربون: ويشربوا
المزاج: -0
D'
DT الرمّانين: الرمّان

العنب الشـتـوي ويســــوا' مــاء اللالع مــع السكّر الطبـرزد . وبالجملة يجتتبون الأشــياء الميّبّسـة
 الطبيعي وعادته والوقت من السنة والبلد وسـائر ما أشبه ذلك .
 يــالج ذللك الورم ويعـمـل في إنــــلاله ويداوى
 القول في دلائل حمّى يوم وعالاجها على طريق الاختصـار .

> الباب الثاني في الحمّى المحرقة

'ويسقوا: ويسقون T

IT ويستعملون: ويستعملوا
ؤيقدّر : ويقرر O
"ْرم: وجع
الأرنبة: الأزبنة B

'آلعفن: الحضو B + والحضو I الحضل B(I




 وتجويف الرئة.
والأعراض اللازمـة لهذه الحمّى الحرارة المطبقـة والعطش


 في الحـروق المجاورة للقلب. ولمّا كـان المرار المولّالـد لهـذه حـمّى
 العطش ودام ${ }^{\text {ال ولم }}$ وأصناف الحمّى المحرقـة صنفـان أحدهمـا خـالص صـعب
' اللطباع: للطبيعة B B B : له

O العنصر : العضو
ْ حادّ: حارّ IO

كَ
 OT- وهدام: OT
B ولم: ولا
 المرار الأصـفر الخـالص









$$
\begin{aligned}
& \text { I- : عن . . تولّده' } \\
& \text { B الخالص: + الصعب } \\
& \text { B }
\end{aligned}
$$

$$
\begin{aligned}
& \text { أصفر : صفراوي الحي } \\
& \text { "بالخوف: بالجوف B } \\
& \text { D المتطبّب: الطبيب: } \\
& \text { "الوقوف: الوقت(!) O } \\
& \text { OT } \\
& \text { D }
\end{aligned}
$$

فإذا رأى في ابتـداء المرض أنّ الطبيــة مـحتاجـة إلى مـا يحرّك الفضول ويستفرغها فينبـني أن يسقي العليل ماء التمر
 وترنجبين خراساني وينفسج مربّى وشراب الإجّاص وما ألثـا

 للاسـتفـراغ أو لفجـاجـة الفضل وغلظه فينـبـني له لَ أن يحذر ذلك غـاية الحذر في صــود المرض لأنّه إن فـعل ذلك تـي تـيّرت


 الانهضـام المحمود الجوهر مثل حسو الثــير المحكم الصنعة أو لباب الخبز المغسول بالماء البارد ${ }^{\text {¹ }}$ غسلات وقـد ذكر جـالينوس في كـتـابه في البــــران كـيف ينبـنـي

B- : مع .....
I- : لا
OT- : ${ }^{\text {T }}$
B
ْزخلت عن: -BDO وحلت I
' فات: كان D
B- البارد : الان

 أحدها مـقدار القوّةّ من المرض ْ والآخر مـقدار مـدّة المرّ المرض


 تخـور 「＂من غـيــر أن يلتـفت إلى الوقت．

$$
\begin{aligned}
& \text { ' } \\
& \text { r } \\
& \text { 「الحادّة: الحارةّ DI } \\
& \text { I المريض: المرض }
\end{aligned}
$$

$$
\begin{aligned}
& \text { ' } 0^{1} \\
& \text { كَأمّا : أو O O } \\
& \text { B } \\
& \text { ألمقاومة: المفارقة }
\end{aligned}
$$

＂يُنيل الغـذاء للمـريض：يميل المرض للغذاء B يقبل المريض الغذاء D ينيل

$$
\begin{aligned}
& \text { المريض الغذاء I ينيل الغذاء } \\
& \text { " كتيرا: أكثر } \\
& \text { r'إذا خفنا: خوف }
\end{aligned}
$$

$$
\begin{aligned}
& \text { I الوقت: المرض } \\
& \text { "مقدار: + قوة الم }
\end{aligned}
$$

مدّةّ المرض فيحتاج إلى النظر فيـه حتى يقدّر الغذاء بحسب قرب٪ منتهى المرض وبعده، فإن كان المنتهى قريبا استعملت

 قليلا إلى أن ينتهي المرض على التدريج. وأمّا بحسب كيفية

 البدن فالحاجة" فيه إلى الفذاء أكثر حتى لريّما أغذينا " فيهـ في وقت الحمّى. يحذر فيـه كثرة الغذاء ولا" يكون إلا في أوقات الفترات بين
'مدّة: توّة" 0
"قرب منتهى: قوّة
'r
B-: ؤلم


> B- :بشيء:
> "بَيدا: + غذاء B B

ا المرض: المريض
'فالحاجة: فإنّ الحاجة
'أغذينا: غذينا أرا
I- :


نوائب الحمّى، ويحذر الغذاء في جـميع أوقـات نوبة' الحمّى.
 كــان وقت للحمّى انحطاط واحتجنا أن نغذّي المريض الذي كان من عـادة ذلك المريض أن يغتـنـي فيـيه وهو صـي

 الحمّى لمقـاومـة برد السـحر لحرارتهـا وقمـــهـه لحدّتهـا . فـهذا

 فائدته وجليل منفعته في مثل هذا الموضع من هذا الكتاب.

$$
\begin{aligned}
& \text { 'نوبة: غيبة } \\
& \text { I } \\
& \text { 'r } \\
& \text { O-و أوت: O } \\
& \text { B ألمريض: العليل }
\end{aligned}
$$

$$
\begin{aligned}
& \text { 'ولطافة: في لطافة } \\
& \text { B- :وقمعه }
\end{aligned}
$$

$$
\begin{aligned}
& \text { I المرضى: المرض DO المريض: } \\
& \text { "العلل: العليل } \\
& \text { B- : النصّا }
\end{aligned}
$$


 التدبير اللطيف مثل حسو شعير ولباب الخبز المغسول بعد أن



 أو شـراب الإجُّاص أو شـراب البـزرقطونا أو شـراب الجــابلاب
 بالماء البـارد ودرهم بزر رجلة أو طـين أرمنـي مـع مـاء الرمـّـان الحلو مسحوق أو شراب بنفسج.


الالرمّان: + الحلو I
الالإمليسي: المليسي DIOT


Dويسقى: + العليل
الحلو: - الحى
B- :قدر .......
'احتا ج: احوج



الشـعير مـع مـاء الرمّان الحلو' أوَ مـع شـراب البنفسـج فإن

 طبرزد ويكونْ ذلك في وقت انكسـار الحمّى قليـلا ويتّقون ذلك

فإن كان في الطبيعة تعذّر وامتناع ليّنّاهـا قبل سِل سورة المرض
 نصف رطل ويمرس فيه ترنجبين خراساني وينفسِج مربّى من



 الهندي مـ شراب بنفسج وترنجبين خراسانيـ

$$
\begin{aligned}
& \text { 'الحلو: - ا'ان } \\
& \text { I- أو . أو الحلو } \\
& \text { ' خْتات: لباب الخبز B فتيت O } \\
& \text { مغسولا: مغسول IT } \\
& \text { T- :ويكن ذلك } \\
& \text { 'ويحذروه: ويحذرونه } \\
& \text { T- :إلا عند ...المرض }
\end{aligned}
$$

$$
\begin{aligned}
& \text { D- : منقّى من قصبه وحبّه }
\end{aligned}
$$

فإن أجابت الطبيـة بذلك وإلا فـاستعمل شيـافا ' متّخذا من ورق بنفستج ونطرون من كلّ واحد وزن نصف مثقال وسقمونيا
 الحضض في ماء حارّ ويعجن به الدواء ويعمل منه فتل أمثال البلّوط ويمسح بدهن بنفستج ويستعمل.
فإن أجابت الطبيعة بذلك وإلا فاتّخذ لهم حقنة بماء العلّيق وماء السلق ومـاء النخالة من كلّ واحد أوقيتين وشـراب بنفسـج







'شيافا متّخذا: شياف متّخذ I
'ويحلّ وينحل D
o'
ؤيستعمل: + ويرطّب B + على D
"خلاء: خلل I جلاء
ا'المرض : الحمّى O
o إلا أن تدعو الضرورة: إذا دعت الضرورة إلى ذلك

فقفوّيها: فقوّها

يحطى من ذلك إلا مقدار ما يحفظـ القوّة فقط.






 صندل مـحكوك ودقيق شعير وورق ورد معجون بماء الواء الورد أو بماء الطـلب أو بمـاء جـرادة القـرع أو بماء الرجلة أو بلعـاب البزرقطونا . فإن كـان بالعليل سهـر وأرق فيزاد في هذا الضـمـاد بزر

> D الفتات: العناب"
> 'يحفظ: + به 0
r'بخلّ خمر: بالخلّ الجيّد I
'ويمزج: ويمر خ I
ºمبرّدا: مبرّد I I
D ويحمّل: ويعمل

O- الحارّ:
D ويحمّل: ويممل
B


 الســفـرجل ويـلقى عليـه شـيء مـن سكّر طبـرزد ودهـن بـنفــــج
فإن كان في اللسان سواد فيخلط مـ هذه اللعـابـات ماء المرد
 الرمّان الحلو مخلوط بدهن الودد .




 اليـزرقطونا وجـرادة القـرع فـيـخلط بماء الورد ودهـن الورد
 'ويشمّ: ويشتمّ
'فـهـ: فيه I
「

B خفقان: جفاف B
O- آو شراب الحصرم
D ويحمّل: ويممل D

ويحمّل: ويعمل D

ويسقون سويق الشــير مـفسـول غســلات بعد أن يلقى عليهـ

 ويغذن الحـصــرم أو شيء مـن خلّ، ويفــرش بـين يـي الـي العليل الآس
 وكثيرا مـا يعرض في هذه الحمّى التي كالامنا فيها البرسام

 أفردنا" له " في " هذا الكتاب. "الباب الثالثّ " في حمّى الغبّ

T ويغذن: ويغذوا
'الرجلة: السفرجل D D
 D الحين بعد الحين: المرّة بعد المرّة D
'آليابس: -
O- فإن عرض ذلك
I- ألك
أفردنا له: أوردناه B فردنا له I
'أه: + ذلك D
"الفي: من DO
B ا'الثالث: + من المقالة السادسة

وحـمّى الغبّ تسـمّى باليـونانيـة اطريطاوس وهي بـالعـربيـة المثلّثّة وإنّما تتولّد عن كيموس صفراوي إذا الـا استحال وتعفّن
 أحـدثت حـمّى الغبّ ذات النوائب التي تأخـذ وتـتـرك، وعـرض مـعهـا برد وقشـعريرة ورعدة. ومـتى كانت تلك العفونـة داخل
 قوسوس أعني المحرقة.






 منه


I- : وبماذا تخالفها
I الأوردة: والأوراد I
ألمواضع التي: الموضع الذي BD
" فيها : فيه D
"
'كما: فيما

آنفا، وفي حمّى الغبّ الدائمة يكن الالتهاب العارض منها في










 والتعب والنصب. وأمّا الاستدلال عليهـا من الأثـيـاء الخارجـة

> I- : عروق '
> B- الطريمية. .. والثالث من الأثشياء
> "من: عن D
> O- : أكثر :

סo أنين وعشرين: ابنا عشرين B خمس وعشرين D اثنى عشر O 'متحلّا: متخلخالا B متخلخلة DIT

$$
\begin{aligned}
& \text { o- زمان: } \\
& \text { I- : الحاضران } \\
& \text { و'وتصرف: ويعرف I } \\
& \text { " حال: جل O }
\end{aligned}
$$

عن الطبيـة أعني بذلك الأعراض المتولّدة عن طبيـة العنصر


 قشـريرة صعبة لها نخس كنخس الإبر والثوك لأنّ الصفراء الها بحدّتها إذا مرّت بالأعضاء الحسّاسة التي لم تألفها وانصبّت عليها لدغتها بحرافتها قشـريرة، وإنّما يكون هذا إذا كانت المادّة خارجة عـا عن العروق

 والرابعة وتكون أبوالهم حمراء نارية لطيفة. ومن خاصـيّة هذه



'لالمريض: للمرض I
'بَ بحرافتها: بحرارتها от

مالمازجة: المازجة 1
Tالمرّة الدم: المرّة الصفرا للدم D بالمرّة بالدم I المرّة للكبد O الكبد للام

$$
\begin{aligned}
& \text { ي } \\
& \text { 'كانت: + في }
\end{aligned}
$$

¹ ${ }^{\text {T }}$

وأكثر مـا تكون أدوارها إذا كانت خالصـة سبــة أدوار وهيـ أربعـة عشر يومـا فـإن زادت نوبتها علـا على اثنتيَّ عشرة سـا وأدوارها على ســبــــة أدوار فليـست بخـالصـا
 أنّها ربّما ابتدأت في الخريف وتركت في الربيع. وهـذه الحـمّى أعظم صنـوفـ وأقربهأ من الخوف، ولذلك يجب على المتطبّب أن يحذر فيهـا
 الصنراء بحدّتها إلى الدمـاغ فيحدث فيه ورمـا ويصير اللاليل


 في ابتداء الملّة فإن كانت قوّة العليل حسنة مساعلدة واعلـة والأخلاط


 "سَّة: سبعة D'
'وهي ..أدوار. O' O

آثنتي عشرة: اثني عشر BDI اثني عشرة O

oؤوأقربها من الذوف: وأقرب خوفا
I-:
D- خطاء:

مقدارُ القوّةٌ والسنّ، ويســهل أيضـا بماء الرمّانـين المدقـوقين



 يشغلها عن مصارعة المرض
ويعطى في أيام النوائب مـاء الرمّانـين قـدر نصف رطل مـع 400

 والعطش مـاء الرمّانين وشـراب الجلاب ويحذرون غاية الحذر أن يأخذوا في وقت النوبة شيئا من الغذاء ولا قبل النوبة بثلاث ساعات ات أنـئ
 الجـلاب أو شـراب الرمّان أو شراب الإجّاص إلى أن تـنـ تنقضي نوبة الحمّى فيأخذوا بعد انقضـاء النوبة حسو الشعير المحكم


الصنعـة ويتتاولون في آخر النهار ' لبـاب خـبز مـغسـول بالماء

وإن كانت الطبيــة متعذّرة وفاتهم في ابتداء المرض أخذّ
 ضــف قوّة أو غير ذلك فينبني أن يعطوا في أيام الترك من





 وشـراب البنفسـج أو شـراب الإجّاص أو سكر سليمـاني، فإن أجـابت الطبيـــة واعتـدلت بهذا التـديـر وإلا فيؤخـذ 'لهم
'النهار: الليل
「
Tأخذ: أخذورا

"وعاقهم: عاقهم BDT
' ${ }^{\prime}$ ذن ذللك: -




شيـافـ ' من نوّار بنفسـج وسـقـمـونيـا ونطرون وسكّر أحـــر
 ومـخيطا ونوّار بنفسج وشـعير مقشـور ومـاء النخالة「 وماء وماء
 بلطافة.
ويجــطلون تدبيـرهـم في اليـوم الســادس مـثل تـدبيـرهـم في

 المادّة من غير أن يشغلها عن ذلك بأخذ غذاء ولا دواء الماء فإن شكى العليل في وقت السـورة عطشا وجفافا في لهواته وحلقه فيتجرّع لعاب البزرقطونا المستخرج جِ بماء القتُّاء


'شياف من: شراب
'النخالة: النخلة B
O- وماء السلق:
أَيام: أولّ O
ه على: في

「
'القتّاء...بماء: -
اللعاب: اللعابات IT
O- :ويتمضمض بلماب البزرقطونا"

 البزرقطونا على ما دبّرناه وذكرناه في با باب السعال الا



 ودهن اللمذ ويكون هذاْ بعد زوال ِ الحمّى والكرب.

 ويرطبـون الخياشـيم بدهـن النيلوفـر أو ${ }^{\text {و دهن بنفس }}$
 البرســام فيسعطون بأحد هذه الأدهان مـع لـبن امـرأة ترضـ

أيضا الماء: inv.I
「العليل: العلة
ويغذوا: ويغذون B ويغذى D
Th السرمرمق: كالسرمق BI السرمق
هْ ها: الغذاء
B' ${ }^{1}$
"
I مضروبا: مضروب I
T- :أو دهن بنفستج

جارية ويحلب على روسهم' الألبان ويصبّ عليها مـاء قد طبخ

 البنفسج ويجعل بين أيديهم رياحين باردة
فـإن جـاءهـه في اليـوم السـابع قيء أو إسـهـــال طوعـا عنْ
 مـا يسكّن حرّ المعدة ويقطـع العطش مثل شــر ابـراب الحصـرم أو

 وبزر رجلة.
فإن أفرط الإسهال وخفنا على القوّة أن تسقط بادرنا بعلاج


 عرض لهم سحج أو غشي أو يرقان فيـالج ذلك من موضـعه

D- :روسههم
T- : " وخس
' ${ }^{\prime}$
'حارَ عغب: inv. I
عن: من
جا الطباع: الطبيعة I الطبائع O





> الباب الرابعْ في الحمّى المتولّدة من الدم وتسمّى باليونانية سونوخوس

 البدن لتستمدّ منه الأعضـاء إذا كان منه تغذيتها وبا وبه قوامها




ولده إذا خـرج عن طاعتـه وهو أحظى الناس عنده وأخـــــهـ
 واسـتــــال وعـفن وتولّدت عن عـفـونتـه الحـمّى التي تســمّى باليونانيـة سونوخوص " أيّ حمّى دائمة وهي المطبقة ونـي اللك أنّ
 سبلهْ وطرقه إلى جميع البدن.
وقد أقام جالينوس في كتابه في فصـول الحمّيات البراهين





'به: فيه O
'منهضم: نضيج r' BT داخل: + في BT
O
'منها: منهما
B- : داخل...الأخلاطا
^خارج: + عن
"داخلة: داخل BDO


لها فترات إذا كانت العفونة' خـارجـة من العروق. وقد يتولّد





 عن حرارة الصدر ^ والقلب والرئة
 المتولّدة عن غليان الدم وفورانه أنّ الحمّى المتولّالّدة عن عفونـة

 'العفونة: الحمّى I

「
"تابع: نافع o
نْ نولّدها: + يكهن
D- الأوائل:
الرالربوية: + الدمية I I
'الصدر والقلب: inv. I العرقق: العرق IT
-العرق: العروق العرق O
T إلى داخل: الداخل I لداخل الدل

 خلية‘ من هذه الأعراض
 مــلّ

 العينين وقلّة" العطش وكثرة'


"
I- :'غليان'
خلمية: خلو BDIT
r"
عكل: التكسير BIT التكسّل
O وْثقل: وضعف O
D (سطح: تطبغ(!)
O² بعد ظهورها: تنذر بحدوثها قبل ظهورها Dot
وُجحظ: + في DOT
B- : وقلّة ...العينين
D - ونكرة: و-

"r


 والمزاج والزمـان وطبيعـة الهـواء الحاضـر والعادة فـإن كا كانت
 وأخرجنا له " من الدم على قدر ${ }^{\text { الكفاية. }}$
فإن كان ابتداء المرض بعقب طعام كثير أكله المريض وهو

 وإنضـاجه وإخراج فضله من الأمـعاء والبطن. فإن لم تفعل ذلك الطبيعة فعلنا نحن ذلك بالتدبير المليّن للبطن.

