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Galen on Wine, or on Some Traces of a Preference*

Galen o winie, czyli o śladach pewnej preferencji

Abstract

Galen (ca. 129 - 216 AD) left a vast literary output in the field of medicine, including a large amount of data on different foodstuffs. It is due to the fact that in the theory he adopted they were treated as both foods and medicaments. One of those was wine.

The starting point in Galen's reflections concerning wine were the contents of the treatise *De diaeta in morbis acutis*, whose authorship he ascribed to Hippocrates. Data included therein he would often quote verbatim, just like he did it in his *De placitis Hippocratis et Platonis*. This body of knowledge, borrowed from Hippocrates and his followers, considerably influenced his other reflections on wine included in *De alimentorum facultatibus*, *De methodo medendi*, *De rebus boni malique suci*, *De sanitate tuenda* and *De victu attenuante*. It is also highly likely that, in his research into wine, Galen profited from the lost treatise *Perí hýles*, which was composed by Sextius Niger, who was professionally active in the second half of the first century BC and in the first half of the first century AD.

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Our in-depth analysis of Galen's writings not only confirms the ubiquity of wine in ancient Mediterranean diet and diversification of the wine market in the second century AD but it also points out to buyers' preference for white wine, as it proves that in ancient Italy, and specifically in Rome, it was the fair-coloured vintages that prevailed on the market, and were valued even when they grew over-mature and slightly bitter due to the age.

On the other hand, Galen's information on red wine varieties concerns first and foremost the wine produced in Asia Minor, and leads to a conclusion that red wines were not a coveted commodity in the Mediterranean in his lifetime. If they had been considered as commercial brands at all, their importance would have been merely local.

Data preserved in Galen's output do not reveal how long the tendency lasted, though his mention that red and dry wines were neither provided during public official festivities (as an offering) nor in connection with private festivities aimed at showing the social status of the organiser (symposia and wedding receptions) suggests durability of the scheme of wine consumption in the Mediterranean as presented by Galen.

Abstrakt

Galen (ok. 129 – ok. 199/216) pozostawił po sobie olbrzymi dorobek literacki z zakresu medycyny, w tym także rozliczne rozważania na temat różnorodnych produktów żywnościowych. Te bowiem w teorii, którą reprezentował, uważane były zarówno za źródło pokarmu, jak i medykament. Jednym z produktów spożywczych, którymi się zajął, było również wino.

Wyjściową bazą jego głównych analiz w tym zakresie była treść traktatu *De diaeta in morbis acutis* (14, 1–33), który przypisywał Hippokratesowi. Dane tam zawarte często przytaczał w całości, jak w *De placitis Hippocratis et Platonis*. Wpłynęły one zasadniczo na treść jego teorii wina włączonej do wielu innych dzieł, w tym do *De alimentorum facultatibus*, *De methodo medendi*, *De rebus boni malique suci*, *De sanitate tuenda* czy *De victu attenuante*. Istnieje też wysokie prawdopodobieństwo, że ważnym źródłem wiedzy Galena na ten temat było dzieło *Perí hýles*, którego autorem był Sekstius Niger, działający w drugiej połowie I w. p.n.e. oraz pierwszej I w. n.e.

Analiza traktatów Galena nie tylko potwierdza powszechność wina w diecie, różnorodność rynku win w II w. n.e., ale także wskazuje na istnienie preferencji

odbiorców tego produktu dla win białych. W Italii bowiem, a także w samym Rzymie, królowały wina białe, a ceniono zwłaszcza dojrzałe ich odmiany, nawet wtedy, gdy stawały się wyraźnie wytrawne, a nawet nieco gorzkawe. Natomiast dane na temat trunków czerwonych odnoszą się przede wszystkim do win z Azji Mniejszej. Informacje przekazane przez Galena skłaniają do konkluzji, że wina czarne za jego czasów nie należały do grupy towarów pożądanych na rynku śródziemnomorskim. Jeżeli zatem stanowiły one marki w sensie handlowym, ich znaczenie było zwykle zaledwie lokalne.

