BALÁDHUR (MARKING-NUT): A POPULAR MEDIEVAL DRUG FOR STRENGTHENING MEMORY

By Gerrit Bos
The Wellcome Institute for the History of Medicine, London

Introduction
According to the medieval medical concept, ultimately going back to Galen, memory is a psychical faculty located in the posterior ventricle of the brain. When this faculty is affected by a disturbance of the balance of the four bodily humours, i.e., by too much moisture and/or coldness of the brain, forgetfulness will be the result. One way to treat this affliction is to restore the humoral balance by administering warm drugs. A popular but also notorious drug for forgetfulness was baládhur (Semecarpus anacardium L.; marking-nut), indigenous in India, and called by the Arab physicians 'habb al-fahm' (nut of apprehension). The popularity of the marking-nut is sometimes explained from the fact that its juice when exposed to the air turns into a black corrosive fluid which was used as an indelible ink for marking linen and woolen clothes. Another explanation is that the nut has the shape of a heart, cf. the Latin 'anacardia' and the Arabic epithet 'habb al-gabal'. The black, resinous, viscid and acrid juice of the nut is called 'honey' by the medieval physicians; it is, according to them, hot and dry in the fourth degree and is recommended for a variety of diseases, but above all forgetfulness.

In India it is still used today for several types of ailm. In traditional medicine it is highly valued for the treatment of tumours and malignant growths. Recent studies carried out on the drug have shown promising results in the treatment of cancer. The fruit is reported to be caustic, astringent, alterative, antirheumatic, carminative, counter-irritant, rubefacient, and vesicant. The drug is recommended in the treatment of insanity, fever, dysentery, loss of appetite, neurological diseases and cardiac troubles.

Although baládhur was a very well-known drug and especially notorious for its connections with the death of al-Baládhuri, so far there has been no account of its origins and prevalence in Arab-Islamic and Jewish literature. Therefore in this paper I will provide such an account, and will conclude with an extensive treatment of al-Risálá al-sháfiyya ft adwáya al-nísán (Efficacious message on remedies against forgetfulness), an early and unique treatise on

1 I thank Professor Vivian Nutton for reviewing an earlier draft of this paper.
3 According to Aristotle, the heart had an important function in the production of memory, since it received all externally derived impressions and then transmitted them to the brain where this information was stored. And although, from the Alexandrians Herophilus and Erasistratus on, the brain became the centre of all neurological activities and the heart only had warmth and 'vital spirit', the metaphorical use of 'heart' for memory persisted, cf. the Latin 'recordari'; see Mary Carruthers, The Book of Memory (Cambridge, 1990), 48–9.
4 For baládhur see Schmucker, op. cit., no. 137; Semecarpus anacardium L. (Anacardiaceae), zu den Sumachgewächsen zählender Ostindischer Tintenbaum, Merkfrucht-baum; Merkuss, Elephantiurn, Vogelherz, Malakkanuss; Immanuel Löw, Die Flora der Jüden, 4 vols. (Vienna/Leipzig 1928–34), i, 202–3; Ahmed Issa, Dictionnaire des noms des plantes en latin, français, anglais et arabe (Cairo, 1930), 166.
6 See V. V. Sivarajan and I. Balachandran, Ayurvedic drugs and their plant sources (New Delhi, 1994), 65.
Baladur in ancient and Byzantine literature

It seems that the ancient Greeks and Romans did not know about this drug, since their medical literature does not refer to it. The following quotation in the name of Galen by Ishaq b. Hunayn in *al-Risāla al-shafīya fī adwiyah al-misyan*, which seems to indicate otherwise, is probably pseudographical:

> There are many statements about the fruit of the baladur, some recommend its use, others prohibit it. The reason that some physicians forbid its use is that there is no proper prescription of its preparation or application, while others recommend it because some people used it and got a wonderful memory without any harm occurring to them. Therefore, I will give a description of its proper preparation and application, with God's help. 8

This quotation may go back to Galen's *De locis affectis*, where he extensively discusses the affliction of memory and the application of drugs based on the prevailing dyscrasia and summarizes:

> At any rate, the constitution is always cold, when there is a loss or a severe dyscrasia of the memory. Then warming up is indicated. But one should not necessarily apply dry or moist [remedies]. If moisture is superimposed on this constitution, one has to apply dry remedies; if dryness, one should moisten it; and if the dyscrasia is mixed, one should maintain it in the same condition. 9

The fact that Galen does not mention *baladur* explicitly, but the general term of 'heating and drying remedies', probably led to Ishaq's interpolation of *baladur*, one of the most popular but also most controversial memory drugs.