'الورشكين: الزرشكين B + والحصبة D بَ
「
D
B العليل: + الأكحل العن

$$
\text { B- : }:]^{\top}
$$

I
^جوفه: معدته 1
"يؤخّر: يؤخذ آخر



 القـوّة وثبـاتهـا

 قبل أن نتقدّمّ ${ }^{\text {ع }}$ فـإن تـــنّر إخـرا الج الدام في ابتـداء العلّة لوجـه من الوجـوه

 من المرض لا يـوثق بصـــــة القـوّةّ لثــفلهـا بمجـاهـدة المرض
'من: عن I
Tأنَّ: بأنَ
'وجب...القوّة: -
ؤثباتها : ومياهـا (!
ألمجاهدة: المخلفة B
DT ونتثبّت: وتثبت
D
^م
I

" ${ }^{\prime \prime}$
r' ${ }^{\text {r }}$

ومصــارعته. لكن ينبـني لنا أن نستـعمل تطفئة الام وتسكين
 وشراب الإجّاص الساذ
فإن كان في الطبيـة امتناع فيؤخذ لذلك تمر هندي منقّى وزن عشـرة دراهم وإجّاص عشـي ثلاثة مثاقيل، يطبخ ذلك في رطلـين ماء حتى يبقى نصف رطل

 دراهم ويصفّى أيضا ويشرب.
 فيؤخـذ لذلك عشـرون


 الغذاء مـا كان لطيفا سـريع الانهضام مــمود الجوهر مثل٪

I- الساذج
T- :'
B- :'ذلك'

عُعشرون حبّة عناب: عناب عشرين حبّة I
DI- : منقّى
B من الغذاء: الأغذية
مثّل: + صفو BI





فإن أجابت الطبيعة باستعمـال مـا قدّمنا وإلا فتتّخذ لهم

 عرض لهم صداع فيستعملون ترطيب الخياشيم بدهن بنـينـج

 الخلاف ' أو بماء الحصرم أو بماء الرجلة ويحمّل على الجبين

> DT فتات: + خبز
> 'بالماء غسلات: inv. I

> T يحلّ: يحلب!!
> T- :وْيشرب:
> مق مقور: مقشر
> O بنفسج: + أو دهن نيلوفر O
> D ويحمّل: ويعمل

$$
\begin{aligned}
& \text { IO الخلاف: الجلّابغ }
\end{aligned}
$$

والأصـداغ وت وتنزل' اليـدان والرجـلان في مـاء قـد طبخ فـيـهـه بابونج وبنفسـج يابس وتشـدّ الساقان بعصان
 والسعال فيحلب على الرأس ألبان النساء وألبان الأتن ويغسل
 ويسـعطون بدهن بنفستج ودهن نيلوفر ويضمّد الرأس بضمـا
 ودقيق الشعير وماءْ الودد وما أشبه ذلك.

 الدلاع مـع سكّر طبـرزد أو بالجـلاب. فإن عـرض لهم سـبـات


'وتنزل: ويترك
B B بريئا من النوازل: يربا من النوار(!

T وجرادة: وبرادة
O' 0
"
فی
يمنع: يمتنع DIO
D الرأس: الناس O للرأس D
'بشثيء: شيئا DT

والأدهان ويقتصر على غمز القدمين' في مـاء البابونج ونوّار

 الرمّانْ المرّ مّع فتات " الخبز المحكم الصنعة المفسول بالماء

فإن عرض لهم خفقان ضـمّدنـا المعدة بضـمـاد مـتّنـذ من صندل وورق ورد ودقيق شعير وشيء من كافور مـعجون بماء
 ويسقوا^ شراب الرمّان أو شراب الجلاب.

 بماء البلح الأخضــر أو مـاء الطلع مـع شـيء من كـافـو ودهن
"الأخبصة:الأخبهية(!) D الحقنات O
'القدمين: الساقين B
'ودهن: بدهن: IT ودهن ...ونوّار البنفسج: - OB
B جريش: جراش
ؤيطعموا: ويطعمون BD
O الرمّان المرّ: الرمّانين O
فتات: لباب DIOT


و وصفنا: وصفناه
D ويسعطوا: ويسعطن B B ويسن D

ورد ويعالجون' بالتدبير الذي ذكرنا عند نعتنا 「للرعاف.







 ذلك وينخل ويـجن بلحـاب البزرقطونا ويعمـل من ذلك أقراص
 بماء القرع المشوي أو ببـض الأشربـة البـاردة. وإن أريدْ أن
 ويعجن بالجـلاب ويسقى منه وزن مثقالين فإنّه وينفع من الورشكين والحصبة^ والجدري. 'ويـالجن: ويحالج BIOT

$$
\begin{aligned}
& \text { Iآقراصا: أقراص I } \\
& \text { "واحدة: واحد BD } \\
& \text { B أريد : أراد } \\
& \text { ' } \\
& \text { B } \\
& \text { ^والحصبة: والحصبا BIT }
\end{aligned}
$$

## الباب الخامس' في حمّى الربع






 ساعة.
 يسـتـلّ بهـا على حـمّى الغبّ، أعني من الأثــيـاء الطبـيــيـيـة
'الخامس: + من المقالة السابعة B السادس O
'َإنَّها: فانما B
"
ألمتفغَّة: + في D
T- أهحثت... بالأوراد

B آحثت: أورثت
\آلائرة: الدائمة 1

I'

"بالثلاثة: بثلاث B بالثارث

والأثـيـاء' التي ليسـت بطبـيــيـيـة والأثــيـاء الخـارجــة من
الطبيعة. فأمّا الاستدلال عليها مـن الأثشياء الطبيـية فهو أنّها
 وبخـاصـّة مـتى 「 كان البـدن
 بطبيـعيـة فإنّها






D-: 'والأشياء...الأثياء الطبيعية
T كهلا: مكتهالا Tr
'r
ألبدن: بدنه D D T مدمجا: : مدعجا
'وأمَّا...خريفا: O- O

B B
B يستدل": نستدلّ
"من: عن 1

" نوبائبها: قرابتها (!) برد MSS

المرّة السوداء التي عنها تتولّد هذه الحمّى لبردها وغلظها إذا
 وتكون ألوان أصـــــابهـا مـائلة إلى الكـــودة وجلودهم قـحـلة








D (! أنقلتها : بقلتها
'r
「جافّة: يابسة
O- : الحمّى
T- فْرقّت... الحمّى
وْمّا: وإنّما : DO
"
و ونتولّد: + أيضنا
"

"" Dجب: فوجب D

Ir يّيّز: نصير (?)
ז'واحدة: واحد DIOT


صنف منها مـا يـلائمـه من التـبيرَ والعلاجَ
 عفـونـة مـرّة سـوداء خـالصــة غـينبـغي أن نـدبّر العليـل بالأثـــــــاء المنضـجـة السـريعـة الانحـدار مـثل مـاء الهنـدباء ومـاء الرازيانـج
ومـاء الكرفس، يؤخذـذ من جـمـيـعـها نـصف رطل بـعــ أن يـغلى ويصــنّى ويلقـى عليـه أوقـيــة من شـــراب سـكنـجـبـين عـسـللي أو شـراب العـسـل الملبّر بالأنـاويـه، أو يـحـلّ فيـهـ ورد مـربّى عسلـي ويشرب أو يسـقى مطبوخ الأصيل أو شـراب الأفسنتين. وتســتـنفـرغ المالّة بـالقيء رويـدا رويدا ويســتــدعى ^ العـرق بـهـن البـابونـج أو بـدهـن الثـبنثّ أو بـهـن الغـوذنـع النهـري ولا
 أخـــذت الحــمّى فـي الانـحطـاط وظـهــرت عـــلامـــات النضــع

'بخّتّها : بخاصيّتها O بخاصتّه DIT「 DIOT
rorّا: من
عسواها: سواه DIOT
T لْيرطّب: ليرطّب ل- B فنرطّب O لترطيب
T التدبير: التبييد
D والعلاج: والصـلاح:
ويستدعى: ويستفرغ
ابتداء: استبراء

وبالأدوية' التي ${ }^{\text {r }}$

 المقالة الخامسة من هذا الكتاب. ويستعمل مـعها منْ الأثـربة مثل شـراب الإذخر وشراب


 والبلد ${ }^{\text {الحارّ وسنّ }}$


' OIT وسقينا: واسقينا

T الترياق: الدرياق o الترياق المعروف بالفاروق : ترياق الفاروق
وينبغي أن يحذر: ويحذر I I
'استعمال: + مثل IT
والبلد: والبدن B وفي البلد I
I وفني من: ومن وفي سن I'

$$
\begin{aligned}
& \text { ألتي: الذي } \\
& \text { من: + الأدوية و- 0 }
\end{aligned}
$$

 لطول مدّة المرض











$$
\begin{aligned}
& \text { T'تفجّجّ: تفجّ } \\
& \text { r } \\
& \text { Tوأرقه: وأراقه T }
\end{aligned}
$$


B- : وحسو الشعير
D- 'والسكنجبينين
'فليّنها : فنلينها O فلتسـهل I B- من:

D ويمرس: ممروس
 العليلَ
 ذلك يسقى مطبوخا عنف مـثل مطبـوخ الإجّاص والتـمر الهندي والتـرنجبين ومـا أشبه ذلك.




T- العليل

هْ هإذا : وإن I
o مكان إلى مكان: موضع إلى موضع
I
ويحذر : وتحدث


> T الرمّانين: الرمّان" ${ }^{\prime \prime}$ ويغذوا: ويغذن I"
> I

OT ويصبّن على أبدانهم: ويضـع على يديه O
I'ماء فاترا: بماء فاتر I I

$$
\begin{aligned}
& \text { 'وترنجبين: + خراساني B } \\
& \text { r'تجب: تجيب B }
\end{aligned}
$$

ونوّار بنفسـج ويتمرّخون بشراب مضروبِّ بدهن بنفسـج
 العليل مع ذلك دمـويا وعــروقـه ممـتلئـة وبوله أحـمــر غليظا



 السكنجبين. ويؤخذ المرد المربّى والبنفسِج المربّى فيمرس في
 في ماء حارّ قد طبخ فيه بابونج ونوّار بنفسـج ويستدعى القيء Is
'مضروب: مطبوخ ما
D هَهد الحمّى: هذه العلّة أي الحمّى
O
د دمويا: قويا D دميا I
ْ غليظا: غليظ I

"عن: من DI

 DIT ما : بما
"مع: معه BDO
T- الهندباء...حارّه



 وأحدرنا بعد ذلك الطبيعة بالمطبوخات التي ترقّق التّ الد الدم وتزيل

 طعامه في غير أيام النوائب.
 العليل شيخـا مرطوبا ومزاجه بـاردا ونبضـه بطيئا وبوله نيئا
 الهـواء الحـاضـر " باردة رطبـة علمنا مـن هذه "ْ الدلائل أنّ IT
'وَيمص": ويقتصر على D'
IT- : ماء

الد

$$
\begin{aligned}
& \text { I ترقّق: توافق I } \\
& \text { " } \\
& \text { O- : يوما }
\end{aligned}
$$

أَألزمنا العليل الصوم: أمرمنا العليل بالصوم
وْتخفيف: وخفّ
أبيض: أبيضا البا
"الحاضر: الباردة T

الحـمّى تولّدت عن تشـيّطِّ 'البلفم واحتـراقـه فينبغي عند ذلك
أن يســـقى العليل ني الابتـــداء من الرازيانج وماء الكرفس من الجميع نصف رطل مغلّى مصفّى
 من كلّ واحد وزن عشرة دراهم ويصفّى ويشرب.




 لطيفا معتدل" "الحرارة ومن الطير ما كان لحمه ليّنا رخصا
"
D- : تشتيّط'
D وْرد مربّى: مربّى ورد
T- : بالعسل :
وبنفسج مربّى بالعسل: -O ومربّى بنفستج عسلي كذلك D
'بماء اللبال: باللبالب
IT للعرق: للعرقو
^ويتاولون: ويتناولوا
Tويستعملون: ويستعملوا

 ويتّقون جمـيع مـا يبـرد ويرطب ويتناولمن



 الفاروق ودواء القسط ودواء الراوند ودواء الكبريت ومـا أشبـه ذلك من المعجونات.

'ويغذون: ويغذوا

ويتّقون: ويتوقون DI ويسقون O ويتوقوا T
Tويتناولون: ويتناولوا T
بـعقب: بعد BI

IT بالثلاثة: بالثلاث
10 يتقيّؤوا: يتنقوا B يترقوا (?

> IT- : :

I بورق الفجل: بالفجل'
الاو: و- IT

Ir ويتعاهدون: ويتعاهدوا

$$
\begin{aligned}
& \text { B- آلعلّ....والدرّاج } \\
& \text { اءيغذوا: يغذون DO }
\end{aligned}
$$




 باختصار وايجاز وفيه كفاية.

الباب السادس" في الحمّى النائبة كلّ يوم

 أنّ كلّ مـادّة كانت " بلغمـانيـة أو صفـراوية أو سـوداوية إذا"

> 'يتناولوا: يتناولون BDO
> DT - الحمام: و DI
> T 'ويستعملون: ويستعملوا T
> ألسدد: - BDOT

Tالمرّة السوداء: السوداء BDO السدد "السادس: الخامس O + من المقالة السابعة B

$$
\begin{aligned}
& \text { 「 } \\
& \text { ^ثتوب: + في } \\
& \text { T في: من } \\
& \text { D موضوعاتهم: موضتهـ" } \\
& \text { T- كانت" } \\
& \text { " - إذا عفنت }
\end{aligned}
$$

عفنت اكتسـبت غليـانـا وفورانا وتولّد عن ' الغليـان والفوران

 امـفـيــــــارينوس معها برد. وإن كـانت عفـونة البلغم خـارج الـــروق والأوراد ولّد الحـمّى



 الطبيعية' 'والأثياء التي ليست بطبيعية" والأثشياء الخـارجة 'عن: + دلك I
'
 o اسفيارينوس

أي: - أيار الا
o ألتي: + لا تنفصل و-

DO- مدّة
O ثمان عشرة D D
بوالثلاث: بثلاث B

O- الأثنياء:..الأثنياء الطبيعية:
"

من ' الطبيعة. فــمّا

 سنّ الصــيـان بالعرض. فـأمّا الاسـتدلال عليـهـا من الأثـيـاء
 الشـتاء وإذا كـان مـزاج الهـواء الحاضـر مـشـاكــلا ^لطبـيعـة

 الترفة قليل التعب والنصب. وأمّا الاستدلال عليها من الأشياء
 في الابتداء ببرد "' شـديد شبيه بالزمـهرير يبرد منه البدن كلّه 'من: عن I B فَأمّا : فإنّما
T الأشياء الطبيعية: الأثشياء الخارجة من الطبيعية


D
أنّها : - أيضا D D أنّ D D
"زمان: زمن آ
^مشاكا: مشاكل
D مدمنا على: قد اعتاد على منى

"برد: برد BDIT

حــتى يصـل ذلك إلى أطراف اليــــين والرجلين ويمكث ذلك
 رويدا رويدا وزال البرد وكانت الحمّى خفيفة رطبة الحركة إلا
 أنّ أكثر تولّد البلفم في أكثر الحالات إنّما يكن في في فم المّد

 والكمودةٌ وتكهن أفواههم رطبة وأكثر ذللك لا يعطشون.




D بانصاحبه: في صاحبه
'r مخوفة: محرقة
الالغثي: الغشى DIT القيء
'وتتهبّج: وتهبج B وتتهيّج DO وتهيج
OT والكمودة: والكمود
'يصل: يصير I
'وصورتها : وصورته B وسورته IT وحدوثه D
「 「البارد الرطب: بارد رطب B ما هو بارد رطب B
وُعلى: على BDIT
"النوع: اللهن
" عن صفو الدم: عن غلبة البرد على صفو الدم






 وقت النوبة وحدث البرد أنزلوا أرجلهم في مـا بابونج وشبثٌ ونوّار بنفسج ويدلك" تِ تحت القدمـين بملح ودهن فـإذا جـاء القيء طوعـا في ابتـداء المرض دلّ على لطافـة
'ومائيته: ومباينته
"هو: + أسخن وأجف"
'rثل: وهو
B- : أن ...ومائيته: وهو
I- : ومنه، . .ومائيتيهن
"مثل: من
"

B
I

$$
\begin{aligned}
& \text { 'بـلفم: + لزج } \\
& \text { " " }
\end{aligned}
$$

الفخـل وخفـّتـه وسـرعــة حـركتـه، فـإن لم يـأت ' القيء طوعـا فـلا



 بساعة حسو الشعير مع السكنجبين السكّري فإن كانت الطبيـة مـجيبة وإلا فيعطن من ماء ماء اللبلاب إلى نصف رطل مـع أوقيـة سكّر سليــــنـي أو يحلّ فيـهـ ترنجبين

 " الحارًا: حارّ BDOT
"الحمّى: العلّة أي الحمّى D

r آلسكّري: عسلي

خراسـاني وورد مربّى ’ من كلّ واحد أوقيـة ويـصفّى ويشرب.