Dane zachowane przez Galena nie pokazują, jak długo trwała owa tendencja, choć wzmianka o nieużywaniu win ciemnych i wytrawnych w publicznych okolicznościach oficjalnych (ofiary), a nawet prywatnych wydarzeniach, które mogły być związane z chęcią pokazania statusu społecznego osoby je organizującej (sympozja i uczty weselne) sugerują, w naszej opinii, trwałość zaprezentowanego przez Galena schematu spożycia.

Keywords: history of food, history of medicine, wine, Galen **Słowa kluczowe:** historia wyżywienia, historia medycyny, wino, Galen

alen (ca. 129 – ca. 199/216) left behind a tremendous literary output, consisting of works devoted to various problems of broadly defined medicine and philosophical issues¹ and, at the same time, he wrote a lot about foodstuffs. This was related to the state of development of health care at the time, which often consisted in using, as medicaments, appropriately modified or combined substances which would normally be used in the kitchen as ingredients for various dishes², as well as choosing a diet that corresponded with the condition

¹ On the life and, primarily, the output of the famous Pergamonian cf. L. Thorndike, Galen. The man and his Times, "The Scientific Monthly" 1922, vol. 14, no. 1, pp. 83–93; G. Sarton, Galen of Pergamon, Lawrence 1954, passim; V. Boudon, Medecine et enseignement dans l'art medical de Galen, "Revue des Etudes Grecques" 1993, vol. 106, pp. 120–141; A. Bednarczyk, Galen. Główne kategorie systemu filozoficzno-lekarskiego, Warszawa 1995, passim; V. Nutton, Ancient medicine, London–New York 2007, pp. 222–235; R.J. Hankinson, The man and his work, [in:] The Cambridge companion to Galen, ed. R.J. Hankinson, Cambridge 2008, pp. 1–33; S.P. Mattern, Galen and the Rhetoric of Healing, Baltimore 2008, passim.

² Written confirmation of the relation between Greek medicine and food can be found as early as in *Corpus Hippocraticum*, cf. *De alimento*, 19, 1–2; S. Byl, *L'alimentation dans le Corpus Hippocratique*, [in:] *Voeding en geneeskunde. Alimentation et médecine. Acten van het colloquium. Actes du colloque. Brussel – Bruxelles 12.10.1990*, eds. R. Jansen-Sieben, F. Daelmans, Brussel

the human body was in (which, in turn, was strictly related with the humoral theory, of which Galen was a fervent supporter)³. One of the foodstuffs he dealt with was wine.

His main deliberations were based on reflections of the anonymous author of the treatise *De diaeta in morbis acutis* (14, 1–33), which he ascribed to Hippocrates. He often quoted the data included therein in their entirety, as e.g. in his *De placitis Hippocratis et Platonis* (IX, 6, 34, 1–46, 7). They had a fundamental impact on the contents of his deliberations on wine included in many other works, such as *De alimentorum facultatibus* $(743, 1 - 745, 2, \text{vol. VI})^4$, *De methodo medendi* $(830, 1 - 837, 15, \text{vol. X})^5$, *De rebus boni malique suci* (800, 6

/Bruxelles 1993, pp. 29–39; C. Garcia Gaul, Dieta hipocrática y prescripciones alimentarias de los pitagóricas, [in:] Dieta Mediterránea. Comidas y hábitos alimenticios en las culturas Mediterráneas, eds. A. Pérez Jiménez, G. Cruz Andreotti, Madrid 2000, pp. 44–50; J. Jouanna, La régime dans la médecine hippocratique: définition, grands problèmes, prolongements, [in:] Colloque. Practiques et discours alimentaires en Méditerranée de l'antiquité a la renaissance. Actes, eds. J. Leclant, A. Vauchez, M. Sartre, Paris 2008, pp. 53–72. Physicians from the circle of Hippocratic medicine believed that everything that is food can also be a medicament. Hence in the later Greek-Roman medicine matters related to food became one of the most important areas of scientific interest to physicians, which was sustained and consolidated for the subsequent centuries by Galen. Cf. K. Bergoldt, Wellbeing. A cultural history of healthy living, trans. J. Dewhurst, Cambridge – Malden, Mass. 2008, pp. 30–37, 41–46, 62–72; P. Volpe Cacciatore, El régimen según Galeno, [in:] Dieta Mediterránea..., pp. 91–95; M. Kokoszko, K. Jagusiak, Z. Rzeźnicka, Dietetyka i sztuka kulinarna antyku i wczesnego Bizancjum (II–VII w.), part I, Zboża i produkty zbożowe w źródłach medycznych antyku i wczesnego Bizancjum (II–VII w.), Łódź 2014, pp. 5–26.