The earliest authentic reference to *baladur* is that by the Byzantine compiler Alexander of Tralles (sixth century). In his discussion of affections of the epigastrium, he remarks that one of the effective means is "θεοδρόπτης δι' ανάκρισιν" (the anacardium drug). 10 Paul of Aegina (seventh century) gives a recipe called *'Theodortiotes di' anakrisin'" (Theodoretus's anacardium drug). Another early reference is that by the Alexandrian Presbyter Ahrun (first half of the seventh century) whose medical compendium survives mainly in quotations. 11 A prescription from his hand for someone suffering from forgetfulness, sleeplessness or dementia (*dhihāb al-dhīni*) has been preserved by the Arab physician al-Rāzī (865–932): "Treat him with baladur and gargarces which attract the phlegm. If he has already been forgetful for a long time you must cauterize him in his neck." 12

The composite Syriac Book of Medicines probably dating from the early Middle Ages, 14 gives a detailed prescription of two compound medicines prepared with *baladur*. The first is good for protracted pains in the stomach; it makes the faces shine and brightens the intellect, while the second is good for a variety of ailments, such as vertigo, delirium, afflictions of the spleen and kidneys, gout, elephantiasis, and for the ailments that are produced by black bile. 15

Baladur in Islamic literature

*Baladur* is first of all treated extensively in the pharmacological literature. Sābūr b. Sahl (d. 869) gives the same recipe called 'Anaqardia' as the *Syriac Book of Medicines* 16 for a variety of ailments, amongst them forgetfulness. 17 Ibn al-Jazzār (tenth century) discusses the properties of the *baladur* in his Kitāb al-I'timād fī adwiyah al-mufraz, 18 a discussion which forms the point of departure for the extensive treatment by Ibn al-Bayṭār (thirteenth century) with many quotations from earlier sources. 19 The exposition by al-Bīrūnī (d. 1048) 20 is very similar to and probably based on that of Ibn Sīnā (980–1037). 21 Al-Ghāfqi (twelfth century) finally gives a summary of earlier sources, amongst them Ibn Juljul (tenth century). 22

The first Arab physician recommending this drug is Ibn Māsawayh (777–857) who gives in his Kitāb al-adwiyah al-munqiyya (On Purifying Drugs) 23 the following prescription for forgetfulness:

> Good for forgetfulness is to eat mustard and to apply a plaster consisting of mustard and castor to the back of the head. The frequent consumption of many onions corrupts the brain and causes forgetfulness. Someone

---


14 According to Dr. Lawrence I. Conrad it probably goes back to the ninth century.


16 *See his al-Ashābī al-shārī fī al-mufraz (Dispensatorium parvum), ed. O. Kahl (Leiden, 1994), Nr. 22.


suffering from it should eat every day one dietham 24 of baladthor with hot water on an empty stomach. For meat he should eat birds with little fat, such as sparrow, turtledove, larks, and young partridges, while he should drink honey-water.25

Hereafter baladthor was recommended in the major Arabic medical compendia, such as al-Tabari's Firdaws al-hikma, composed in 850, al-Majusi's Kitab Kamil al-sinaa'a, Ibn al-Jazzar's Zad al-masdir,26 and Ibn Sinâ's Kitab al-Qarn al-tibb. Al-Tabari recommends it, next to other compound drugs, different galleys, and the gall of all kinds of birds as treatment for forgetfulness and corruption of the mind (fasdul al-dhimm).27 Ibn Sinâ (980–1037) recommends various means to treat forgetfulness. One of these is the administration of heating drugs, especially baladthor.28 Al-Majusi (tenth century) recommends the baladthor concoction.29 Baladthor also features prominently in a unique monograph on forgetting and its treatment composed by Ibn al-Jazzar (tenth century): The electuary of the baladthor, and all the concoctions of which it is a component, which the ancients have composed, are good through the same activity mentioned above with regard to all the other warm, compound drugs. Their usefulness lies in their special quality which they derive from the baladthor or similar drugs. The special quality of the baladthor is its usefulness against forgetfulness.30

Baladthor in Jewish literature

In Jewish medical literature baladthor is recommended frequently.31 It is mentioned for the first time in a medical compendium entitled Sefer Asaph and composed by Asaph Judaeus, an ancient Jewish physician whose exact period of life is uncertain.32 Asaph recommends it for pain of the heart.33