 أو حبـوبا على مثل ذلك أو يسـى أقـراص الورد المسـهلة ومـا
「'مطبوخا لطيفا مأمونا أو حبوبا: مطبوخ لطيف مأمون أو حبوب I

$$
\begin{aligned}
& \text { O- مربّي: } \\
& \text { 'حقنة: + ليّنة }
\end{aligned}
$$

$$
\begin{aligned}
& \text { 'مسـهلة: : مستعملة B سهلة } 1 \text { B } \\
& \text { T زنكر العليل: كان العليل ذكر } \\
& \text { أمعائه: أمعائها } 1
\end{aligned}
$$

$$
\begin{aligned}
& \text { غ } \\
& \text { وْتقلّبا: وثقال } \\
& \text { D- : يجد } \\
& \text { T (! تعين: يلين: } \\
& \text { or }
\end{aligned}
$$

أشبه ذلك. فإن شكى غثيـانا وتقلبّا’ في مـعدته أمرنا العليل


 فيحتال في تدبيرهم بتلطيف المادّة وتنقيتها من غير عنف على
 وطبيعة العضو الذي المادّة مائلة إليه. فـإن كانت المانـة المّة بلغمـا

 بالبول مثل أقراص الطباشير أو أقراص الكافو أو أقراص 'وتقلبّا : وثقلا
T ${ }^{\text {r }}$
「

الشبثٌ مطبوخ I
Iالبدن: العليل I
Tالغالب: والغلبة $T$
"سقيناه: اسقيناه IT
I بتنظيف: بتلطيف I
ألكبد: البدن D
BIT وإخراجها: ويخرجها

 الآنيـــــون مـع ${ }^{\text { }}$ من ُجميعها نصف رطل مع أوقيـة شـراب سكنجبـين عسلي،
 هذا التدبير أسبوعا .

 هذا الكتـاب أو " شــراب الإنخـر أو شــراب الماب الأفـسنتين، فـإن


'حامضا: مالحا
T T البرياريس: الرنباس
'مَ: في
B من جميعها: جميعا فيا
B ونرصة: أو قرص
آحد : احدي الحري
التي: الذي الني
أسبوعا: أسبوع الخئ
T فكرنا: ذكرناه B ذكرته

O- الو
 المطبوخَّ مـع قشـو أصــل الرازيانج وأصـول الكرفس ويلقى عليه بعد تصفيته سكنجبين عسلي. ويسقون في وقت يـرض لهم البرد عند ابتداء نوبة الحمّى

 بابونج وشبث وْ وإكيل الملك ونمام وقيصوم . فإن جاء أهم القيء طوعـا فـلا يمتنـعون منه وبخـاصـــة في ابتـداء المرض ويعطى
 عند ذلك نقيع الصبر أو نقيع الإيارج أو مطبو حبّ المصتكى والصبر .
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## TRANSLATION

In the name of God, the Merciful, the Compassionate
The seventh treatise from the book Provisions for the Traveller In the previous treatises we have with God's help - may He be praised - dealt with the [different] diseases which occur in the internal organs. We have elucidated the [different kinds of] treatment for those diseases in the best possible and most direct way, [while referring to] their most immediate source. In this seventh treatise which will be the seal of this eminent book, I will mention those external diseases that can be noticed by the senses and those that are accompanied by pain that is felt by the internal organs. I will also mention the different ways of treating these diseases according to the methods of medicine and rules of our profession.

I will begin with an exposition of fever, because it is, as Galen stated, the most dangerous disease, the messenger of death, and the most frequent cause of the end of life ${ }^{1}$, because it encompasses both the external and internal [parts of] the body. Moreover, it is harmful for the pneumata, the psychical faculties, and the natural activities [of the body]. I will start my discussion with ephemeral fever which arises in the pneumata, for this fever often has a most immediate cause which in its turn causes

[^22]other fevers to arise. But other fevers do not cause this fever in any way. Then I will mention [other] diseases in the same order as in the beginning of the book.

## Chapter one: On ephemeral fever

Ephemeral fever arises from excessive heat which heats the pneumata, but not any material part [of the body]; nor does it arise from putrefaction. It therefore does not last longer than one day. By pneumata I understand the animal pneuma which is the source of life and the matter of the innate heat, the psychical pneuma which is the source of sensation and movement, and the natural pneuma which is the source of the four natural faculties, namely, the attractive faculty, the retentive faculty, the digesting faculty, and the excretory faculty.

This fever can be divided into two [different] kinds: One is the disease itself, the other is accidental to the disease and follows the preceding disease. The kind of fever which is the disease itself has three [possible] causes: 1. External, with respect to the outside of the body, such as the heat of the sun in the summer, a hot sandstorm (simoon), severe cold, and bathing in waters which have the power to dry the outside of the bodies and to thicken them (i.e. to obstruct the pores of the skin), such as water containing natron, alum, and sulphur. 2. An excess of bodily movement, such as strain, exertion, continuous walking and the like, and excessive emotions, such as great anger, continuous worrying, and other psychical afflictions. 3. Continuous consumption of
hot foods and of drinks which heat the blood, and the like. As for the ephemeral fever which is accidental following a preceding disease, it is like the fever following inflammations of the groin, armpit, neck, and the like. For if the blood which is present in the inflammation stays in it and is not quickly dissolved, it becomes hot, putrefies, and heats the animal pneuma. This heat then reaches the heart because of the connection between the arteries and the heart, and the result of this is ephemeral fever. These are all the causes of ephemeral fever.

Now I will discuss specifically every single cause [of this fever] and its symptoms, and then I will in an orderly and concise way deal with the treatment useful for those suffering from this fever. The symptoms for ephemeral fever caused by the heat of the sun are that the heads of those suffering from it are warm, and that they are warmer than the rest of their body. For the glare of the sun reaches their brain, so that they often suffer from headache and their faces become red and are often affected by a hot rheum which burns their noses.

As for the fever caused by the burning heat of a hot sandstorm, the bodies of those suffering from it are warmer than their heads. The outside of their bodies is inflamed and dry since the heat of the sandstorm dries the moisture of their bodies.

As for the fever caused by cold and severe frost, its symptoms are amongst others that the complexion of those suffering from it changes; it loses its blood-like freshness and beauty, but assumes the colour and paleness of dust. The outside of their bodies becomes cold, dry and arid; in addition to cold they feel heaviness
in their heads.
As for those suffering from this fever because they bathed in astringent drying waters, their skins are more dry and arid than the skins of those suffering from this fever because of cold and severe frost. Their skins are in fact so dry that if you touch them with your hand it is as if they were macerated for a while in an infusion of gallnuts and pomegranate peels. And if you leave your hand for some time on a certain place of their body until their skin becomes warm because of the heat of your hand, that part of their body will become loose [again] after it had become congested because their skin had become thick and firm, because of the hot natural evaporations [of the body]. ${ }^{2}$

As for ephemeral fever arising from hot foods and drinks, this [kind of] food inflames the blood and natural pneuma by its heat; for the natural pneuma is located in the liver and is transported by the blood. Then the heat reaches the heart and spreads through the whole body. Therefore the urine of those suffering from this kind of ephemeral fever is redder than that of [those suffering from] other types of this fever, because the urine is the wateriness the blood and the place where the [other] humours flow to. [Since this fever comes from the liver] those that suffer from it find, when this fever subsides, that their liver is hot.

As for ephemeral fever arising from bodily exertion, the bodies of those suffering from it become thin, arid and dry; they feel a severe weakness and constant heavy pain in their joints. When

[^23]their fever subsides, their perspiration is unlike that [occurring] in the other kinds of ephemeral fever. For when the impression of this fever diminishes and subsides, a moisture is dissolved from the body [of the patient] that is similar to the moisture of the bodies [of those] that come out of a bath. Some patients transpire profusely, but if there is neither moisture nor perspiration there is necessarily much vapour that arises from the depth of the body.

As for ephemeral fever arising from anger and fury, its symptoms are a red complexion, bulging and quickly moving eyes, dry eyelids, and a strong and powerful pulse of those suffering from it. Sometimes their complexion turns pale and a tremor befalls them; this happens when the anger and fury is mixed with fear.

As for ephemeral fever arising from grief or worry, the eyes of those suffering from it are hollow and motionless; their faces lose their freshness and their complexion becomes ugly; their bodies become thin; their pulses weak; their urine red. These symptoms are common to those who are worried or grieved in any way, but this [kind of fever] is best recognised from the condition of the eyes, for the eyes of him who grieves or is worried are dry. [The symptom of] hollow eyes is common to all those who suffer from these afflictions, i.e. worry, grief, and insomnia. All of them have in common that their urine is yellowish, while he who suffers from this fever because of grief, has a body containing heat that is rather intense [in quality] than large in quantity. When the physician knows the cause of the fever
that lasts for one day - for this has become clear to him from the signs and symptoms that I have mentioned - he should let those who suffer from it take a bath quickly.

If the fever has been caused by the heat of the sun or by a sandstorm, those [who suffer from it] should enter the bathhouse when the fever subsides and its severity is over; they should, however, not stay in it for a long time. One should spread before them aromatic plants which alleviate the vapour [arising from their bodies], such as roses, violets, Egyptian willow, and leaves of fleawort. Their noses should be moistened all the time with oil of violets, oil of nenuphar; their temples should be rubbed with oil of roses mixed with vinegar. Once the fever has subsided one should pour over their heads water in which violet blossoms and camomile have been cooked, but only if they do neither have a cold nor a headache. One should also beware of doing this when their heads contain any amount [of phlegm], for then they should only bend themselves over their vapours [in order to inhale them]. One should let them drink juice of the two kinds of pomegranates ${ }^{3}$ with crystalline sugar, and they should take medicinal drinks prepared from rose-water syrup, violets, roses, and plums. They should be fed with bread pulp that has been washed with crystalline sugar; one may also feed them with gourd, purslane, kernels of cucumber, and core of lettuce, and one should let them suck pomegranate. When the heat [of the sun] has subsided, they should be fed with [the meat of] francolins

[^24]and chickens with juice of the two kinds of pomegranates or juice of unripe, sour grapes.

When the fever has been caused by cold and severe frost, they who suffer from it should, once the superfluous humour has matured and the fever has been overcome, put their feet into water in which camomile, marjoram, aneth, and thyme have been cooked; they should also bend themselves over its vapours [and inhale them]. They should take a bath with sweet waters, but spend more time in the bathhouse itself than in the bath, for the air of the bathhouse makes their bodies transpire, dissolves their moisture, and opens their pores. If those suffering from this fever have a catarrh caused by the cold, they should only take a bath when this superfluous humour has matured and then been dissolved. They should inhale pure vapours, such as [those of] marjoram, jasmine, gillyflower, and the like. They should cover themselves with clothes, while close to them coalfires should be kindled, so that the cold air will not reach them. Their heads should be anointed with oils of a moderate heat, such as oil of camomile, aneth, gillyflower, lily, and the like.

If this fever has been caused by washing with astringent drying waters, those suffering from it should only take a bath when the fever has subsided in severity and has been overcome and after they have put their feet into water in which camomile, aneth, marjoram, and the like have been cooked. They should also bend themselves over the vapour of the water [in order to inhale it]. When they take a bath, they should rub their bodies softly and pour sweet lukewarm water over them, for this softens their
skins and opens their pores. But they should beware of anointing themselves when they take a bath, for this closes the pores of their bodies and blocks their inner vapours. Moderate physical exercise is one of the best means to treat this fever, because it loosens the bodies, opens their pores, and dissolves the vapours blocked in them. In short, they who suffer from this fever should beware of everything that cools the skin, contracts it, and closes its pores; they should be fed with that which is quickly digested and drink sugar mixed with water.

If this fever is caused by hot foods, the patient should be given to drink oxymel prepared with sugar or juice of the two kinds of pomegranates mixed with rose-water syrup or with crystalline sugar. When the fever has subsided one should administer him țabāshir pastilles ${ }^{4}$ or camphor pastilles with a drink made of violets or roses. To his liver one should apply a warm pack with duck-weed or purslane and mucilage of fleawort seed and gourd peels, or with sandalwood, barley meal and some camphor kneaded with juice of roses. For food the patient should take purslane, endive, orache, and gourd; when he is thirsty he should drink water mixed with juice of fleawort seed or of the two kinds of pomegranates.

When this fever is caused by physical exertion, those who

[^25]suffer from it should be required to look for calm and rest; their bodies should be rubbed softly with oil of violets, roses or nenuphar. They should enter a bathhouse with moderately heated air and water, but they should not take a bath for a long time. When they come out of the sweet [moderately] hot water, their bodies should be rubbed with oil of violets or roses; they should be administered juice of the two kinds of pomegranates and violets, or juice of plums, or juice of rose-water syrup. They should be fed with foods that moisten their bodies, such as [the meat of] chickens and of goats, freshwater fish, and the like.

When this fever is caused by excessive emotions, the cause which harms and troubles the soul should be opposed by means which (are opposite and) expel it. Anger, grief, and fury, for instance, should be opposed by words and deeds that appease and please the soul. For they who suffer from it can engage in different kinds of amusement which provide joy and comfort, or look at those things which give relief to the soul, such as green aromatic plants and pleasant faces. In addition to the healing of the soul by that which we mentioned, one should in the case of these patients require from them to cure their bodies by means of that which moistens them and takes away the dryness affecting them. They should, for instance, take a sweet water bath in a bathhouse with moderate [hot] air, and rub their bodies when leaving the lukewarm water with oil of violets or oil of nenuphar, but they should not massage their bodies too much, for this increases their dryness and aridness. Therefore one should forbid them to have sexual intercourse, and to move [too much], and
let them feed themselves with barley broth, gourd, purslane, and wild-amaranth. When the fever has subsided, they should be fed with the meat of francolin, chickens and goats. They should take drinks of a balanced temperament, inhale sandalwood, camphor, roses, violets, and myrtle, and suck juice of the two kinds of pomegranates and winter grapes. One should administer them water-melon juice with crystalline sugar. In short, they should avoid those things that dry [their bodies], and take those which moisten [them]. These means should be administered in their case according to the strength of the patient, his age, natural temperament and habit, and according to the time of the year, country, and other similar things.

If this fever occurs to someone because of an inflammation of the groin, it is [first of all] necessary to treat the inflammation and to dissolve it, and to cure at the same time the putrefaction which caused the inflammation. Then he gets a treatment similar to that mentioned by us above. This is what we wanted to say about the symptoms of ephemeral fever and its treatment in a concise way.

Chapter two: On ardent fever

Ardent fever, called kausos in Greek, is a fever accompanied by intense continuous thirst and continuous heat which is harmful and upsetting for [human] nature, and which incites it to combat the disease and to confront it from its [very] beginning. [It is so harmful for human nature] because of the sharpness and pungency
of that element which causes this fever, namely, the sharp, fiery, yellow bile that has collected in the cavities of the veins that are adjacent to the heart, especially those of the cardia of the stomach, of the concave part of the liver, and of the cavity of the lung.

The symptoms belonging to this fever are, [as we stated above], continuous heat and continuous, unremitting thirst. The heat in the case of ardent fever is continuous because of the bilious humour from which it originates inside the veins; the fever becomes solid and continuous because most of the bilious humour which causes it is in the veins adjacent to the heart. And since the bilious humour which causes this fever can, as we explained, especially be found in the veins of the cardia of the stomach and the concave part of the liver, the thirst becomes intense, continuous, and unremitting.

There are two kinds of ardent fever; one authentic and severe, and the other false and light. The authentic and severe one originates from yellow bile pure in sharpness and pungency; it mostly occurs in juveniles and young men, and in those whose temperament is by nature hot and sharp, especially during the summer, because the summertime strengthens this fever and increases it by nature. The light false kind arises from yellow bile mixed with sweet moisture or sweet vapour. Since this fever is very dangerous and frightening, the physician should proceed in it very carefully from the beginning; he should observe the four phases of a disease, namely, beginning, progress, crisis and abatement, and apply in every phase that which is necessary.

When the physician sees in the beginning of the disease that
the nature [of the patient] is in need of that which moves the superfluities and evacuates them, he should administer him juice of tamarind, plums, and jujube with the core of reedy Indian laburnum, manna from Khurāsān, preserved violets, a drink made of plums, and the like. In case the physician was unable to stimulate the nature [of the patient] in the beginning of the disease because of an obstacle preventing him from doing so, such as weakness of strength [of the patient] who would not be able to bear an evacuation, or unripeness and crudeness of the superfluity, he should be extremely careful not to do so when the disease is progressing, for if he did so, the nature [of the patient] would become confused regarding its healing activity, and because of this confusion it would abandon managing [the process of] the disease completely. But if [for this reason] the physician has been unable to stimulate the nature [of the patient] in the beginning of the disease, he should assist his nature to regain its power by means of food that is digested quickly and that is commendable for its substance, such as broth of fortified barley or bread pulp that has been washed several times with cold water.

Galen has mentioned in his work De crisibus how a physician should feed his patients in the case of acute diseases: There are three criteria which the physician should consider when determining the diet of the patient: 1 . The degree of strength [which the patient has] against a disease; 2. The duration of a disease; 3. The quality of a disease. The degree of strength against a disease is amongst those things which should be kept high, since it fights the disease. The physician should therefore
provide the patient with much food without paying attention to the time [of the year], when we are afraid that his strength will decline. The duration of a disease should be considered for determining the quality of the food in relation to the nearness and remoteness of the crisis of the disease. For if the crisis is nearby, extremely fine food should be used until the crisis has [actually] arrived, in which case the patient should not be fed at all. If the crisis is far away one should feed [the patient] gradually, little by little until the disease reaches its crisis. [The physician should consider] the quality of the disease, because all those suffering from fever, for instance, need a moist regimen, and if the fever is accompanied by loss of weight, the need for food is so great that sometimes we even feed [the patient] when he [actually] has fever.

If a fever is accompanied by superfluities in the body, one should beware of giving much food [to the patient]; one should in fact only feed him in the intervals between the bouts of fever, but not in the time that it actually occurs. And if there are no intervals between the bouts of the fever in which it subsides, one should feed the patient [only] when the fever subsides. If, however, the fever does not subside and we have to feed the patient, we chose the time when the patient used to eat when he was healthy; especially good is that time of the day when it is cool and moist, such as the morning, for then his nature is [very] active, the air is mild, and the fever has subsided because the cold of the morning resisted and suppressed its heat and acuteness. This is the end of what the wise physician and philosopher Galen has
said in his very words about the best way to feed a patient suffering from an [acute] disease. We have quoted it because of its enormous usefulness and great benefit for [our discussion of] this subject in this book.