³ Advocates of the humoral theory, which is customarily believed to have been created by Hippocrates, thought that illnesses were caused by an imbalance of organic juices (humours) in the body. The "Father of Medicine" supposedly distinguished four such juices: blood, phlegm, yellow bile and black bile, attributing each of them different properties, which were combinations of being dry, moist, warm and cold. The physician's task was to restore or preserve the right balance between the humours in human body. It was complicated because of the influence of age, physical activity, diet, etc. Appropriate food was of vital importance in putting this theory into medical practice. Galen was a fervent supporter of the humoral theory, which contributed to its dominating role in medicine of the later centuries. Cf. A. Drygas, "Soki" (humory) w teorii Hipokratesa, "Farmakologia Polska" 1995, vol. 51.15, pp. 671–676; Z. Rzeźnicka, M. Kokoszko, Dietetyka i sztuka kulinarna antyku i wczesnego Bizancjum (II–VII w.), part III, Ab ovo ad γάλα. Jajka, mleko i produkty mleczne w medycynie i sztuce kulinarnej (I–VII w.), Łódź 2016, pp. 5–7.

⁴ In this work, Galen clearly pointed to Hippocrates's authority as formative for his beliefs - De alimentorum facultatibus, 743, 14–15, vol. VI (ἃς γὰρ Ἱπποκράτης αὐτοῦ δυνάμεις εἶπεν ἐν τῷ Περὶ διαίτης ὀξέων, οὐχ ὡς τροφῆς εἰσιν, ἀλλ> ὡς φαρμάκου μᾶλλον.)

 $^{^5}$ Also in this treatise Hippokrates was shown as the most outstanding connoisseur of wines until Galen's time – Galen, *De methodo medendi libri xiv*, 556, 3–5, vol. X (δῆλος δ> ἐστὶ καὶ

-808, 7, vol. VI), De sanitate tuenda $(334, 5 - 339, 10, \text{ vol. VI})^6$ or De victu attenuante (92, 1 - 103, 3).

However, in this article, we would like to draw attention to one more source of Galen's information. It did not form his opinions, but it provided him with oenological knowledge he needed for justifying Hippocrates's thoughts in somewhat different conditions than those that characterised the end of the 5th and beginning of the 4th centuries B.C., when the "Father of Medicine" lived. This source is a work, which has not survived until the present time, known under the title *Peri hýles*. It was written by Sextius Niger⁷, a follower of Asclepiades of Bithynia (late 2nd and early 1st c. B.C.), who was active in the second half of the 1st century B.C. and in the first half of the 1st century A.D.

Galen admitted *expressis verbis* that he knew *Perí hýles*⁸. Our research so far suggest that he never quoted any longer fragments of this text. Instead, he used it wherever the topic of his narrative were some specific types of wine available in the basin of the Mediterranean Sea. We believe that Sextius Niger's work included a list and characteristics of the leading wine varieties available in the

ό Ίπποκράτης οὐ μόνον ἐν τοῖς ἐφημέροις πυρετοῖς, ἀλλὰ κὰν τοῖς ὀξέσι διδοὺς οἶνον, ἐξ ὧν ἐν τῷ περὶ διαίτης ὀξέων γράφει)

⁶ Here Galen also placed clear information which indicated Hippocrates's role in shaping his own opinions on wine – Galen, *De sanitate tuenda libri vi*, 335, 12, vol. VI (ον ὁ <Ἰπποκράτης> εἴωθε «κιρρὸν»).