Maimonides (1135–1204) discusses it in his monograph on poisons. He remarks that in the case of someone who has taken a deadly poison which had been added to his dish, this poison can, though admittedly with great difficulty, be identified from the degree it affects the colour, smell, and/or taste of the dish. The 'hotness' of the Semecarpus anacardium is, he says, discernible in taste, even in a small amount.34 The legend goes that Maimonides had been learning Torah for 20 years without remembering even one letter. One day the master he was serving had to go on a journey and told him not to eat from certain pots containing baladthor. But Maimonides, disobeying the order, did eat from them, and as a result remembered all 18 degrees of the Torah.35

Moshe Narboni (c. 1300–62) recommends baladthor in his Sefer Oran Hayyim for forgetfulness caused by cold moisture, next to sharp clysters, salves, and other drugs.36 The Jewish encyclopaedist Meir Aldabi (c. 1310–60), prescribes it in his Shevilei Enothath (Paths of Faith) as a heating remedy which removes the phlegm.37

A well-known proverb, preserved by Isaac Abrabanel (1437–1508), states: 'Hazor we-hazor we al tsareak le-baladthor' (Repeat and repeat again so that you will not need baladthor).38 Jewish popular literature repeatedly refers to a compound drug of varying composition called 'baladthor qatun' as an antidote for memory loss.39 One prescription is: 'Eat for nine days hazelnuts: the first day 6, the second 12, the third 18, and so on until the ninth day, every day plus 6. Wait for some time before taking something else.40 According to a tradition recorded by Hayyim Vital (1542–1620), the Provençal scholars used to give it to their sons every morning for 'the opening of their hearts' (Petpyat Lev).41

The Zohar Hadash tells us that R. Hizkia once was in the lands of the Arabs when he saw hermits who were living in caves in the mountains and were engaged in the study of the Torah, and who only return to their homes for a while.42 He says, mostly live on wild berries, but sometimes they feed on 'balur' (= baladthor) which they find in the desert on trees. They also eat it on the day that they encounter a problem during their study. Such a day is then considered 'ki tov' (good, i.e. that what God created, according to Gen. 1: 4–25).43 This reference to the Creation story seems to intimate that by eating baladthor these hermits were, as it were, capable of, imitating God, by means of creating something [in their mind].

Restrictions on the use of baladthor

According to some physicians, the application of baladthor for the restoration of the humoral balance of the brain is not without risk. For baladthor is by nature very hot and dry, while the brain is by nature moist and cold. Consequently, an overdose, especially in the case of young persons whose basic constitution is warm, might lead to overheating and drying up of the brain.

25 Lw., op. cit., note 4 above, 204.
26 Lw., op. cit., note 4 above, 204.
27 Lw., op. cit., note 4 above, 204.
28 Lw., op. cit., note 4 above, 204.
29 Lw., op. cit., note 4 above, 204.
30 Lw., op. cit., note 4 above, 204.
31 See Ignaz Goldschleg, 'Muhammediischer Aberglaube und Vergesslichkeit, mit Parallelen aus der judischen Literatur', in Beitrage zur jiidischen Geschichte und Literatur (Wien, 1893), 35–72.
33 See Ignaz Goldschleg, 'Muhammediischer Aberglaube und Vergesslichkeit, mit Parallelen aus der judischen Literatur', in Beitrage zur jiidischen Geschichte und Literatur (Wien, 1893), 35–72.
34 See Ignaz Goldschleg, 'Muhammediischer Aberglaube und Vergesslichkeit, mit Parallelen aus der judischen Literatur', in Beitrage zur jiidischen Geschichte und Literatur (Wien, 1893), 35–72.
36 See Ignaz Goldschleg, 'Muhammediischer Aberglaube und Vergesslichkeit, mit Parallelen aus der judischen Literatur', in Beitrage zur jiidischen Geschichte und Literatur (Wien, 1893), 35–72.
38 See Ignaz Goldschleg, 'Muhammediischer Aberglaube und Vergesslichkeit, mit Parallelen aus der judischen Literatur', in Beitrage zur jiidischen Geschichte und Literatur (Wien, 1893), 35–72.
41 See Ignaz Goldschleg, 'Muhammediischer Aberglaube und Vergesslichkeit, mit Parallelen aus der judischen Literatur', in Beitrage zur jiidischen Geschichte und Literatur (Wien, 1893), 35–72.
The story goes that the great Arab historian al-Baladhi (ninth century) died mentally deranged from such an overdose. Its application was therefore often limited to old people whose constitution was believed to be cold. We have already seen that Ishaq b. Hunayn was well aware of this risk in a statement attributed to Galen. Abū Jurrāj (eighth century) warns not to apply it in the case of young people and those with a warm temperament. Ibn al-Bīrūq (d. 815) remarks in his Kitāb al-ṭūsūm (On Fatal Drugs) that it is the best [drug] for retention when applied in the prescribed doses of half a dirham, but lethal when administered in a dose of two mithqāls. According to Ibn al-Aʿlāʾī (ninth century), balāḏūr strengthens memory when taken in a dose of half a dirham, but an overdose causes dryness of the brain, insanity, frenzy, and intense thirst. Hubaysh b. al-Ḥasan (ninth century) remarks that it is a very harmful poison that should never be used in a pure (unadulterated) form, lest it cause obsession (wawsās), mania (ḥayājān), leprosy, elephantiasis, tumours, dysentery, internal wounds, and sometimes death. It should, he says, only be used as a compound by old people, the chronically ill and those with an extremely cold constitution. It is also good, according to him, for someone whose constitution is dominated by phlegm. But young people with a warm constitution should never use it, since he never saw a patient using it and not being affected by the mentioned diseases.