When the ardent fever is high and severe from its beginning until its end, we should confine [the patient] to a mild regimen of, for instance, barley broth, washed bread pulp, to which pulverised crystalline sugar has been added. From time to time he should be administered those ingredients that abate the heat of the stomach, such as seedless pomegranate [juice] that should be sucked, winter grapes, and pulp of the green and raw watermelon. One should extract mucilage of fleawort seed in watermelon juice and administer it to the patient. One should also give him a drink made of violets, plums or fleawort seed or exquisite rose-water syrup. In the evening one should give him two dirhams ${ }^{5}$ of fleawort seed washed in cold water and one dirham of purslane seed or five ounces ${ }^{6}$ of Armenian earth with sweet pomegranate juice and ten dirhams of pulverised Sulaymān sugar ${ }^{7}$ or a drink made of violets.

When the patient has been given in the morning juice of barley with juice of sweet pomegranate or a drink made of violets and he needs food, for this does not support him, one should

[^26]give him bread crumbs washed with sweet pomegranate juice, or gruel of parched barley washed several times with cold water and crystalline sugar. This should only be done when the fever has abated somewhat, but when it is vehement one should beware of doing so unless it is necessary.

In case the nature [of the patient] suffers from constipation, we soften it before the paroxysm of the disease. We do so by taking juice of gourd in which ten dirhams of manna from Khurāsān and ten dirhams of preserved violets have been macerated, by broiling this in exactly half a rat $l^{8}$ of barley dough, by straining this and adding one ounce of pure plum juice to the strained substance, and by administering this to the patient. If you want to make it slightly stronger, you should add five dirhams of the core of purified Indian laburnum without its cane and seed. One may also administer to him an infusion of black plums and tamarind with a drink made of violets and manna from Khurāsān.

If the nature [of the patient] responds to this, [it is fine], but if not, one should apply a suppository prepared from violet leaves and natron, half a mithq $\bar{a} l^{9}$ of each; half a dirham of scammony and one mithqāl of lycium. Pulverise these ingredients, dissolve the lycium in hot water, knead the other ingredients with it and make suppositories like acorns from it. Smear oil of violets on these suppositories and apply them.

[^27]If the nature [of the patient] responds to this, [it is fine], but if not, one should prepare for him a clyster with bramble juice, beet juice and bran extract, two ounces of each; a drink made of violets, plums, and oil of violets, one ounce of each; and one dirham of pounded natron. This should be mixed, made lukewarm and applied. The stomach should be moistened and its heat abated with mucilage of fleawort seed and pomegranate juice or with water-melon juice. The stomach should be empty of food during the paroxysm of the disease unless it is necessary [to take something], as, for instance, in the case when there is a danger that the strength [of the patient] is weakened during the struggle between his nature and the disease. For then you should strengthen it with some barley extract or boiled bread crumbs, but only so much as is enough to maintain his strength.

If the patient gets a headache, one should take oil of roses, mix it with wine vinegar or purslane juice or juice of gourd peels and rub it on his forehead and temples. One should also take oil of violets and nenuphar and apply it as an errhine. One should mix this, when it is cold, with rose-water in mucilage of fleawort seed and put it on the forehead and temples. The feet and legs should be put in warm sweet water and rubbed with oil of violets, while the legs should be bandaged. On the forehead and temples should be placed a pack prepared from rubbed sandalwood, barley meal and rose leaves, and kneaded with rosewater or duck-weed juice, juice of gourd peels, purslane juice or mucilage of fleawort seed.

When the patient suffers from insomnia (and sleepnessness),
one should add to the pack lettuce seed and poppy seed which should be kneaded with lettuce juice. The patient should have oil of nenuphar and oil of violets injected into his nose. When his mouth becomes dry and his tongue rough, he should chew mucilage of fleawort seed and quince seed to which some crystalline sugar and oil of violets have been added. When his tongue is black, the mucilages should be mixed with rose-water and oil of roses, and the tongue should be rubbed with this. He may also hold sweet pomegranate juice mixed with oil of roses in his mouth.

If palpitation occurs to the patient, he should be administered mucilage of fleawort seed extracted in cucumber juice with a drink of rose-water syrup, or pomegranate or unripe, sour grapes, or juice of cedrat pulp. One should apply to his stomach a pack prepared from the two kinds of sandalwood and barley meal kneaded with rose-water. One may also take duck-weed, purslane, mucilage of fleawort seed, gourd peels, mix this with rose-water or oil of roses and apply it to the stomach or liver when they are free of food. One should administer to him gruel of parched barley that has been washed several times after one has added crystalline sugar, or rose-water syrup or sweet pomegranate. One should feed him with gourd prepared with juice of unripe, sour grapes, cedrat pulp and purslane stalks. One should also feed him with husked lentils boiled with gourd, crystalline sugar, juice of unripe, sour grapes or some vinegar. One should spread myrtle, Egyptian willow and roses in front of the patient, and sprinkle these plants ${ }^{10}$ with water from time to time.

This fever is often accompanied by phrenitis, ${ }^{11}$ dry cough, fainting, or jaundice. When this happens one should treat it with the wholesome regimen that we have described in a special chapter of this book. ${ }^{12}$

## Chapter three: On tertian fever

Tertian fever is called "tritaios" in Greek which is "muthallatha" in Arabic. This fever originates from yellow bile when it is changed and putrefied. When the putrefaction occurs outside the veins and arteries, it causes intermittent tertian fever which attacks and abates, and is accompanied by cold, shuddering and tremor. And when the putrefaction is inside the veins it causes either continuous tertian fever or the fever [called] "kausos", i.e. burning fever.

If someone asks about the similarity and difference between ardent fever and continuous tertian fever, we answer him that they are similar in so far as both originate from the hot yellow humour, both occur inside the veins and arteries, and both are continuous. They differ in so far as the bilious humour which causes the fever collects in different places. In the case of ardent fever the inflammation occurs in the veins adjacent to the heart

[^28]and especially the veins of the cardia of the stomach, liver and lungs, rather than the veins of the rest of the body, because the [putrefying] matter is more extensive over there, as we explained above. But in the case of continuous tertian fever the inflammation occurring in all the veins of the body is like that occurring in the vessels adjacent to the heart.

There are three things indicating tertian fever, namely, natural, unnatural and extra-natural. It is indicated by natural things in so far as it mostly originates in someone whose temperament is hot and dry and who is between twenty-two and thirty-five years old, especially when his body is lean and its pores open. It is indicated by unnatural things in so far as it mostly originates during the summer, especially when the current weather is hot and dry and the temperament of the country is similar, and when the patient's occupation when he is healthy involves exertion, strain and fatigue. It is indicated by extra-natural things, namely, the symptoms originating from the nature of the element that causes the fever. These symptoms are afflictions for the patient and signs and indications for the physician. For since this fever originates from the hot bilious element that is adjacent to the sensory organs, it must be preceded by heavy shuddering and [the sensation of] pricking like that caused by needles and thorns. For the bilious sharp humour, when it passes and flows through the sensory organs which are not used to it, causes a biting sensation because of its sharpness. And shuddering originates from this sensation. This occurs when the [putrefying] matter is outside the veins.

This fever is also characterised by constant vomiting of bilious matter and by diarrhoea with the colour of gall, especially in the third and fourth bout, and the urine of those who suffer from it will be red, fiery and fine. Another characteristic of this fever is intense blazing heat and a pricking sensation in the liver since the blood is mixed with bile. When this fever is pure, it mostly lasts for twelve hours and its abatement lasts thirty-six hours. Its maximum number of bouts, when it is pure, is seven, which is equal to fourteen days. But if its cycle lasts for more than twelve hours and its bouts are more than seven, it is not pure. If it is not pure but combined with another fever, it exceeds this limit and will last longer; sometimes even it will start in the autumn and only abate in the [next] spring.

This fever is the most dangerous and frightening of all the putrefying ones and most to be feared. The physician should therefore take care not to use warm things lest the yellow bile arises with its sharpness to the brain, so that a tumour occurs in it and the patient gets phrenitis. This is [even] more dangerous than the danger of the fever [itself], and more to be feared. For the yellow bile, because of its lightness, sharpness (and lightness), does not allow for a mistake of the patient or foolishness of the physician. But he should pay attention in the beginning of the disease, and if the strength of the patient is great and helpful [in combating the disease] and the humours move quietly, the nature should be relieved by means of a decoction prepared from plums, tamarind, violet blossoms, and yellow myrobalan, into which the core of purified Indian laburnum and manna have been
macerated. The patient should take this according to his strength and age. He should also be relieved by means of juice and pulp of the two kinds of pomegranates pounded with Sulaymān sugar. One may also give him those infusions or drinks which we have stated in our book purge the yellow bile, suppress its sharpness, and brings an end to its boiling. The physician should especially beware of applying these means on the day of the bout [of the disease], lest he brings upon the nature [of the patient] that which withholds it from combating the disease.

On the days of the bouts the patient should be given half a ratl of juice of the two kinds of pomegranates, with one ounce of the drink made of violets or plums or juice of a gourd broiled with crystalline sugar. When the heat is strong and the thirst intense, he should only take two mithqāls of fleawort seed with juice of the two kinds of pomegranates and a drink of rose-water syrup. He should be extremely careful not to take food in the time of the bout or in the three hours before it.

If the bout of the fever starts in the morning the patient should only take a drink of rose-water syrup, pomegranate, or plum syrup until the bout of the fever ends. Hereafter he should take broth of fortified barley, and at the end of the day bread pulp boiled several times with water and some pounded crystalline sugar.

If the nature [of the patient] is constipated, and he is unable because of, for instance, corrupt air or lack of strength and the like, to take a preventive medicine in the beginning of the disease, he should be given in the days of the abatement [of the fever]
manna from Khurāsān and preserved violets, ten dirhams of each; five dirhams of the core of purified Indian laburnum without its seed and peel; this should be well macerated in warm sweet water or in juice of broiled gourd and strained; then an ounce of pure plum juice should be added to it. It should be taken in the morning.

On the day of the bout the patient should take mucilage of fleawort seed with juice of the two kinds of pomegranates, a drink made of violets, plums or Sulaymān sugar. If the nature reacts to this and resumes its equibalance by means of this regimen, [it is fine]. But if not, one should administer to him a suppository prepared from violet blossoms, scammony, natron, brown sugar and lycium or a clyster prepared from plums, grapes, sebesten, violet blossoms, husked barley, bran juice, beet juice, oil of violets, sugar, and borax. It should be done carefully and applied in a gentle way.

On the sixth day the patient should adhere to the same regimen as on the days of the bouts [of the fever], so that on the seventh day his body will be completely empty and clean. For then his nature can devote itself to the single task of combating the disease and softening the [putrefying] matter, since it will not be diverted any more by the taking of food or medicine.

If the patient complains during the paroxysm [of the disease] about thirst and a dry uvula and throat, he should drink mucilage of fleawort seed extracted by means of cucumber juice with some oil of violets or by means of juice of a water-melon or of the two kinds of pomegranates. He should chew mucilage of
fleawort seed, mucilage of quince seed and oil of violets. Moreover, the water [which the patient drinks] should be mixed for him with a drink made of plums, rose-water syrup, violets or fleawort seed according to the regimen we have mentioned and prescribed in the chapter on cough. ${ }^{13}$

If the inflammation departs from the patient and the acuteness of the fever abates and he complains about a pricking sensation in his stomach, he should be administered bread pulp washed with crystalline sugar. For vegetables he should eat orache, wildamaranth, cucumber, gourd, or lettuce which should be boiled for him with mungo bean, fresh coriander and almond oil. But he should only take this when the fever has abated and the distress has gone.

When he gets a headache, oil of roses or oil of violets mixed with vinegar should be put on his forehead and temples, his nose should be moistened with oil of nenuphar, oil of violets or oil of gourd seed. When dryness prevails over his brain so that he gets phrenitis, he should have a clyster of one of these oils with the milk of a woman who is breastfeeding a girl. Milk should also be poured over his head, in addition to water in which poppy, lettuce or lettuce seed, violet blossoms and leaves of fleawort have been cooked. His feet should be put in warm sweet water and rubbed with oil of violets. Cold aromatic plants should be put in front of him.

When he suffers from spontaneous vomiting or diarrrhoea on the seventh day because of the activity of his nature, he should

[^29]let it continue as long as he has the strength for it. One should administer to him an ingredient that abates the heat of the stomach and quenches his thirst, such as a drink of unripe, sour grapes, the two kinds of pomegranates, [different] kinds of apples, roses, preserved roses, or plums. [He should drink] water in which tabashir, sandalwood and purslane seed have been steeped for him.

When the diarrhoea becomes so bad that we fear that the patient will lose his strength, we should hasten to treat and stop it by means of inspissated juice of myrtle, quince and tabashir pastilles prepared with sorrel seed and similar cold astringent drugs which we have mentioned in the chapter on diarrhoea. ${ }^{14}$ Even so, if he gets sahj ${ }^{15}$, faints or suffers from jaundice, it should be treated as we stated in our discussion of that particular affliction in accordance with the opinion of the physician in each particular disease.

Chapter four: On the fever which originates from the blood and which is called "synochous" in Greek

Since blood is by nature the best balanced element, the sweetest in taste, and closest to the temperament of man, nature composed it and made it the substance with which the body feeds itself and by which it subsists. Nature also made it circulate with itself

[^30]through the whole body, so that the organs can derive their growth from it. For from blood they receive their nutrition and strength and by it they subsist. If blood increases in quantity and its quality is modified, nature will hate it and will cease to regulate it, as a man will hate his child when he stops obeying him, although he is more loved and favoured by him than anyone else. Consequently the blood will remain unripe and undigested; it will pass beyond the limit of balance, change and putrefy. From its putrefaction the fever which in Greek is called "synochous", i.e. continuous, unbroken fever, originates, for the blood is by nature inside the veins and arteries, which are its ways and passages to the whole body.

In his book "On the types of fevers" Galen has adduced clear proof that there are two different kinds of putrefying fevers. One of these is the fever originating from the putrefaction of the humours inside the veins and arteries, and another is the fever originating from the putrefaction of the humours outside the veins [and arteries]. He has also shown that fever is continuous when the putrefaction is inside the veins, and that it is intermittent when the putrefaction is outside the veins. A hot fever may also originate from pure blood that has become warm and inflamed inside the veins and arteries, while the blood is not affected by putrefaction or corruption. This fever is characterised by the fact that it is mostly followed by asthma, since it originates, as we explained, from pure blood that is most strengthful in the heart and lungs. The ancient physicians have therefore surnamed this fever "asthmatic heat", since asthma is mostly caused by the
heat of the chest, heart and lungs.
The difference between fever originating from putrefaction of the blood and fever originating from boiling of the blood is that the fever originating from putrefaction is accompanied by a stinking urine and a varying pulsation of the veins, for the contraction of the veins is faster than their expansion. For nature hastens to expel the fumy vapours originating from the putrefaction in a quick way. But fever originating from the boiling of blood is free from these accidents.

Some of the symptoms preceding blood fever and announcing its occurrence are indolence, heaviness and fullness of the members [of the body], a red colour and heat of the surface of the body. Some symptoms following its occurrence are headache, inflammation, a heavy head, swollen temples, bulging eyes, little thirst, much slumber, red phantasms appearing before one's eyes, a fast powerful pulse, red urine verging on purple. This fever is often accompanied by erysipelas and smallpox.

Since this fever originates, as we explained, from a putrefaction of the blood within the veins and arteries, before this disease gets worse and reaches its paroxysm we should see if the strength [of the patient] is healthy, and if his age, temperament, and habit, in addition to the time [of the year] and the nature of the actual weather, are conducive [to restore his health]. When these indications prove to be favourable, especially that of a healthy strength, we bleed the patient and extract a sufficient amount of his blood.

When this disease starts after the patient has consumed a
large amount of food which has collected in his stomach, the venesection should be postponed until the second day or later, so that the nature [of the patient] will be able to digest and cook the food and to expel its superfluity from the bowels and stomach. If the nature does not do this, we do so ourselves by means of a regimen which softens the stomach.

If of all the indications that we mentioned only a healthy strength helps us, we prescribe extracting blood from the patient by means of cupping, instead of venesection. If all the indications help us, except for his strength since it is weak, we should beware of extracting blood by means of venesection or cupping, for it is precisely his strength when it is healthy and firm which combats the disease. We should always observe and consider his strength carefully; we should examine meticulously its health and firmness for combating the disease before we proceed to extracting blood.

If for some reason the extraction of blood in the beginning of the disease is impossible, one should be extremely wary of doing so when the disease is advancing and when it is in its climax. This holds good even if we find the strength [of the patient] to be healthy and good, for in these two phases one should not rely on a healthy strength, since it is engaged with combating and fighting the disease. However, we should extinguish [the burning heat of] the blood and alleviate its sharpness by means of mucilage of fleawort seed, juice of the two kinds of pomegranates and a drink made of pure plum [juice].

If the nature [of the patient] is constipated, one should take
ten dirhams of purified tamarind, twenty plums, and three mithqāls of violet blossoms; this should be boiled in two ratls of water until one half of a ratl is left, it should be strained but not macerated. In that purified substance one should dissolve manna from Khurāsān and core of purified Indian laburnum, ten dirhams of each; this should be strained as well, and then the patient should take it.

If the fever was preceded by a disease in the chest or if it occurs simultaneously with it, one should take for that twenty habbas ${ }^{16}$ of grapes, and five dirhams of each of violet blossoms and purlane seed; this should be boiled just like the drug mentioned before; then six dirhams of preserved violets, manna from Khurāsān and core of purified Indian laburnum should be dissolved in it; this should be strained and taken.

The patient should be given foodstuff that is fine, quickly digested and of good substance, such as broth of fortified barley or bread crumbs washed several times in water. If the blood is not sharp, the nature [of the patient] should be softened in the beginning with a drug that is cooling and softening, such as juice of roasted gourd in which manna from Khurāsān and core of Indian laburnum has been dissolved; this should be given to the patient.