⁷ For the most exhaustive reflections on the work of this medic cf. M. Wellman, Sextius Niger, eine Quellenuntersuchung zu Dioscorides, "Hermes" 1889, vol. 24, book 4, pp. 530-569; K. Deichgräber, Sextius Niger, [in:] Realencyclopädie der Classischen Altertumswissenschaft, Supplementband V, Stuttgart 1931, col. 971–972; N. Everett, The alphabet of Galen: pharmacy from antiquity to the Middle Ages: a critical edition of the Latin text with English translation and commentary, Toronto 2012, pp. 70-74. For information on Sextius Niger and the reception of his work – also cf. P. Prioreschi, A history of medicine, vol. 3, Roman medicine, Omaha, NE 1998, pp. 280–282; V. Nutton, op. cit., pp. 175, 177, 190; R. Flemming, Galen's imperial order of knowledge, [in:] Ordering knowledge in the Roman Empire, eds. J. König, T. Whitmarsh, Cambridge 2007, pp. 254–255; A. Pietrobelli, *The pharmacological treatise* Περὶ εὐφορβίου of Juba II, King of Mauretania, [in:] 'Greek' and 'Roman' in Latin medical texts: Studies in cultural change and exchange in ancient medicine, ed. B. Maire, Leiden-Boston 2014, pp. 176-177; G. Hardy, L. Totelin, Ancient botany, London - New York 2016, pp. 50-51; M. E. Irwin, Greek and Roman Botany, [in:] A companion to science, technology, and medicine in ancient Greece and Rome, ed. G. L. Irby, vol. 2, London – New York, 2016, pp. 274, 276; M. Jones-Lewis, *Pharmacy*, [in:] A companion to science..., p. 406.

⁸ Galen, De simplicium medicamentorum temperamentis ac facultatibus, 797, 6, vol. XI; Galen, De antidotis libri II, 7, 2, vol. XIV; Galen, Linguam seu dictionum exoletarum Hippocratis explicatio, 64, 10, vol. XIX.

Mediterranean market in the first half of the 1st century A.D. Organisation of Niger's lecture is possible if you compare texts from two sources whose authors used his findings.

The first one is *Historia naturalis* by Plinius Secundus, who – without doubt – was dependent on Niger to a great extent. He knew *Perí hýles* thoroughly and valued it for the medical knowledge it included (this is why he referred to its author with the term *diligentissimus medicinae*⁹). He also indicated Sextius Niger as his source in lists of native authors in a considerable number of books of his encyclopaedia. For this research, the most important thing is that he included Niger in the list of authors of all the books in which he contained the principles of his oenology, namely books 14^{10} , 22^{11} and 23^{12} .

The other text in which Niger's importance as a medical authority is acknowledged¹³ (but only as one of a large number of specialists in *materia medica*, whom he considered to be his predecessors¹⁴) is a treatise known under the Latin title *De materia medica* by Dioscorides. Although this physician did not value Niger's work too highly, he certainly took advantage of this treatise in a wide range, since his critical remarks disclose a certain direct knowledge of

⁹ Plinius, *Historia naturalis*, XXXII, 26, 5.

¹⁰ Plinius writes about wine in book 14, and Sextius's work was quoted as one of the sources which became the information base for its composition – Plinius, *Historia naturalis*, I, 14 b, 13.

¹¹ The Roman's native authors used in this volume were the same that he read in order to compose book 21. In addition, in the list of authors for book 21, Plinius also mentioned Sextius Niger – Pliniusz, *Historia naturalis*, I, 21 b, 7.

¹² Plinius, *Historia naturalis*, I, 23 b, 2.

¹³ He writes about it *expressis verbis* in the introduction, cf. Dioscorides, *De materia medica*, I, *proemium*, 3, 1−2.