The sixteenth-century Jewish physician Judah Aryeh of Modena, states from his own experience that this drug was actually often prepared in the wrong way with terrible consequences:

I have seen and known many people who because of a frequent use of [different] oils and because of the eating of all kinds of balāḏūr lost their mind and went crazy, or got sick and died before their time and were not remembered anymore. This happens because most people cannot administer the patient an oil or drug which fits the temperament of his brain in heat, cold, moisture and dryness. And if they use a drug which dries his brain too much or makes it too moist, he gets crazy or sick.

A modern Indian materia medica points to the following symptoms of overmedication: high-coloured and scantly urine, sometimes tinged with blood, irritable and loose bowels with gripping, erythematous skin rashes with itching and burning. For antidotes it recommends the albumen of the coconut, sesame seeds, and the chelbic myrobalan. The milky juice of the albumen of coconut should be drunk in large quantities.

Prescription of balāḏūr:

In the light of the warnings about the risks inherent to the use of this drug, especially in an incorrect dose, it is clear that a detailed prescription of its actual preparation when used as a simple or as a compound is an absolute prerequisite for a safe application. As Aarly and unicum Arab treatise that has preserved detailed prescriptions of its preparation is the previously mentioned al-Risāla al-ṣaḥīfa fi adwiyā al-nisīyān, composed by Ishaq b. Hunayn for his patron 'Abd Allāh b. Shamʿūn in the late ninth century. This text was, moreover, an important conduit for the introduction of this drug in Hebrew medical literature and its subsequent popularity. We will therefore deal with this text more extensively. On the preparation of the balāḏūr drug it states:

Take pittie black pepper, long pepper, chelbic myrobalan, bellerie myrobalan, and emblic myrobalan, castor, and saffron, four dirhams of each; 'honey' of balāḏūr, costus, myrrh, crystalline sugar, laurel seed, and sweet myzetus from Kufa, thirteen dirhams of each. Pound these [last] ingredients and collect the other ingredients and pour in water and sift them thoroughly. Pour this with an equal amount of cow's butter and knead it with skinned honey of bees. Put it in a green jar, and close its top. Do not fill the jar completely but leave some space, so that the drug can breathe. Take it after six months in the following way.

The same recipe features with minor variations in the medical formulary composed by Sābūr b. Sahl, mentioned above. It is quoted again in the name of Sābūr by the tenth-century Spanish physician Ibn Samajun of Cordoba in a fragment following Ishaq's Risāla. A similar recipe features in a section that was added to the Hebrew translation of Ibn al-Jazzar's 'Treatise on Forgetfulness and its Treatment', mentioned above.