If the nature [of the patient] responds to this treatment [it is fine], but if not, soft suppositories or clysters should be prepared for him from grapes, sebesten, violet blossoms, husked barley, sugar, violet oil and the like. If the patient is affected by a

[^31]headache the nose should be moistened with violet oil or nenuphar oil; one should take oil of roses, mix it with vinegar and apply it to the forehead and temples. One may also mix oil of roses with rose-water, juice of Egyptian willow, unripe, sour grapes, or purslane, and apply it to the forehead and temples. The hands and feet should be put in water in which camomile and dry violets have been boiled, and one should put bandages on the legs.

If the headache is not alleviated and the chest is free of catarrhs and cough, milk of women or donkeys should be poured over the head, and it should be washed with water in which husked barley, violet blossoms and camomile have been boiled. One should pour oil of violets and nenuphar into his nose. On the head one should put a plaster prepared from purslane juice, gourd peels, mucilage of fleawort seed, barley meal, rose-water and the like.

If the patient is affected by sorrow or if he suffers from an inflammation, one should give him mucilage of fleawort seed extracted with juice of cucumber or with juice of the two kinds of pomegranates. One should also give him water-melon juice with crystalline sugar or rose-water syrup. If lethargy comes over the patient so that he cannot wake up, one should not apply to his head any of the cataplasms or oils which I have prescribed before. However, one should restrict oneself to massage the feet with juice of camomile, violet blossoms and coarsely ground salt. One should rub the forehead and temples with juice of camomile and violet blossoms, and feed the patient with juice of
bitter pomegranate with crumbs of fortified bread which has been washed several times in water.

If palpitation occurs to the patient, we apply a plaster to the stomach prepared from sandalwood, rose leaves, barley meal and some camphor kneaded with rose-water, purslane juice or gourd juice. Let him drink rose-water, a potion of pomegranate or rose-water syrup.

If he gets a nosebleed, one should apply to his forehead the plaster that we have prescribed for palpitation. One should pour into his nose juice of green dates or juice of palmtree flowers with some camphor and rose oil. They should be treated with the same regimen as we have mentioned in our description of nosebleeds. ${ }^{17}$

When in the last phase of this fever we need drugs that alleviate and extinguish what is left of it in the body, we use pastilles that we have tested for alleviating blood fever, dissolving the superfluity with fineness, and extinguishing the blazing heat. Its prescription is: Take white tabāshir, rubbed yellow sandalwood, purslane seed and inspissated juice of licorice, two mithqāls of each; pith of cucumber seed, water-melon seed, and gourd seed, two dirhams of each; white gum tragacanth, gum Arabic and starch, one dirham of each; cubeb pepper and camphor, two dāniqs ${ }^{18}$ of each. This should be pounded, sieved and kneaded with mucilage of fleawort seed; then pastilles of one mithqāl each should be prepared from it, which should be dried in the

[^32]shade. The patient should be administered one of these pastilles with juice of roasted gourd or with a cold drink. If one wants this drug as an electuary, one should add four mithqäls of crystalline sugar, knead it with rose-water syrup and let the patient suck two mithqäls, for it is a marvellous and wonderful [remedy], which is also good for erysipelas, measles and smallpox.

Chapter five: On quartan fever

Quartan fever originates from putrefaction of the black bile, for when the putrefied black bile is within the veins and arteries it causes continuous quartan fever, but when it is outside the veins and arteries it causes intermittent quartan fever. It is called quartan fever because it attacks once in every four days for a period of twenty-four hours, and abates for forty-eight hours.

This fever is indicated by the same three things as tertian fever, namely, natural, unnatural and extra-natural. It is indicated by natural things in so far as it mostly happens to someone whose temperament is cold and dry, who is middle-aged, and especially when his body is lean, dry and firm, and his veins thin and concealed. It is indicated by unnatural things in so far as it is indicated by the season of the year when it is autumn, and by the temperament of the actual weather when it is cold and dry, and when the nature of the country is the same. It is indicated by extra-natural things in so far as this fever exposes its patients in the beginning of its bouts and in the beginning of the putrefaction of the [superfluous] matter to a severe cold which exhausts their
bodies and weakens their members. For when the black bile from which this fevers originates because of its cold and coarseness streams towards the sensory organs, it makes them heavy and weak, and crushes them. Someone suffering from it will have a pale complexion, and his skin will be arid and dry. This fever is characterised by pain and hardness of the spleen; the urine turns white, thin and watery in its beginning. At the end of this fever when the [superfluous matter] becomes soft and fine, the urine becomes black.

Since this fever originates from the putrefaction of pure black, cold and dry bile which in turn originates from the burning of the humours, namely, blood, yellow bile, and phlegm, one should try to distinguish every single humour according to its characteristics. For in this way one can moisten it by means of an appropriate regimen and treatment.

When it is clear from the symptoms mentioned by us that this fever originates from the putrefaction of pure black bile, we should treat the patient with ripe things which are quickly discharged, such as juice of endive, horse-fennel and celery. One should take half a ratl of this altogether, when it has been boiled and strained, and when one ounce of oxymel syrup prepared with honey, or when honey prepared with spices has been added to it. One may also dissolve roses preserved in honey in it and drink it. Or let him take the decoction of roots or the drink of absinth.

The [superfluous] matter should be slowly evacuated by means of vomiting; perspiration should be provoked by means of oil of
camomile, aneth, or water-mint; take care not to empty the body in a rigorous way in the beginning of the disease. When the fever has started to abate and signs of cooking and digestion become visible, we evacuate the black bile with clysters and with drugs which purge that humour, and during this time we administer to the patient pastilles of agrimony, rhabarber, anise and lac, according to the composition which we have mentioned in book five of this work.

In addition to this [treatment] one should give the patient [different] drinks, such as the drink made of lemon-grass, mint, and the decoction of roots. In the end of this disease one should take the theriac known as "fārūq"', and the electuary prepared with cumin. One should, however, beware of using these drugs in the summer and in a hot country and at a young age; but they should be used in the winter, in cold countries, at an advanced age and in the case of someone whose temperament is dominated by cold. One should also avoid applying cooling things because they make the matter coarse, prevent it from cooking and thus prolong the duration of the disease.

If this quartan fever has been preceded by tertian fever and the patient is a young skinny man whose temperament is dominated by yellow bile and whose urine is blond, fire coloured, while he suffers from intense thirst and severe insomnia, and it is summer and the nature of the actual weather is hot and dry, we know from these indications that the fever originated from the burning

[^33]of yellow bile. In this case it is necessary to treat the patient in the beginning with cooling and softening things, such as juice of the two kinds of pomegranates, oxymel prepared with sugar, and barley broth with juice of the two kinds of pomegranates and oxymel.

If the nature [of the patient] suffers from constipation, we try to soften it with juice of plums, manna, and preserved violets. Or take juice of endive and juice of fennel that has been boiled and strained, macerate core of purified Indian laburnum and manna in it, and let him drink this. If the nature does not respond to this, we prescribe for the patient the application of relieving clysters. If the matter starts to cook and its movement from place to place becomes lighter, one should administer to him a decoction which purges the burned yellow bile without harshness, such as a decoction of plums, tamarind, and manna, and the like.

But one should beware of doing this before the cooking of the matter. The patient should suck [juice of] the two kinds of pomegranates and winter grapes; he should feed himself with mungo beans, wild-amaranth, or orache. When the fever has abated in the end of the disease, he should pour over his body lukewarm water or water in which camomile, melilot and violet blossoms have been cooked. He should rub himself with wine mixed with violet oil.

If this fever is preceded by a disease of the blood, so that the temperament of the patient is, moreover, blood-like and his veins are full and his urine is coarse and red, while he has a sweet taste in his mouth and sleeps much, and it is in the spring season,
we know from this that the fever originated from the burning of the blood. In this case it is necessary to apply those means which soften and cook the matter without heating [it], such as oxymel and barley broth prepared with oxymel. One should take preserved roses and preserved violets, macerate them in hot endive juice, strain this and administer it to the patient. One should put his feet in warm water in which camomile and violet blossoms have been cooked. One should make him vomit at the beginning of the bouts and when cold occurs. He should suck juice of the two kinds of pomegranates after it has been mixed with oxymel, and he should eat fine foodstuffs.

When the matter is mature, we hasten to extract blood by bleeding the basilic vein or the median cubital vein, so that the coarse burned blood is evacuated. Hereafter we relieve the nature by means of decoctions which make the blood thin and remove its sharpness and temper its blazing heat. When this fever lasts longer than twenty days we enjoin the patient to fast on every day of its bout and to take light food on the other days.

When this fever is preceded by a phlegmatic disease and the patient is an old man who has a moist and cold temperament, a slow pulse, uncooked, coarse and white urine, and suffers from light sneezing, while the time [of the year] is winter and the nature of the actual weather is cold and moist, we know from from these indications that the fever is caused by burning of the phlegm. In this case one should first of all administer to the patient juice of endive, fennel, and celery, half a ratt altogether. One should boil and purify this and macerate roses and violets
preserved in honey in it, ten dirhams of each; this should be purified and consumed.

When the nature [of the patient] suffers from constipation, we relieve it by means of juice of bindweed with sugar or by means of a strong clyster which brings the matter down. The patient should rub his body with hot oils which open the pores and attract perspiration. He should abstain from eating on the day of the bout [of the fever] unless his strength is weakened. He should take some food and eat the meat of birds that is soft and tender. He should drink something that is soft and moderately warm.

He should feed himself with juice of chickpeas, oblong pieces of beet and its roots. He should beware of everything that is cooling and moistening. After the meal he should take the cuminelectuary, the electuary prepared with the three peppers, and the anise-electuary. It is good when he vomits either by means of leaves of radish and juice of aneth or by means of oxymel prepared with honey, in which sliced radish has been macerated from the night until the morning. He should take repeatedly the fārūqtheriac, the costus, rhabarber and sulphur remedy, and similar electuaries.

When the disease lasts longer than three weeks, he should feed himself with chickens and francolins, and when the fever lasts longer than forty days, he should take the meat of one-year-old lambs. He should take those drugs which open the obstruction, make the urine stream, and strengthen the bowels. This is a brief, concise and yet sufficient account of the treatment of quartan
fever caused by putrefaction of the black bile and by the burning of the humours.

## Chapter six: On quotidian fever

Quotidian fever originates from the putrefaction of the humoral phlegm. The eminent physicians have explained in their works that every matter, whether it consists of phlegm, yellow or black bile, when it putrefies, acquires [the quality of] cooking (and boiling), and that from this cooking (and boiling) heat and fever originate. Even so the phlegm when it putrefies and is spread throughout the body and is inside the veins and arteries, causes a fever which is called in Greek "amphemerinos", that is "the continuous", for it is not broken and not accompanied by cold.

When the putrefaction of the phlegm is outside the veins and arteries, it causes intermittent fever which abates and attacks every day. The period of its bout is eighteen hours, and of its abatement six hours. This fever is indicated by the same three things as tertian and quartan fever, namely, natural, unnatural, and extra-natural.

It is indicated by natural things in so far as it mostly occurs to someone whose temperament is cold and moist, and whose age is that of an old or young man, because of the domination of the phlegm over old men by nature and over young men by coincidence. It is indicated by unnatural things in so far as it mostly originates in the time of the winter, when the temperament of the actual weather is similar to the nature of the time [of the
year] in cold and moisture, and even so the temperament of the country, and especially when the patient while healthy was used to rest, tranquillity, and much comfort, and did not exert or strain himself very much. This fever is indicated by extra-natural things in so far as in the beginning its patients are afflicted by a severe cold similar to a severe frost which makes the whole body cold, even the hands and feet, and lasts for one hour. When the phlegm putrefies and becomes hot, its heat increases slowly, the cold diminishes, and the fever will be light and delicate in its progress. However, it will be protracted and frightening, and accompanied by pain in the stomach. For the phlegm mostly originates in the cardia of the stomach. Its patients will therefore throw up a bilious substance; they will feel nauseous; their faces will be swollen and their complexion will become grey as lead, tending towards whiteness and paleness; their mouths will be moist; in most cases they will not suffer from thirst.

The physician can deduce the quality of treatment of this kind of fever from the nature of the phlegm: one kind of phlegm is the cold and moist one; it is really the natural kind that originates from the pure and watery part of the blood. Another kind of phlegm is that which is more cold and more coarse but less moist like the acid phlegm which originates from the cold dominating the pure and watery part of the blood. Yet another kind of phlegm is that which is more hot and more dry such as the salty phlegm which originates from the heat dominating the pure and watery part of the blood.

When the patient suffers, in addition to the fever, from thirst
and a dry mouth, we understand that the fever originates from salty phlegm. In this case we prescribe administering to the patient oxymel prepared with sugar and hot water on an empty stomach. When the bout of the fever arrives and cold occurs, the patient should put his feet in water in which camomile, aneth, and violet blossoms have been boiled; the soles of his feet should be rubbed with salt and violet oil.

When vomiting occurs spontaneously in the beginning of the disease, it indicates that the superfluity is fine and light and that it moves fast. When vomiting does not occur spontaneously and one cannot stimulate it artificially in the beginning of the disease since it is impossible, it indicates that the superfluity is coarse and solid, hard to melt, and slowly moving. The patient should eat roses preserved in sugar, and drink hot water in addition, because hot water is very recommendable in [the case of] this fever, since it will soften, dissolve and melt the [superfluous] matter. One hour after the consumption of the preserved roses, he should take barley broth with oxymel prepared with sugar.

If the nature [of the patient] responds to this [it is fine], but if not, one should give him up to half a ratl of juice of bindweed with one ounce of Sulaymān sugar. One may also dissolve manna from Khurāsān and preserved roses in it, one ounce of each, and strain this and let him consume it. If the nature [of the patient] responds to this [it is fine], but if not, one should prepare a soft clyster or purging suppositories for him.

When the patient remarks that he feels flatulence and rumbling in his bowels or complains about nausea and an upset stomach,
we know from this that the [superfluous] matter has melted, is streaming and looking for a way out. As for relaxation [of the bowels] in the case when the patient feels flatulence and rumbling, it is necessary to help the nature to expel the matter softly and gently, by, for instance, administering to the patient a soft reliable decoction or similar pastilles, or purging rose pastilles and the like. If he complains about nausea and an upset stomach we prescribe for him in the beginning of the cold of every bout a drink of oxymel prepared with sugar and juice of aneth when it has been boiled. One should attract vomiting without affecting the stomach in a harsh way.

If the body [of the patient] has not enough strength to bear the purgatives, one should treat him artfully by softening and purifying the [superfluous] matter without affecting the nature [of the patient] harshly. This should be done according to the nature of the matter, according to the element by which it is dominated, and according to the organ towards which the matter is inclining. If the matter consists of salty phlegm and inclines towards the liver, we administer to the patient those drugs that are especially good for purifying the liver, softening the matter and expelling the urine, such as pastilles of tabashi$r$, camphor or sandalwood with oxymel prepared with sugar. When the phlegm is acid, he should be administered pastilles of roses or barberry or anise with juice of endive, fennel, and celery, half a ratl altogether, with one ounce of oxymel syrup prepared with honey. [Let him also take] one of the pastilles which we have mentioned [above] and adhere to this kind of regimen for a week.

If the fever is lasting and does not abate with this kind of regimen, one should give the patient the decoction of roots according to the prescription mentioned by us in the fifth book of this work, ${ }^{20}$ or a drink of lemon-grass or absinth. If the matter inclines towards the stomach and the phlegm is acid, we should treat [the patient] in the beginning of the disease with a drink of honey and warm water or oxymel syrup prepared with honey and warm water. He should be fed with broiled barley broth with peels of fennel roots and celery roots. When this has been purified, one should add oxymel prepared with honey to it.

When the patient is affected by cold in the beginning of the bout of the fever, one should let him drink aneth juice and oxymel syrup prepared with honey with sliced radish. He should stimulate vomiting and put his feet into water in which camomile, melilot, thyme, and southernwood have been boiled. When vomiting occurs spontaneously, he should not try to stop it especially in the beginning of the disease, and one should administer to him roses preserved in honey with warm water. When the superfluity is mature, one should administer to him an infusion of aloe or an infusion of the electuary with aloe, ${ }^{21}$ or an absinth decoction or mastic and aloe pastilles.

When the patient has no strength to bear what we have prescribed, one should give him agrimony, absinth, or rhabarber pastilles with vegetable juice and oxymel syrup prepared with

[^34]honey. He should stimulate vomiting in the beginning of the bout and refrain from food until the severity of the fever has subsided. He should not strive for a very soft regimen since this fever is protracted and only abates after a long time.

For when he strives for a very soft regimen in the case of a protracted disease, his strength is confounded and weakened. When we see signs of ripeness in the urine, we should apply a warm poultice around the stomach and rub it with ingredients that have a strengthening effect and that remove the superfluities from it, such as oil of nard, mastic, absinth, aneth and the like. One should apply this poultice with water in which violets, nard, mastic and absinth, and the like have been boiled. One should apply packs that are moderately warm and fragrant, and the water should be mixed with exquisite wine or with a drink of honey boiled with spices. One should administer to the patient drugs that are good for someone whose stomach is upset, for this fever is especially characterised by pain in the stomach, as we have explained and elucidated.