¹⁴ He also mentions Crateuas, Andreas, Julius Bassus, Nikeratos, Petronius and Diodotus, cf. Dioscorides, *De materia medica*, I, *proemium*, 1, 9 – 2, 5. It is difficult to determine if he knew their works first-hand or second-hand only. However, we believe that the latter option is more probable, as in the list of authors for book 28 of *Historia naturalis*, which contains fragments that coincide with the Dioscorides's text on milk and dairy produce, Plinius pointed only to Andreas and Niger (Plinius, *Historia naturalis*, I, 28 b, 5). Owing to the fact that Dioscorides is not included in the list of sources for book 12, the only common author of the similar passages of both books of *Historia naturalis* mentioned also by the doctor from Anazarbus remains Sextius Niger. It is also important that Dioscorides referred in detail to flaws only in the Niger's treatise, but he did not criticise any specific aspects of the works of the remaining authors he mentioned. This happened because he could not pass over Niger in his research, as in his times *Perí hýles* was still considered as a remarkable and principal work in the field of *materia medica*.

errors made in the work 15 (however, the commentaries do not exclude the appreciation of the informative value of Niger's treatise).

It is worth adding here one more suggestion. There is a certain possibility that the original structure of the Italian wine catalogue by Sextius Niger is reflected, at least partially, in the list of beverages included in book I of *Dipnosophistae* by Athenaeus of Naucratis¹⁶, which would increase the number of sources that made it possible to reconstruct the lecture served in *Peri hýles* to three. Our speculation comes from the fact that the treatise used for the writing of *Dipnosophistae*, while anonymous, reveals a number of similarities to the one used by Dioscorides, Plinius and Galen, i.e.: it was written in Greek, included terminology of medical provenance and discussed beverages not only from the point of view of a connoisseur (or consumer) but (rather) a medical doctor¹⁷. Moreover, the preserved version of the catalogue suggests that the author of the source used by Athenaeus of Naucratis, exactly the same as the authors of *De materia medica*, *Historia naturalis* and Galen, divided wines into Italian and overseas, and the specific varieties were listed in a specific and unvarying sequence.

Finally, there is no doubt that Galen based his lecture on wines to a large extent on his own life experience. This is why he frequently mentioned beverages from Asia, where he himself came from, as was the case with a personal observation of the effect of wines produced near Aigai and Perperene, included in *De victu attenuante*¹⁸.

Wine as an important medical subject

The issue we would like to discuss had to be important and fashionable in the medical environment of the epoch in question, which resulted from the tremendous and multi-dimensional importance of wine in the life of Mediter-

¹⁵ Dioscorides, *De materia medica*, I, *proemium*, 3, 1–11.

 $^{^{16}}$ Athenaeus of Naucratis, *Dipnosophistae*, I, $26\,c-27\,d$ (48, 1-61) (Italian); I, $32\,e-33$, b (59, 20-47) (transmarina I – the remaining Mediterranean area except for Egypt); I, 33d-f (60, 7-33) (transmarina II – Egyptian wines).

¹⁷ This is indicated already by the first characteristics included in the said catalogue, which lists exactly the same features that can later be found e.g. in the works of Galen. Cf. Athenaeus of Naucratis, *Dipnosophistae*, I, 48, 3–5 (ὁ δ' ὑπὲρ τοῦτον ἐκπίπτων τὸν χρόνον κεφαλαλγὴς καὶ τοῦ νευρώδους καθάπτεται) with Galen, *De methodo medendi libri xiv*, 835, 15–836, 4, vol. X (headaches) and Galen, *De rebus boni malique suci*, 804, 4–6, vol. VI (headaches; enfeeblement of hard tissues).

¹⁸ Galen, De victu attenuante, 102, 1-103, 3.

ranean societies, or more broadly – societies which were under the influence of the Greco-Roman culture in that period¹⁹. It was more or less at the same time as Dioscorides, and then Galen, that the subject of wine in medical procedures was taken up by authors whose works did not survive until the present and are known only from excerpts: Rufus of Ephesu^{\$20\$} in his Περὶ διαίτης (*Perí*