About the extraction of the 'honey' of balāḏūr, Ishaq states that the scientists had different opinions. Accordingly, he describes three different procedures for its extraction and ends with that which was, according to him, employed by Galen:

Take a jug, make a round role in its bottom, break the fruit of the balāḏūr into small pieces and put it into the jug; make a hole in the earth large enough to contain the jug and a juice bowl that has been anointed beneath it. Hang the jug with the fruit of the balāḏūr upside down into the bowl, but do not let it touch the bottom. Put beneath the jug a glass plate and close the top of the bowl all around the jug so that the earth will not fall in it. Put the jug and the bowl in the hole in the earth and cover them up with earth. Burn for a day and a night a fire above it made from sheep's dung. Hereafter remove the fire, take out the bowl with the jug and you will find the 'honey' in the bowl.

If someone, says Ishaq, prepares it in this way and then adds the other ingredients according to the procedure mentioned in the previous recipe and takes this drug, he will acquire as much knowledge as Galen. But just like Galen, one should observe certain external conditions as well: one's house should be clean; it should be sprinkled twice a day and admit much light; one

---

44 Quoted by Ibn al-Bayṭār, op. cit., note 19 above, 1, 155, and by al-Rāzī, op. cit., note 13 above, xx, 133–4; for Abū Jurrāj see Ullmann, op. cit., note 23 above, 91–2; Sezgin, op. cit., note 23 above, 208–9.
45 Fragments of this lost work survive in quotations by al-Rāzī, op. cit., note 13 above, see Ullmann, op. cit., note 23 above, 326; Sezgin, op. cit., note 23 above, 225–6.
46 One mithqāl is 4.464 grams; see Hinz, op. cit., note 24 above, 4. A similar amount is recommended by Ibn al-Jazzar in his monograph on forgetfulness and its treatment (in al-Jazzar's 1996c), in his Zid al-mujādā, however, he recommends a dose of between half a dirham and one mithqāl, every day on an empty stomach (see note 26 above).
47 Quoted by Ibn al-Bayṭār, op. cit., note 19 above, part 1, 155.
48 Quoted by Ibn al-Bayṭār, ibid., see note 19 above.
49 See my 'Jewish traditions on strengthening memory' (n. 31 above).
50 See op. cit., note 6 above, 1, 1124–5.
51 See note 7 above.
52 For its Hebrew translation see note 8 above.
53 MS National Library of Medicine, A3, fol. 1; Hebrew translation MS Munich 275, fol. 16b.
55 MS National Library of Medicine, A3, fol. 4.
56 op. cit., note 30 above, 69–70.
57 The Hebrew translation (fol. 17b) reads 'in its top'.
58 The following section is missing in the Hebrew translation.
59 MS National Library of Medicine, fol. 3.
should put fragrant spices in front of oneself; one should wear fine clothes and
abstain from sexual intercourse.

About the proper dose Ishāq remarks that on the first day one should take
half a dirham with warm celery juice, on the third day half a mithqal with
warm celery juice, and on the seventh day one dirham with warm celery juice.
Then one should not take it for two weeks, but at the beginning of the fourth
week one should take two dirhams with warm celery juice.

I would like to conclude my survey by quoting the story recorded by Ishāq
at the end of his treatise about Galen’s actual use of the balūdhr:

When I became forty years and over and thought about the use of the
balūdhr electuary, I reflected upon the extent to which using it would
distract me from my scholarly pursuits. I also reflected upon what
Hippocrates had said in his Aphorisms: ‘Life is short, the Art long, oppor-
tunity fleeting.’ Then I thought of distracting myself for some days of my
short life from ‘the long art’ [by taking the balūdhr] and reflected upon
the effect the drug would have on my ability to learn and remember. As a
result of this I took the drug in the way I explained above, and when the
days of its ingestion had passed, I returned to my scholarly pursuits. And
it would be correct to say that in one day I learned many times as much
as I would have learned during the days that I took the drug, for because
of it I attained such a [high] degree of knowledge.

This pseudopigraphic story does not feature in Galen’s commentary on
Hippocrates’ Aphorisms. It is clear that according to this story Galen’s only
qualm about taking this drug — once he had reached the proper age of forty —
was that during the time of its ingestion he would be unable to study, probably
because of its immediate soporific effects. But the thought of how much he
was to gain afterwards made him overcome his doubts and actually take the
drug, resulting in a wonderful ability to learn and remember.

60 The Hebrew translation reads ‘one week’.
61 Hippocrates’ Aphorisms, transl. W. H. S. Jones (Loeb Classical Library, Hippocrates IV),
62 MS National Library of Medicine, fol. 3; I thank Dr Lawrence Conrad for reading this text
with me; the Hebrew translation has a different version. Galen does not take the drug himself,
but orders others to take it, who as a result of this acquire much knowledge.