## GLOSSARY OF MATERIA MEDICA

~cedrat
plums
114,161,218,219,266,281,292,392,401,407,
418,420,423,436,533,535,664,671 لإجّـــاص
black plums الأسود 283
lemon-grass 648,811
myrtle 179,329
عسل
absinth 638,823,826,836
melilot 676,820
anise 646,805
electuary 823
camomile $110,121,135,559,562,571,573$,
↔676,686,771, 820, 836
sorrel seed 460
lettuce seed 310-311
poppy seed 311
بزر خسّ
بزر خشخاش
purslane seed $268,457,541,588$
$\leftarrow$ seed of fleawort $154,266,267,403,437$

## لعاب، ورق

لبّ $\leftarrow$ water-melon wild-amaranth $176,440,674$ vegetables 440,827 green dates 582
acorn 289
violets 106, 113, 149, 161, 179, 219,265,270,
$\leftarrow 272,279,284,291,401,414,420,436,532,559$
نوّار، ودق
preserved violets $219,279,414,543,665,684$
borax 425

بزر رجلة
بزرقطونا

بقول
البلح الأخضر
بلّوط


بورق
manna 665,667,671
ترنجبين
manna from Khurāsān 219,279,284,414,
 ترنجـــبـين

$$
537-538,543,549,782-783
$$

the theriac known as "făūq" التـرياق المعــروف بالفـاروق 650 the färūq theriac ترياق الفاروق 716
apple 455 tamarind 217-218,283-284,392,534,671 gourd peels $301,308,323,564$ rosewater-syrup $113,148,161,266,319,326$,

$$
404,407,436,568,579,596
$$

the anise-electuary 713 جوارش الآنيسون the electuary prepared with والجوارش المتّخـذ بالثـلاثة فـلالانل the three peppers 712 the cumin-electuary 712 الجوارش الكمّوني the electuary prepared with cumin الجوارش المـعمول بالكمّنون 650
broth of barley $176,227,261,408,546,663$,
حسو الشعير 683,780,814
unripe, sour grapes $118,320,327,329,454,557$
lycium 287,288,423
chickpeas 710
sorrel
cedrat pulp 320,327
lettuce 311,441,449
рорру 449
vinegar 108,329,444,555
wine vinegar 300 Egyptian willow 106,330,557 cucumber 441
gillyflower 127
meal of barley $151,307,321,565,577$ water-melon 180,265,295,433,568
oil of absinth 834-835 oil of camomile 130,640 oil of violets $107,157,159-160,173,289,292$, 302,305,312,314,425,433,435,444,445,450-451,553,554,563,572,677,771-772 oil of gillyflower 131 oil of lily 131 oil of aneth $130,640,835$ دهن الفوذنج النهري 640 دهن 645 oil of gourd seed 445-446
oil of mastic 834 oil of nard 834 oil of nenuphar $107,157,173,302,311-312$, 445,555,563
oil of roses $108,157,160,300,316,317,323$, 444,555,556,582-583 oils 129,447,571,706,835
fennel 634,666,701,805
rhabarber 645,716,827
inspissated juice of myrtle 459
inspissated juice of quince 459
inspissated juice of licorice 588
purslane $115,150,152,176,301,308,322,557$,

$$
\text { 564,578 } \leftarrow \text { بزر، قضبان }
$$

pomegranate $65,116,268,272,273,294,317$, seedless 319,326,407,579 الرمّــان الإمـليس
 pomegranate 574 the two kinds of the pomegranates 112,117 , 147,154,160,179,394,400,404,419,434,455,5 32,567, 662,673,688 plants 105
orache $153,440,675$ quince scammony 286,422 145,425,553,704 brown sugar 422 Sulaymān sugar 269,395,420,782 crystalline sugar $113,115,148,180,262,274-$ $275,314,326,328,402,439-440,568,595$ oxymel $663,683,684$ oxymel 662-663,769,780,793-794,803 oxymel prepared with honey $636,714,806$, 814, 816,818,827
oblong أضـلاع السلق وأصوله beet 291,425 pieces of beet and its roots 710

رجلة

رمّان
رمّان

gruel of parched barley 274,325
سـويق الشعير aneth $121,135,714,771,794,818,820$ (medicinal) drink 113,114,149 passim (medicinal) drinks 113,153,594,648


شراب
أشربة
exquisite wine 838
 a potion of honey boiled with المطبون بالأفـاويـه spices 838


عجـين
husked barley 424,553,562

aloe 823,824
gum Arabic 590

the decoction of roots $638,649,810$
149,456,459,802

duck-weed $150,308,322$
palmtree flowers 582
Armenian earth 268

electuary 595
717
barley dough 278
lentils 328
honey 813
gallnut 65
bramble 290
jujube 218,423,541,552
winter grapes $180,264,674$
agrimony 645,826
bread crumbs $273,298,546,574$
لباب
mint 649

Cucumber $319,432,567$
pastille 807
pastilles 149

معجنون
معجونات

## عجـين شــير

عدس
عسـل
عَفْص عِل علّيق عنّاب العنب الشتوي غانت فتات (الخبز) فقّوص فوذنج قتثّاء

قرصـة
أَقرصـة

$$
\begin{aligned}
& \text { pastilles } \\
& \text { 459,585,592,645,646,791,802,804,807, } 826 \\
& \text { gourd } 115,153,176,278,326,328,402,417,441 \text {, } \\
& \text { أقراص } \\
& \text { قَرْع } \\
& \text { 548,57,594 } 5 \text { - جرادة، دهن، قشوه، لب } \\
& \text { costus } 716 \\
& \text { قَشُطْ } \\
& \text { قشثور أصـول الرازيانج } 815 \text { peels of fennel roots } \\
& \text { قششور أصول الكرفس } 815 \text { peels of celery roots } \\
& \text { gourd peels } 151 \\
& \text { purslane stalks } 327 \\
& \text { core of lettuce } 116 \\
& \text { southernwood } 820
\end{aligned}
$$

camphor $149,152,178,577,582,591,802$
cubeb pepper 591
sulphur 716
white gum tragacanth 590
celery 635,701,805
coriander 441
pears 456
pith of watermelon seed 589 pith of cucumber seed 589 pith of gourd seed 589
core of Indian laburnum 218,282,393,415,
 لبّ بَّ التَّاء لبّ بَّ القرع لبَّ خيار شنبر

538,543,549,666
kernels of cucumber 116
bread pulp 114,228,261,409,439
pulp of the green and raw water-melon 264
bindweed 704,781

milk of a woman who is breastfeeding لبن امـرأة ترضـع جـارية a girl 447-448
milk 448

mucilage of the seed of fleawort 151,264- لعاب البزرقطونا 265,294,303,308-309,313,318,322-323,419, 432,434,532,564,566,592
لعاب حبّ السفرجل mucilage of quince seed 313-314,434-435 mucilages 315 لعابات
lac 646
mungo bean 441,674
sebesten 424,552
marjoram 121,127,135 mastic 824,836
salt 771
coarsely ground salt 572 water, juice 109,112,117 passim


roses $106,114,150,152,179,303,307,315,322$,
مـاء، ودق
preserved roses 455-456,684,779,783
roses preserved with sugar 777 وردا مريّى سـكّرّيـا roses preserved with honey ورد مــرهِّى عــســلـي (بالـعــســل) $637,702,822$
leaves of fleawort 106,449-450 ورق البزرقطونا

| purslane leaves 286 |  |
| :--- | ---: |
| ورق بنفسـع |  |
| leaves of radish 714 | ورق ورد 307,577 |

jasmine 127
ياسـمــين

## GLOSSARY OF TECHNICAL TERMS

$$
\begin{aligned}
& \text { إبط } \\
& 12 \\
& \text { أجل } \\
& \text { 285,306,321, 391, 290;423,551,683,784 متّخذ } \\
& \text { أخذ: اتّخذ } \\
& \text { حراء } \\
& \text { أذي: آذى } \\
& 310 \text { وأرقه كثيرا } 659 \\
& \text { أرق } \\
& \text { حمى، ودم } \\
& \text { أرنبة }
\end{aligned}
$$

$$
\begin{aligned}
& 9 \text { ألما قويا دائما } 78 \text { ألم المعدة 755,840 } \\
& \text { مـأمون } \\
& \text { أوّل } 490 \text { الأوائل } \\
& \text { فَصند } \\
& \text { باسليق } \\
& 142 \\
& \text { 83,105,112,121,136 } \\
& \text { بخار } \\
& \text { بخار عذب } 210 \\
& \text { بخرات بخرات غريزيـة حارّة 68 } \\
& \text { ابتداء } \\
& \text { 216,220,225,411,514,641,773,775,813,821 }
\end{aligned}
$$

$$
\begin{aligned}
& \text { نوائبـهــا } 618 \text { ابتــداء عـفـونـة المادّة 619-618 }
\end{aligned}
$$

ابتـداء هـذه الحـمّى 624 ابتـداء النـوائب 687
 الحمّى 817 ابتداء النوبة 828 طبيعة مبادرة
$\leftarrow 72,244,246,358,471,479,585,612,730,751$ بدن
برد، حـرارة، سطـح، مـسـامّ، إصــلاح، عروق، عمق، فرغ، قوّة
$32,51,54,56,66,67,76,81,124,141,156$,
159, 675,705 وأبـدانهم علـى غـــايـة الخـــلاء والنقاء 429-428 $\leftarrow$ وتجـفيف، دلك، ذبل، ســدّ، ظاهر، مادّة 751 أبـرد 143,294,711 بـرّد $303,548,662$

أشبياء
$57,59,60,63,119,125,340,620,687,733,754$,
770,817 البرد الشديد 33 برد الهواء 129 برد شديد متعب للبدن مفتّت للعظام 619وفي من 617 الـر الفـالب علـى مـزاجـه البـرد 654-653 برد شـديد شبيه بالزمهرير 751↔ ابتداء، غلبة، قام ط11,615,742 بارد طبيعة، عفونة، مزاج
بريد برسدة بريد 12 بريد 12

| 47 | برهان |
| :---: | :---: |
| البراهين الواضحة 481-480 | براهـين |
| 123 | أبزن |
| عرق | انبساط |
| بطيء الحركة 777-776 ¢ | بطِ |
| 517 | بطْ |
| 140 | باطن |
| بعد انحلال 830 | بع |
| 183 البلد الحارّ | بلد |
| طبيعة | بلدة |
| البلدان الباردة 653 | بلدان |
| والبا2 | بلفم |
| واحــتـراقـهـهـهـ، 699 البلغم البـارد |  |
| الحقيقة وهو النوع الطبيـيـي 762 |  |
| الحـامض 764 البلفم المالح 768 الـلـو |  |
| مالحا 800-799 ¢ |  |
| 728 | بلغماني |
| 72,802,832 ويكون البول. .أبيض | بول |
| 624 صـار البول أسود 625 وبوله |  |
|  |  |
| أبيض 697-696 |  |
|  | أبوال |
| حمراء نارية لطيفة 374 ¢ |  |



> 749
> " ترفة



775 مستجلبـة للعرق 706 ويستجلب القيء من غير عنف على المعدة 795-794 143
جلد

جامد
نار جمر

ترك
مجاهدة المرض ومصـارعته 531-530 5 صحّة،
جمـاع: اجتمـع
مجـاهدة

مصـارعة، وقت
جهل الطبيب 389
جهل
367 عروق، أفضية
جازت هذا الحدّ 381
جار: جاور

515

حبّ حبّ حبّ

193
عل 547
حاد"
207
أحداث
704وأحدرنا بـد ذلك الطبيعة 691 6 حقنة أشياء
$111,125,139,143,212,246,247,384,397,522$, 651,673 أن يـحـــــنر ذلك غـــــايـة الحـــــنـر 222-223,528 ويحذر استعمال ذلك غاية الحذر 397-398 ويحذرون غاية الحذر 404

فـر 207,357,361,685

ضـمد، طبيعة، عنصر
294,587 حرّ المعدة 454
44,51,54,55,66,70,71,75,198,255,402,730

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حذر

حرارة مفرطة 22 الحرارة الغريزية 25 حرارة الشــمس الصــيـفـيــة 33 حـرارة الثـرارة الثـمس 50,103 حـرارة الســــوم 56 حـرارة مطبـــــة
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أحـرق، احتـرق $\leftarrow$ بلغم، حـمّى، أخـاطط، دم،
(86,669؟ بطيء، ترك، رُطبّ، إنـراط، فـضـل،

85,88 الحرد الثديد 37 208

193,206,370 زكام، المرّة الصفراء

$$
217 \text { تحرّك } 391
$$

حرد
حرّيف
حراذة
حرق: حرك: حرّك حركة ينبوع تحريك الطبيعة 220,225 38

8
أعضاء
أدوية
597

تحريك
أحزّان حستاس أحشاء

حصبة
ويحصر البخارات 140-139 ↔ بخار

| كثف | الستحصـاف - |
| :---: | :---: |
| 80,251,642 | انحطاط |
| 299 | حغظ |
| 234 حغظ القوّه 226 | حفْ |
| 67 | حقن: احتّن |
| 290,423 حـقنة تـوية تـحـر المـادّه إلى أســفل | حقنة |
| 705 حقنة 784 لطيفة |  |
| 643 حقن ليّنة 552 الحقن المسـهلة 608 | هقّن |
| 307,588 | محكوك |
| حكيم الطبّ 256 | حكيم |
| لبر | ¢ |
| المحكم الصنعـة | محكم |
| 287,537,542,549,637,783 انـــــلّ 43 تـــلـّل | حلّ |
| 124,141,142,779 67,81,359 |  |
| تحليل الغضل 586 | تحليل |
| 185 | انحلال |
| 448,561 | حلب |
| 432 | حلْق |
| طَعْمْ | حلو |
| 33 استحمام بـالميـاه القابضـة المجفّفة 62-61 | استّحمام |
| (82,102,104,122,125,133,136,174 | حمّام |
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803,812
304,306,320,324, 221,453,796,825 حـمّل على 443,555,557,580

لحم
43,486,753
15,21,22,40, 45, 11,29,54 passim الارن 90 49,69,74, 76, 79,85, 90 الصـمّى التابعـة لأورام الأرنبــة وأودام الإبط والـعنق 42-41 الحـــــــى المحــرقــة 199,204,343,348-199-198-190 هذه الحمّى أعني المحرقة 259 حمّى الغبّ , 335,336 353,608,657,738 حــــمّى الـنـبّ ذات النـوائب
 341,343-344,351 حمّ قـي قوسوس أعني المحرقة 341-342 الحـمّى المتـولّدة من الدم 466 الصمّى التي تســمّى ...ســونوخـوص أيّ حـمّى دائمــة
 حارّة 486 الحمّى المتولّدة عن عفونة الـد 495 الحمّى المتولّدة عن غليـان اللـي المام (وفورانه) 493-494,498 حــمّى الام 500ولمّا كــانـت هذه

الحمّى متولّدة عن عفونة الدم 508 حمّى الربع 599, 600, 604, 721, 738 حــمّى الربـع الدائمــة 602 حـــمّى الربـع الدائرة ذات النـوائب 603 الحمّى الربعيـة 657 لحمّى النائبة كلّ يوم 725 هذه الحــمّى التي تنـوب كلّ يوم 726 الحـمّى الدائرة ذات النوائب التي تـترك وتأخن في كلّ يوم 735-734 زوال، ســبب، أســبـاب، سـكن, سكون، صلب، طبـيـــة، أعراض، انقـضـاء، كـــر، انكسـار، كيفية، مرار, منتهى، نوبة، نوائب، هزم ، وقت، أوقات

$$
\begin{aligned}
& \text { 17,18,243,246 حمّيات العفن } 383 \\
& \text { 337,472,476 } \\
& 224 \text { حـارت القوّة وضـعفت } 832 \text { تحيّر: تحيّرت } \\
& \text { حال: استّات } \\
& \text { حار } \\
& \text { الطبيعة 224-223 } \\
& \text { حيات }
\end{aligned}
$$

570


خرج: استخرج 264,319,432,433,567 أخـرج: وأخـرجنا له من الام 513

خارج


خارج العروق 483 ثأشياء 517,801 إخــــــراج الدم 520,522,526,527,689 إخراج إخراج المادّة بلطافة ورفق 71701-789 المراج 382,615

خريف
107,445
313
خياشيم
خشونة
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خطاء الليل 389
12,211,383,387
669
↔ 388
$\leftarrow$ خطاء
خطّر

وتخفيف طعامـه 694-693 318,576,581

204-206,377,378,380,381
293,315,317,323,556 خالط 210
644 الخلط الحارّ الصفراوي 345 390,628 احـتـراق الأخــلاط وتشــيّطهــا 628
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أخلاط احتراق الأخلاط 722 ↔ مصابّة، عفونة

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مخف 755

خاف
خوف
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ويدثّرون بالثياب 128 داخل العـروق والأوراد (أوردة) -341,345-340 346,478,482,486-487,508,601,731 داخــلـ(ة) العروق 199-484-190

$$
\text { درّ": أدرّ } ~ \leftarrow ~ ا ٔ د و ي ة ~
$$

117,177,719
دعا: استدعى ويستدعوا القيء 828-819,827

287,394,591
دقّ
دلّ 610,613,614, 616,737,741,744,749

$$
58,93,353,365,512,519,521,607,632,660,681,
$$

698,737,832 دلائل حمّى يوم 187
101
دلالات

دلك 316,771 يدلكوا أبدانهم فيه دلكا رفيقا 137 دلا كان اعـا $42,70,71,472,478,489,547,628$ إنّ الدم لمّا كـان أعـدل العناصـر طبــــا وألذّهـا طعـمــا وأقـربهــا مـن مــزاج الإنســـان 469-468 الدم الخــالص 486 اللم النقي 489 تطفـنـئــة الدم وتسـكـين حـدّته 532-531 احــتــراق الدم 681 ليستفرغ غليظ الدم ومحترقه 690 صفو الدم ومائيته 766-763, 764 $\leftarrow$ حمّى، خرجّ، إخراج، إدمـان، رونق، سكن، مطبـوخـات، أمـراض، ممازجة

| مزاج | دموي |
| :---: | :---: |
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| 386 | دما غ |
| 52 | أدمـغة |

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| 788 أذاب 779 | زاب |
| ممتنع 776 | ذوبان |


| 490 ¢ تجويف، حرارة | رئة |
| :---: | :---: |
| -561,570 | رأس |
| 50,55,109,111,129,448 | روس |
| حمّى | ربی |
| ح382 | ربيع |

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$$
\begin{aligned}
& \text { ربـوّى } \\
& \text { أرجل } \\
& \text { رجلان } \\
& \text { رخص } \\
& \text { رسـوم } \\
& \text { رش } \\
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$$
\begin{aligned}
& \text { فتح } \\
& \text { فَتْح } \\
& \text { فتر } \\
& \text { غترات } \\
& \text { فتل } \\
& \text { فجّ: فجّعّ } \\
& \text { فجّ } \\
& \text { فجاجة } \\
& \text { فراريج } \\
& \text { أفرط } \\
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\]

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    مـادّة
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| لطافة | نسيم |
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| 56 | نشف: نشّف |

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689,822 أنضـج 119,682 6 ك أشياء
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389,510
نظر
237 والنظـر إلى الأثــــيــاء التـي ترتا لـهــا
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801
786,789
سكن، إصـلاح, نظر، هموم
أدويةب،
166
تتظيف
نفخ
نفس
نافع
نفا
243