 19 The role of wine in the life of Mediterranean societies, and with time also those that lived in other zones influenced by Greece and, above all, Rome, went beyond consumption in the contemporary sense. It is not our aim to expand on this issue in this article, but it is worth mentioning that for people who lived in ancient times, wine was primarily a rich source of nutrients and it was mainly because of this that it was included, next to olive oil and grains, in the trinity of most important foodstuffs. Drinking wine also had, which seems obvious, a socialising aspect, and not infrequently it was invested with special character, as during Greek symposia or syssitia. The religious role of drinking wine was also important, since it was present during numerous holidays. Finally, it must be remembered that the beverage played an important role in trade, both local and overseas. Literature concerning all these issues is very extensive and any attempt at providing even part of it would greatly exceed the limits of a single footnote. For this reason, we provide the Reader with only a limited selection. Cf. V.R. Grace, Amphoras and the ancient wine trade, Princeton 1979, pp. 21-31; N. Purcell, Wine and wealth in ancient Italy, "Journal of Roman Studies" 1985, vol. 75, pp. 1-19; N.R.E. Fisher, Drink, hybris and the promotion of harmony in Sparta, [in:] Classical Sparta. Techniques behind her success, ed. A. Powell, London 1989, pp. 26-50; F. Lissarrague, The Aesthetics of the Greek Banquet: Images of Wine and Ritual, trans. A. Szegedy-Maszak, Princeton 1990, passim; T. Unwin, Wine ant the vine. An historical geography of viticulture and the wine trade, London-New York 1996, pp. 63-66; A. Dalby, Food in antiquity from A to Z, London-New York 2003, pp. 350-352; J.M. Wilkins, S. Hill, Food in the ancient world, Malden-Oxford 2006, pp. 166-184; P.R. Sealey, New light on the wine trade with Julio-Claudian Britain, "Britannia" 2009, vol. 40, pp. 1-40; M. Kokoszko, K. Jagusiak, Woda, wino i tak dalej, czyli o napojach i trunkach w Konstantynopolu, PNH 2010, 9.1, pp. 37–48; M. Węcowski, Sympozjon, czyli wspólne picie. Początki greckiej biesiady arystokratycznej (IX-VII w. p.n.e.), Warszawa 2011, passim; I. Kaczor, Deus - ritus - cultus. Studium na temat charakteru religii starożytnych Rzymian, Łódź 2012, pp. 42–45, 94–95, 102–103, 105, 110–113, 128-135, 174, 199-200, 202, 220, 226-227, 235-236, 253, 263-265, 278, 290-291, 313; T. Boulay, Wine appreciation in ancient Greece, [in:] A companion to food in the ancient world, ed. J. Wilkins, R. Nadeau, Malden-Oxford 2015, pp. 271-282; S. Corner, Symposium, [in:] A companion to food..., pp. 234-235; P. Halstead, Food production, [in:] A cultural history of food in antiquity, ed. P. Erdkamp, London-New York 2016, pp. 27-28; D.L. Thurmond, From vines to wines in classical Rome. A handbook of viticulture and oenology in Rome and the Roman West, Leiden-Boston 2017, pp. 3-4, 218-245; E. Radaelli, The presence of North-African wines in Rome and Ostia during the Middle Imperial Age $(2^{nd} - early 3^{rd} centuries AD)$, "Antesteria. Debates de Historia Antigua" 2018, vol. 7, pp. 245-262.

²⁰ For example *Oribasii collectionum medicarum reliquiae*, V, 7, 1, 1–7, 3; V, 9, 1, 1–3, 2; V, 12, 1, 1–3, 3, ed. I. Raeder, vol. I–IV, Lipsiae–Berolini 1928–1933 (further: Oribasius, *Collectiones medicae*).

diaîtes), Antyllus in the treatise Περὶ βοηθημάτων (Peri boethemáton)²¹ and Herodotus in Ἰατρός (Iatrós)²². Interest in this subject did not cease with the end of the $2^{\rm nd}$ century, which can be proved by the fact that in the $4^{\rm th}$ century Philagrius wrote about it in the non-surviving Περὶ ἡδέων πομάτων (Peri hedéon pomáton)²³, and Oribasius took it into account in his work Collectiones medicae²⁴. Let us add that in the $6^{\rm th}$ century, the catalogue of medicinal wines was recorded in book III of Iatricorum libri by Aetius of Amida²⁵, and in the $7^{\rm th}$ century, the theory of wine was included in his encyclopaedia entitled Epitome by Paul of Aegina²⁶. Finally, in the $10^{\rm th}$ century, a lot of attention was devoted to wine by the author of Geoponika, by writing about it in as many as two books (VII and VIII) of his treatise²⁷.