إنضا
نضارة

المادّة 673 ¢ علامات


قلّ

| 801 | تنظف |
| :---: | :---: |
| 786,789 | نفخ |
| سبب، سكن، إصـلاح, نظر، هموم | ¢ |
| أدوية | نافع |
| 166 | نفا |
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395
65,283,823
669
 282-283 منقّى من حبّه قشره 415 4 مـادّة
أبدان

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## GLOSSARY OF TECHNICAL TERMS

abatement (of the fever) 117,133
absinth $128,137,138$ (- decoction) 137 (-pastilles) 137
abundance $\rightarrow$ blood
acorns $\rightarrow$ suppositories
activities (natural - of the body) 7,97 (of the organs) 8
aetiology $5,6,19 \rightarrow$ ephemeral fever
affliction 120
afflictions $19,21,22,115$ (psychical) 98 (worry, grief, insomnia) 101
age $18,20,21,106,117,122,133$ (young) 129 (advanced) 129
agrimony (- pastilles) 129,137
air (hot) 11 (of the bathhouse) 103 (cold) 103 (mild) 109 (corrupt) $117 \rightarrow$ bathhouse
almond 119
aloe (- infusion) 137 (- electuary) 137 (- pastilles) 137
alum 10,98
amphemerinos $\rightarrow$ quotidian fever
amusement (providing joy and comfort) 105
aneth $103,112,129,132,135-138$
anger $10,101,105$ (great) 98
anise (pastilles of -) $129,136 \rightarrow$ electuary
anointing 104 (of the heads) 103
anxiety 15
appetite 13
apples 120
ardent fever 11-13,106-114 (authentic and false) 12,107 (bilious, mucous) 12 (treatment of -) 12 (two kinds of - , authentic and severe, false and light) 12,107 (very dangerous and frightening) 13,107 (high and severe) 13,110 (symptoms of -) 107 (solid and continuous) 107 (similarity and difference between - and continuous tertian fever) 114
aridness 105
Armenian earth 110
armpit $\rightarrow$ fever
arteries $7,99 \rightarrow$ black bile, blood, fevers, putrefaction, veins
asthma 18 ( mostly caused by the heat of the chest, heart and lungs) 121-122
autumn $16,116,127$
bandages (on the legs) 112,125
barberry (pastilles of -) 136
barley 110 (-broth) $106,110,130,131,135,137$ (broth of fortified -) $108,117,124$ (gruel of parched -) 111,113 (-dough) 111 (- extract) 112 (meal of -) $104,112,113,125,126$ (husked -) $118,124,125$
basilic vein $\rightarrow$ bleeding
bath 10,101,102-105 (with sweet waters) 103 (sweet water -) 105
bathhouse 102,103 (with moderately heated air and water) 105 (with moderate [hot] air) $105 \rightarrow$ air, heat
bathing (in waters which obstruct the pores of the skin) $9,10,98$ (in waters mixed with hot ingredients) 10 (of the body, feet) 11 (in astringent drying waters) 100
beet 112,118 (oblong pieces of -) 132
bile 116 (disturbances in -) 12
bindweed 132,135
birds (meat of -) 132
black bile $9,128,129$ (superfluous) 19 (evacuation of the superfluous -) 20 (putrefied - within the veins and arteries, and outside) $127 \rightarrow$ clysters, matter, putrefaction
bleeding $18,20,122$ (of the basilic vein or the median cubital vein) 131
blockage $\rightarrow$ pores
blood $7,9,99,100,116,121,132,128$ (role and importance of the for the body) 16 (substance with which the body feeds itself) 16,120 (best balanced element, sweetest in taste) 16,120 (intrinsically well-tempered) 17,120 (abundance of -) 17 (putrefied) $17,18,121$ (boiling of the -) 18 (extraction of the superfluous -) 18 (- increases in quantity and its quality is modified) 121 (unripe and undigested) 121 (is by nature inside the veins and arteries) 121 (pure) 121 (extraction of -) $122,123,131$ (not sharp) 124 (disease of the -) 130 (burning of the -) 131 (coarse burned) 131 (the pure and watery part of the -) $134 \rightarrow$ decoctions, fever, putrefaction, urine
blood fever 16-18,20,120-127 (treatment of -) 18 (symptoms preceding - and following its occurrence) $122 \rightarrow$ drinks, pills, synochous fever
body $7,98,99,100,101,109,120,121,126,129,133,134,136$ (external and internal parts of the -) 7,97 (lean) 15,115 (of a
bilious nature) 15 (heaviness and fullness of the -) 18 (empty and clean) 118 (lean, dry and firm) $127 \rightarrow$ activities, blood, exertion, fever, health, pores, pouring, veins
bodies $99,101,103,128$ (outside of the -) 98,99 (thin, arid and dry) 110 (thin) $101 \rightarrow$ massage, pouring, rubbing
borax 118
bout 19,21,115, 117,118,131-133,135-138
bouts $15,116-118,128,127,131 \rightarrow$ intervals
bowels 123 (relaxation of the -) 12,136 (rumbling in the -) 135,136 $\rightarrow$ drugs,
brain $99,126 \rightarrow$ dryness
bramble 112
bran 112,116,118
bread (- pulp) 102,108,117,119 (washed - pulp) 110 (- crumbs) 111,112,124,126
burning fever 14,114
camomile 102,103,125,129-131,135,137
camphor $104,106,126,137$ (- pastilles) 104,136
cardia (of the stomach) $\rightarrow$ stomach, veins
cataplasms 125
catarrh 103
catarrhs $\rightarrow$ chest
causes (physical and psychic) 10 (psychic) 11
cedrat (- pulp) 113
celery $128,131,136$ (peels of - roots) 137
chest (free of catarrhs and cough) $125 \rightarrow$ asthma, disease
chickens 143 (meat of -) 103,105,106
chickpeas 132
childbirth 9
clothes (covering with -) 103
clyster $10,112,118,119$ (a strong - that brings the matter down) 132 (soft) 135
clysters $16,18,20,124$ (that purge the black bile) 129 (relieving) 130
coalfires 103
cold 14,99,102,103,114,128,131,133,134,136,137 (severe) 9,19, $98,127,134 \rightarrow$ morning, temperament
comfort 21,134
complexion 99 (red) 101 (pale) 101,128 (ugly) 101 (grey as lead) 134
constipation $13,20 \rightarrow$ nature
consumption (continuous - of hot food) 10,98-99
contraria contrariis curantur 5,11
cooking $129,130 \rightarrow$ matter
coriander (fresh) 119
costus 132
cough 119 (dry) 13,114 $\rightarrow$ chest
country 106 (hot) $129 \rightarrow$ nature, temperament
countries (hot and dry) 15 (cold) 129
crisis $13 \rightarrow$ disease, times
crystalline sugar $102,104,106,111,113,117,119,129,125,127$
(pulverised -) 110
cubeb pepper 137
cucumber 113,118,119,129,125 (kernels of -) 102 (pith of - seed) 126
cumin $\rightarrow$ electuary
cupping (instead of venesection) 123
dates (green) 126
death $\rightarrow$ fever
decoction 116,130 (- of roots) 128,129,137 (to relieve nature) 116 (which purges the burned yellow bile without harshness)
130 (soft reliable) $136 \rightarrow$ absinth
decoctions 16,22 (which make the blood thin and remove its sharpness and temper its blazing heat) 131
diagnosis 6,20
diarrhoea $15,119,120$ (with the colour of gall) 116
diet 11,16 (three criteria for determining the -) 108
digestion 129
disease $9,10,11,12,17,18,98,99,106,108,117,118,120,123,132$ (treatment of the -) 6 (degree of strength...to fight the disease, duration of the disease, quality of the disease) $13,108,109$ (crisis of the -) 13,109 (four phases of a -) 13,107 ([acute]) 110 (paroxysm of the -) $111,112,118,122$ (the beginning of the -) $116,117,123,129,135,137$ (climax of the -) 123 (in the chest) 124 (duration of the -) 129 (end of the -) 130 (phlegmatic) 131 (protracted) $138 \rightarrow$ blood, fever
diseases 5,17,98 (all the diseases a capite ad calcem) 1 (sexual) 1 (treatment of the -) 6 (sharp) 12 (in the internal organs) 97 (external) 97 (acute) $108 \rightarrow$ treatment
drink 104,108,110-112,117-120,123,128,129,136-138 (cold) 127
drinks 117,129 (cooling) $16,18,20$ (hot) 20,100 (- which heat the blood) 99 (medicinal) 102 (of a balanced temperament) 106
$\rightarrow$ foods
drug (cooling and softening) 124
drugs $22,126,129$ (cold astringent) 120 (which open the obstruction, make the urine stream, and strengthen the bowels) 132 (- that are especially good for purifying the liver, softening the matter and expelling the urine) 136 (- that are good for someone whose stomach is upset) 138
dryness 105 (prevailing over his brain) 119
duck-weed 104,112,113
dyscrasia $\rightarrow$ fever
eating (abstain from -) $132 \rightarrow$ fasting
Egyptian willow 102,113
electuary 127 (prepared with cumin) 129 (cumin-electuary) 132
(prepared with the three peppers) 132 (anise-electuary) 132
$\rightarrow$ aloe
electuaries 132
element $\rightarrow$ blood, nature (hot bilious) 115
emetics 22
emotions (excessive) 10,98,105
endive $104,128,130,131,136$
ephemeral fever 8-10,97-106 (milk-fever) 9 (two kinds of -) 9,98 (three possible causes of -) $9-10,98,99$ (aetiology of -) 10 (due simply to overheating of the body) 10 (symptoms of -) 10,99,106 (different causes of -) 10 (treatment of the different kinds of -) 11 (treatment of -) 99,106
ephemeral fevers 17
errhine 112
errhines 11
erysipelas 122,127
evacuation $108 \rightarrow$ black bile
evaporations (hot, natural) 100
exercise (moderate physical) 104
exertion $10,98,115$ (of body or mind) 10 (bodily) 100 (physical) 104
extraction $\rightarrow$ blood
eyelids (dry) 101
eyes (feel hot) 11 (bulging, quickly moving) 101 (hollow and motionless) 101 (dry) 101 (hollow) 101 (bulging) $122 \rightarrow$ phantasms
face (dry, hot) 11
faces 101 (red) 99 (pleasant) 105 (swollen) 134
faculty (attractive, retentive, digesting, excretory) 98
faculties (psychical) 7,97 (four natural) 98
fainting $13,114,120$
färū $q$-theriac $\rightarrow$ theriac
fasting $131 \rightarrow$ eating
fatigue 115
fear 101
feet $103,112,119,125,131,134,135,137 \rightarrow$ massage, rubbing
fennel 130,131,136 (peels of - roots) 137
fever $16,20,97,109,116,133$ (discussion of -) 7,8 (the most dangerous disease, the messenger of death...) 7,97 (a strange heat...) 7 (a disease arising from a hot dyscrasia...an unnatural heat arising from the heart) 7 (unnatural heat affecting the body) 7 (harmful for the natural activities) 7 (putrefactive) 8 (hectic) 8 (original and accidental -) 8 (humoral) 8 (nature, times of the -) 13 (hot) 121 (intermittent) 21,121,133 (following inflammations of the groin, armpit, neck) 99 (difference between - originating from boiling of the blood and that originating from putrefaction) $122 \rightarrow$ abatement, ardent fever, blood fever, burning fever, ephemeral fever, intervals, quartan fever, quotidian fever, tertian fever
fevers $1,6,8,9,19,20,98$ (mixed) 6 (three-fold division of -) 8 (two-fold division of -) 9 (putrefying - within the arteries and veins) 17 (putrefying) 17,22 (humoral) 21 (two kinds of putrefying -) $121 \rightarrow$ regimen, treatment
fish (freshwater -) 105
flatulence 135,136
fleawort (- leaves) 102,119 (mucilage of - seed) 104,110,112, $113,118,119,123,125,126$ (- seed) $104,110,117,119$
fluid (sickening) 16
food $13,100,104,110,112,113,117,118,123,138$ (little, hot and dry) 15 (too much) 19 (that is digested quickly) 108 (quality of the -) 109 (extremely fine) 109 (much) 109 (the need for -) 109 (large amount of -) 123 (light) 131 (some) $132 \rightarrow$ consumption
foods 105 (heat-producing foods or drinks) 10 (hot) 100,104
foodstuff(s) (fine) 18,131 (fine, quickly digested and of good substance) 124
foot-baths 16
forehead $112,119,125,126 \rightarrow$ rubbing
francolin(s) 132 (meat of -) 102,106
frost (severe) $100,103,134$
fury 101,105
gall $\rightarrow$ diarrhoea
gallnuts 100
gillyflower 103
goats ([the meat of] -) 105,106
gourd $102,104,106,111,113,117-119,126$ (- peels) $104,112,113$, 125 (- seed) 119 (roasted) 124,127 (pith of - seed) 126
grapes 118,124 (unripe, sour -) $103,113,120$ (winter -) 110,119 , 130
grief $101,105 \rightarrow$ afflictions
groin $\rightarrow$ fever, inflammation
gruel $\rightarrow$ barley
gum Arabic 126
gum tragacanth (white) 127
habit 106, 122
hand 100 (heat of the -) 108
hands 125,134
head 119,125 (burning) 11 (heavy) 122
heads (warm) 99 (containing phlegm) $102 \rightarrow$ anointing, heaviness, pouring
headache $12,18,99,102,112,119,122,125$
health (of the body) 13
heart $7,99,100,131 \rightarrow$ asthma, vessels
heat $16,18,22,99,100,133,134$ (in the summer) 9 (of the sun) $10,98,99,102,102$ (of the bathhouse) 10 (loss of -) 10 (continuous) $12,106,107$ (intense blazing) 14,116 (asthmatic) 18,121 (excessive) 98 (innate) 98 (burning - of a hot sandstorm) 99 (intense) 101 (of the stomach) $110,112,120$ (strong) 117 (of the surface of the body) 122 (blazing) $136 \rightarrow$ fever, oils
heaviness 19 (in the heads) 99-100 $\rightarrow$ body, members
honey 137 (prepared with spices) 128 (boiled with spices) 138 $\rightarrow$ oxymel, roses, violet(s)
horse-fennel 128
humour 128 (superfluous) 103 (bilious) 107,114 (hot yellow) 114 (bilious sharp) 115
humours $8,9,17,100,116$ (burning of the -) $128,132 \rightarrow$ putrefaction
Indian laburnum (core of reedy -) 108 (core of purified -) 111,116 , $118,124,130$
indolence 18,122
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inflammations $\rightarrow$ fever
infusion 100,111,137
infusions 117
ingredient 120
ingredients 110,111 (- that have a strengthening effect and that remove the superfluities) 138
insomnia $12,13,15,112,129 \rightarrow$ afflictions
intercourse (sexual) 105
intervals (in the - between the bouts of fever) 109
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jaundice 13,114,120
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joy $\rightarrow$ amusement
juice 102-106,108,110-113,117,118,123,125-128,130-132,135-
137 (inspissated) 120,126
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kausos 12,114
lac (- pastilles) 129
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legs $112 \rightarrow$ bandages, rubbing
lemon-grass 129,137
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(concave part of the - ) $\rightarrow$ drugs, pneuma, veins
lung (cavity of the - ) $\rightarrow$ veins
lungs $121 \rightarrow$ asthma, veins
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mastic 138 (- pastilles) 137
matter $130,131,136,137$ (putrefying) 115,118 (outside the veins) 115 (superfluous) 128,135,136 (coarse) 129 (mature) 131 (every -, whether it consists of phlegm, yellow or black bile, when it putrefies, acquires [the quality of] cooking) $133 \rightarrow$ clyster, cooking, drugs, nature, vomiting
measles 127
meat $\rightarrow$ birds, chickens, francolins, goats, lambs
median cubital vein $\rightarrow$ bleeding
medicine 1 (ancient and Byzantine) 5 (modern) 9 (Islamic) 13,16 (methods of -) 97 (preventive) 117
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members 128 (heaviness and fullness of the -) 122
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moisture $99,101,103,134 \rightarrow$ bile
morning 109, 117,118 (cold of the -) 109
mouth (dry) 113,135 (sweet taste in his -) 130
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movement 98 (excess of bodily -) 10,98
mucilage $\rightarrow$ fleawort, quince
mungo bean(s) 119,130
myrobalan (yellow) 116
myrtle 106,113,120
nard 138
natron $10,98,111,118$ (pounded) 112
nature 17,120,121,122 (human) 106 (of the patient) $108,109,111$, 112,117-119, 123,124,135,136 (of the element that causes the fever) 115 (to relieve -) 116,131 (if the - of the patient is constipated) 117,123 (of the country) 127 (of the actual weather) $122,129,131$ (if the - of the patient suffers from constipation) 111,130,132 (of the time [of the year]) 133-134 (of the phlegm) 134 (of the matter) $136 \rightarrow$ body, decoction, fever, phlegm
nausea 135,136
neck $\rightarrow$ fever
nenuphar $102,105,112,113,119,125$
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old men $\rightarrow$ phlegm
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orache 104,119,130
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pack 112,113 (warm) 104
packs (moderately warm and fragrant) 138
pain 19,97 (constant, heavy - in the joints) $100 \rightarrow$ spleen, stomach
palmtree (flowers) 126
palpitation 13,113,126
paroxysm $\rightarrow$ disease
pastilles 127,129,136 (tested for alleviating blood fever) $126 \rightarrow$ agrimony, anise, absinth, barberry, camphor, rhabarber, rose(s), sandalwood, tabāshir
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patients $100,105,117,127,134$
peppers $\rightarrow$ electuary
perplexity 12
perspiration 101,128 $\rightarrow$ oils
phantasms (red - appearing before one's eyes) 122
phlegm 22,128,133 (humoral) 9 (disturbances in -) 12 (vitreous or acid) 21 (superfluous) 22 (burning of the -) 131 (the domination of the - over old men by nature and over young men by coincidence) 133 (putrefies and becomes hot) 134
(cold and moist) 134 (more cold and more coarse but less moist) 134 (more hot and more dry such as the salty -) 134 (salty -) 134-136 (acid) 136,137 $\rightarrow$ heads, matter, nature, putrefaction
phrenitis $13,114,116,119$
physician $6,12,101,107,108,115,117,120,134$ (practising) 6 (foolishness of the -) 116
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poppy 119 (-seed) 113
pores 103,104 (that which compresses the pores) 10 (obstruction of the - of the skin) 10 (open) 15,115 (blockage of the - of the body) $17 \rightarrow$ bathing, oils
poultice (warm - around the stomach) 138
pouring (of water over the heads) 102 (of sweet lukewarm water over the bodies) 103 (of lukewarm water over his body) 130
prescriptions 14,16
pricking (sensation of -) $115 \rightarrow$ liver, stomach
pulsation (varying - of the veins) 122
pulse 11,20 (small and fast) 11 (changes in the condition of the -) 14 (fast powerful) 18,132 (slow and very irregular) 19-20 (strong and powerful) 101 (slow) 131
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purgations 16
purgatives 22,136
purslane $102,104,106,112,122,125,126$ (- seed) $110,120,124$
putrefaction $98,106,121,122$ (of residues) 8 (outside the veins and arteries, and inside) $14,21,114$ (of the blood within the arteries and veins) 16 (of the humours) 17 (of the blood) 18,122 (of (pure) black bile) 19,127,132 (of the (humoral) phlegm) 21,133 (of the humour(s) inside the veins and arteries,
and outside) 21,121 (of the [superfluous matter]) 127 (of pure black, cold and dry bile) 128 (of the phlegm outside the veins and arteries) $133 \rightarrow$ fever
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[^0]:    ${ }^{1}$ For his biographical and bibliographical data see my Ibn al-Jazzār on women's diseases and their treatment, pp. 296-297, and especially the introduction to my edition and translation of book six of Zäd al-musäfir.
    ${ }^{2}$ Ed. Tunis 1986. For a critical evaluation of this edition see my edition of book six.
    ${ }^{3}$ He omitted the mixed fevers probably in conformity with his aim to compose a concise practical handbook.

[^1]:    ${ }^{4}$ The only partial edition I know about is that by Latham-Isaacs which deals with the section on "sill" (consumption) from K. al-hummäyät by Isḥāq ibn Sulaymān al-Isrā’ íli.
    ${ }^{5}$ See Steinschneider, Die hebräischen Handschriften in Berlin, 104, no. 252; idem, Schriften der Araber in hebräischen Handschriften, 346; Ullmann, Die Medizin im Islam, p. 147, n. 6.
    ${ }^{6}$ See Fleischer, Catalogus codicum manuscriptorum orientalium in Bibliothecae Regiae Dresdensis, 31-2; Dugat, Études, 293-4; according to

[^2]:    Dugat (op. cit., 293) the copying of this MS was completed in the year 1009/1600.
    ${ }^{7}$ See Uri, Bibliothecae Bodleianae codicum manuscriptorum orientalium ...catalogus, vol. 1, 133, no. 559.
    ${ }^{8}$ Cf. Sezgin, GAS III, 305. I thank Professor Mohaghegh for providing me with a photostat of this MS.
    ${ }^{9}$ See Dietrich, Medicinalia Arabica, 63-4. I thank Professor Sezgin for providing me with a photostat of book seven of this manuscript.
    ${ }^{10}$ For an extensive comparison of MSS Copenhagen and Dresden see my edition of bk. 6 of the Zād. For MS Paris see Vajda, Index général des manuscrits arabes musulmans, p. 729. Sezgin, op. cit., p. 305, refers to the fact that MS Paris is a copy of Dresden.

[^3]:    ${ }^{11}$ Dr Conrad is preparing a catalogue describing all the MSS from this collection acquired by the Wellcome Institute for the History of Medicine.
    ${ }^{12}$ The bibliographers mention two more MSS of the Zād al-musäfir, namely, Dublin, Chester Beatty 5224, fols. 50b-88a, and Washington, Army Medical Library $92 / 1$, fols. 1-73. Their information, however, is incorrect. These MSS do not contain Ibn al-Jazzār's Zād al-musāfir as the bibliographers suggest, but his Țibb al-fuqarä' wa-l-masäkin (Medicine for the poor); see my edition of book six for a more detailed discussion of this issue.
    ${ }^{13}$ The question of the extent to which the translations into Greek, Hebrew and Latin could assist in this task is equally vexed. No scientific research on the Greek tradition has been done, the Hebrew tradition consists of MSS representing three different translations, and Constantine's Latin rendering is a paraphrase for which, again, the state of the textual tradition is unknown.

[^4]:    ${ }^{14}$ For the application of this rule in the case of fevers see Galen, Ad Glauconem de methodo medendi I, ch. 10 (Kühn X, p. 32).
    ${ }^{15}$ See Green, The transmission of ancient theories of female physiology and disease through the early Middle Ages, pp. 128-129, n. 110.

[^5]:    ${ }^{16}$ Introduction to Tibb al-fuqarä' wa-l-masäkin, MS Paris 3038; I am preparing a critical edition with English translation of this text; see my edition of Bk. 6 of the Zād for a more extensive treatment of the subject.

[^6]:    ${ }^{17}$ Ibn Sinā, K. al-Qānūn fìl-tibb, Bk. 4, discourse 1, ch. 1, p. 2.
    ${ }^{18}$ Al-Mājūsī, Kāmil al-ṣinā'a al-tibbiya, Bk. 1, discourse 8, ch. 2, p. 347.
    ${ }^{19}$ De febrium differentiis, I, ch. 2 (Kühn VII, p. 277); Über die medizinischen Namen, p. 19 (Arabic text p. 9); cf. Brain, Galen on bloodletting, p. 10. Brain rightly remarks that since in Galen's system all fevers are pathological dyscrasias of the Hot, he would not have agreed with the modern idea, which some of the ancients seem to have held also, that fever is a beneficial adaptation.

[^7]:    ${ }^{20}$ Ibn Sīnā, ibid. Al-Mājūsī, ibid.
    ${ }^{21}$ See Galen, De methodo medendi X, ch. 1 (Kühn X, pp. 661-663); Brain, op. cit., p. 13; Langermann, Maimonides on the synochous fever, pp. 179-180.
    ${ }^{22} \mathrm{Al}$-Mājūsī, ibid.

[^8]:    ${ }^{23}$ Latham-Isaacs, op. cit., p. 82, n. 20.
    ${ }^{24}$ al-Mājūsī, op. cit., Bk. 1, discourse 8, ch. 3, p. 348.
    ${ }^{25}$ Ibn Sīnā, op. cit., Bk. 4, p. 6.
    ${ }^{26}$ K. al-hummāyāt, op. cit., pp. 6-7 (Arabic); p. 7 (English translation).

[^9]:    ${ }^{27}$ On these kinds of waters see the extensive discussion by Qusṭā ibn Lūqā in his Risāla fi tadbir safar al-hajj, ch. 8.
    ${ }^{28}$ Op. cit., ibid.
    ${ }^{29}$ Op. cit., Bk. 4, pp. 5-6; cf. p. 8.
    ${ }^{30}$ Op. cit., Bk. 4, pp. 8-16. The first type, for instance is called "hūmā yawm ghamīya" (ephemeral fever caused by sorrow).
    ${ }^{31}$ Brain, op. cit., p. 11.

[^10]:    ${ }^{32}$ See, for instance, Ad Glauconem de methodo medendi I, ch. 2 (Kühn XI, p. 8).
    ${ }^{33}$ Op. cit., Bk. 4, pp. 8-16.
    ${ }^{34}$ For the importance of the bathhouse (hammām) in Islamic culture see Grotzfeld, Das Bad. For the prominent role of bathing in curing all fevers see Galen, Ad Glauconem de methodo medendi I, ch. 3 (Kühn XI, p. 14).
    ${ }^{35}$ Grmek, Diseases in the ancient Greek world, pp. 289-292. In this section entitled "The Meaning of Kaûsos in Hippocratic Medicine," Grmek has dealt exhaustively with the ancient sources discussing this disease, as well as with modern interpretations.

[^11]:    ${ }_{37}^{36}$ Op. cit., Bk. 4, p. 38.
    ${ }^{37}$ Cf. Grmek, op. cit., p. 292.
    ${ }^{38}$ Ed. Puschmann, vol. 1, p. 323.
    ${ }^{39}$ Op. cit., Bk. 4, p. 38.

[^12]:    ${ }^{40}$ This quotation is not from Galen's De crisibus as adduced by Ibn al-Jazzār, but probably an adaptation of Galen's commentary on Hippocrates' De victu acutorum, ed. Helmreich II 36, 580, pp. 194-195. I thank Professor Vivian Nutton for this reference.
    ${ }^{41}$ Op. cit., Bk. 2, discourse 3, ch. 11, p. 229.
    ${ }^{42}$ De totius morbi temporibus (Kühn VII, pp. 440-462); De crisibus I, ch. 2 (Kühn IX; pp. 551-552); cf. Paul of Aegina, Bk. 2, ch. 4.
    ${ }^{43}$ Cf. Ibn Sinā, op. cit., Bk. 1, p. 78.

[^13]:    ${ }^{44}$ Op. cit., Bk. 4, pp. 38-39.
    ${ }^{45}$ Paul of Aegina, De re medica, Bk. 2, ch. 18, speaks of "moving yellow bile", and al-Mājūsī refers to putrefied yellow bile (Op. cit., Bk. 1, discourse 8, ch. 4, p. 351).
    ${ }^{46}$ Op. cit., Bk. 1, discourse 8, ch. 4, p. 352. Al-Mājūsī says that this distinction holds good for all fevers originating from the putrefaction of one of the humours. Galen distinguished between intermittent tertian fever and continous semi tertian fever; see Über die medizinischen Namen, p. 10, n. 5.
    ${ }^{47}$ De crisibus II, ch. 3, (Kühn IX, pp. 656-657).
    ${ }^{48}$ Op. cit., Bk. 2, ch. 18.
    ${ }^{49}$ Op. cit, Bk. 4, p. 34.

[^14]:    ${ }^{50}$ Op. cit., Bk. 1, discourse 8, ch. 5, p. 354.
    ${ }^{51}$ De febrium differentiis II, ch. 1 (Kühn VII, p. 334); cf. De crisibus II, ch. 3 (Kühn IX, p. 657); Ad Glauconem de methodo medendi I, ch. 5 (Kühn XI, pp. 19-20).
    ${ }^{52}$ De febrium differentiis II, ch. 3 (Kühn VII, p. 339); cf. Ad Glauconem de methodo medendi I, ch. 9 (Kühn XI, p. 29). In Über die medizinischen Namen, p. 10 (Arabic text p. 3), Galen refers to a tertian fever lasting for twenty-six hours and abating for twenty-two hours.
    ${ }_{53}^{53}$ Op. cit., Bk. 2, ch. 18.
    ${ }^{54}$ Op. cit, Bk. 4, pp. 34-35.

[^15]:    ${ }^{55}$ Op. cit., Bk. 4, pp. 35-38.
    ${ }^{56}$ Op. cit., Bk. 2, discourse 2, chs. 12-13; pp. 234-241.
    ${ }^{57}$ Ad Glauconem de methodo medendi I, chs. 10-11, (Kühn XI, pp. 32-37.)
    ${ }^{58}$ Hippocratis de natura hominis liber primus et Galeni in eum commentarius (Kühn XV, p. 88; Mewald I 37, pp. 46-47); cf. De temperamentis (Kühn I, pp. 524-535); Brain, op. cit, pp. 7-8 and Langermann, Maimonides on the synochous fever, pp. 180-181 treat this subject extensively.
    ${ }^{59}$ See Ullmann, Islamic medicine, pp. 58-59; 64-65.

[^16]:    ${ }^{60}$ See Langermann, op. cit., pp. 180-181.
    ${ }^{61}$ Ibid.
    ${ }^{62}$ De febrium differentiis II, ch. 1 (Kühn VII, pp. 335-336). Langermann, op. cit., p. 181 suggests that restriction to blood fever only happened in late antiquity. See as well idem, pp. 186-188 for a summary of Maimonides' criticism of Galen's discussion of putrefying fevers.
    ${ }^{63}$ De methodo medendi IX (Kühn X, pp. 604-605); see Langermann, op. cit., p. 185; cf. Paul of Aegina, op. cit., Bk. 2, ch. 27.

[^17]:    ${ }^{64}$ Op. cit., vol. 1, p. 325.
    ${ }^{65}$ Op. cit., Bk. 4, pp. 39-40.
    ${ }^{66}$ Op. cit., Bk. 1, discourse 8, ch. 4, p. 351.
    ${ }^{67}$ Op. cit., Bk. 4, pp. 40-41.
    ${ }^{68}$ Op. cit., Bk. 1, discourse 8, ch. 5, p. 356.
    ${ }^{69}$ Op. cit., Bk. 2, discourse 3, ch. 16, p. 248.
    ${ }^{70}$ Op. cit., Bk. 4, pp. 41. Paul of Aegina (op. cit., Bk. 2, ch. 27) gives exactly the same advice.
    ${ }^{71}$ For Ibn Sinā’s treatment see op. cit., Bk. 4, pp. 41-42; for al-Mājūsi see $o p$. cit., Bk. 2, discourse 3, ch. 16, pp. 248-252.

[^18]:    ${ }^{72}$ De febrium differentiis II, chs. 1-2 (Kühn VII, pp. 335-336).
    ${ }^{73}$ Op. cit., Bk. 1, discourse 8, ch. 4, p. 351.
    ${ }^{74}$ Op. cit., Bk. 4, p. 51.
    ${ }^{75}$ Op. cit., Bk. 1, discourse 8, ch. 4, p. 351.

[^19]:    ${ }^{76}$ Op. cit., Bk. 1, discourse 8, ch. 5, pp. 354-355.
    ${ }^{77}$ De crisibus II, ch. 4 (Kühn IX, pp. 638-639); cf. Ad Glauconem de methodo medendi I, ch. 6, (Kühn XI, pp. 20-21). Paul of Aegina also stresses the importance of the pulse (op. cit., Bk. 2, ch. 21).
    ${ }^{78}$ Op. cit., Bk. 4, pp. 52-53.

[^20]:    ${ }^{79}$ De febrium differentiis II, ch. 1 (Kühn VII, p. 335).
    ${ }^{80}$ Op. cit., Bk. 4, p. 42.
    ${ }^{81}$ Op. cit., Bk. 1, discourse 8, ch. 4, p. 351.

[^21]:    ${ }^{82}$ Ibid., p. 355.
    ${ }^{83}$ De febrium differentiis II, ch. 1 (Kühn VII, pp. 334-335); cf. Ad Glauconem de methodo medendi I, ch. 7, (Kühn XI, pp. 22-24).
    ${ }^{84}$ Op. cit., Bk. 2, discourse 3, ch. 15, pp. 245-247.
    ${ }^{85}$ Ad Glauconem de methodo medendi I, ch. 13 (Kühn XI, pp. 22-24).

[^22]:    ${ }^{1}$ "End of life" (ajal). For this concept and its role in Islamic theology see now B. Abrahamow, "The appointed time of death (agal) according to 'Abd al-Ğabbār."

[^23]:    ${ }^{2}$ These evaporations had been prevented from leaving the body, thus causing the heat to collect in it; cf. Paul of Aegina, op. cit., Bk. 2, ch. 17; al-Mājūsī, op. cit., Bk. 1, discourse 8, ch. 3, p. 348.

[^24]:    ${ }^{3}$ The sweet and acidulous varieties of the cultivated pomegranate; see Latham-Isaacs, K. al-ḥummāyāt, p. 88, n. 72.

[^25]:    ${ }^{4}$ Tabāshïr: cf. Levey, The medical formulary or Aqrābādhin of al-Kindī, p. 300, no. 186: "It is a kind of 'lime' as a concretion in the knots of a particular species of bamboo. It is 'chalk' in Iran and Iraq today. The word is Pers. but may have come from Sans. twak-kshïrä, indicating the Bambusa arundinacea Schreb." Cf. Said, al-Biruni's Book on Pharmacy, p. 218, n.1: "Tabāshir denotes the young shoots, seeds and siliceous concretion of Bambusa arundinecea Retz. (family, Graminae)."

[^26]:    ${ }^{5}$ One standard dirham is 3,125 grams; see Hinz, Islamische Masse und Gewichte, pp. 3-4.
    ${ }^{6}$ For the varying weights of the ounce see Hinz, op. cit., pp. 34-35; in Egypt it was 37,5 grams.
    ${ }^{7}$ Freytag, Lexicon, vol. 2, p. 334, remarks about this kind of sugar that it is "saccharum purissimum" (very pure sugar).

[^27]:    ${ }^{8}$ For the varying weights of the ratl see Hinz, op. cit., pp. 3, 28-33. In Fatimid Egypt it was 437,2 grams.
    ${ }^{9}$ One mithqāl is 4,464 grams; see Hinz, op. cit., p. 4.

[^28]:    ${ }^{10}$ The Hebrew versions of MSS Munich 19 and Parma 1044 have "'ashakhim" (testicles) for "rayḥān" (plants).
    ${ }^{11}$ The Arabic "birsām" can mean either "pleurisy" or "phrenitis", a now outdated term, at one time denoting either "inflammation of the brain" or "delirium" (See Latham-Isaacs, op. cit., p. 102, n. 103).
    ${ }^{12}$ Phrenitis is discussed in Bk. 1, ch. 18; cough in Bk. 3, ch. 6, fainting in Bk. 3, ch. 14, and jaundice in Bk. 5, ch. 10.

[^29]:    ${ }^{13}$ Bk. 3, ch. 6.

[^30]:    ${ }^{14}$ Cf. Bk. 4, ch. 20.
    ${ }^{15}$ sahj: cf. Lane, Dictionary, p. 1315: "Dysentery, or the like; a certain disease of the bowels; an abrading disease in the belly."

[^31]:    ${ }^{16}$ One habba is 0,0446 grams; see Hinz, op. cit., pp. 12-13.

[^32]:    ${ }^{17}$ Cf. Bk. 2, ch. 15.
    ${ }^{18}$ The weight of one däniq varies from 0,52 until 0,74 grams.

[^33]:    ${ }^{19}$ For the composition of this famous theriac see Ibn Sinā, op. cit., Bk. 5, pp. 310-313; cf. Ullmann, Medizin, p. 321.

[^34]:    ${ }^{20}$ See Bk. 5, ch. 9 (MS Dresden fols. 186-193).
    ${ }^{21}$ Also called "iyāraj fikrā," whose main component was aloe, see Ullmann, op. cit., p. 296.