Galen versus Hippocrates - De Placitis Hippocratis et Platonis

It has already been mentioned that as regards wine, Galen was under a strong influence of the output of Hippocrates's school, which is visible in numerous references to its doctrines. Galen often used quotations from the works of the doctor of Kos, e.g. the one which can be found in *De placitis Hippocratis et Platonis*, where he completely identified with the teachings of the "Father of Medicine", and quoted the words of his great predecessor when discussing the virtues of wine.

Thus, referring to Hippocrates's words, and beginning with the taste of wine, he wrote that sweet beverages result in lesser strain for the head than dry ones, and they also interfere with the drinking person's consciousness less. They also move through the digestive tract faster. On the other hand, they contribute to enlargement of spleen and liver. They are not recommended at all for people

²¹ Oribasius, Collectiones medicae, V, 29, 1, 1–10, 6.

²² Oribasius, *Collectiones medicae*, 27, 1, 1–23, 9.

²³ Oribasius, Collectiones medicae, 17, 1, 1–11, 4.

²⁴ Oribasius indicated Dioscorides as his source of knowledge – Oribasius, *Collectiones medicae*, 25, 1, 1–47, 3.

 $^{^{25}}$ Aëtius of Amida, *Iatricorum libri*, III, 58, 1 – 74, 5. He made a selection of recipes for medicinal wines found in the works of Theon, whose activity is estimated at the time between the 1^{st} and 6^{th} c. A.D.

²⁶ Paul of Aegina, *Epitome*, I, 95, 1, 1–28.

²⁷ For the deliberations herein, it is important that in both books we find a lot of information on the therapeutic effects of wine, and in book 8 - a catalogue of medicinal wines, cf. *Geoponica*, VIII, 1, 1–22, 3.

with predominance of yellow bile in their bodies (i.e. in hot and dry temperaments). In such body constitutions they also trigger thirst. Although they result in producing gases, they have such a property that they remain in the upper part of the trunk²⁸ (that is in the so-called *hypochóndria* [ὑποχόνδρια]) and do not have a detrimental effect on its lower section (where intestines are located), as they do not cause flatulence. Gases, which are produced as a result of drinking sweet wine, are not transported easily, but are maintained in one place²⁹. Sweet wines contribute to production of urine less effectively than dry and white wine, but instead they strongly stimulate removal of discharge from the chest³⁰. To this Galen added the information that sweet wine stimulates assimilation less strongly in people³¹ in whom it causes thirst³², than in those who do not feel anything after its consumption³³. The above words are at the same time - according to the author - an indication of the good and bad characteristics of dry and white wines as they are transported through the organism towards the bladder faster than sweet ones, are more diuretic and (as a result) more laxative, which can help in the case of illnesses which require effective purging in this way to be treated 34 .

The author finished the quotation of Hippocrates's work by using very symptomatic words of the doctor. He wrote that other (than white and dry) kinds of wine, that is yellow³⁵ or black and dry beverages can be used in acute cases only when the doctor is certain that the patient does not suffer from headaches, does not show tendencies to impaired consciousness as a result of drinking such beverages, does not complain about problems with spitting out secretion from the chest, has not experienced urinary retention, and his faeces are moist and contain visible fine particles of digested food. It is because only when these symptoms are absent can you consider replacing a treatment based on white and dry wine with such one that would be based on other kinds of the aforementioned beverage³⁶. At the end, Galen added – also after Hippocrates

²⁸ It is the area below the chest.

²⁹ Thus, they have no effect on the functioning of intestines.

³⁰ The author meant facilitation of expectorating the discharge formed in the bronchi.

³¹ He means the process of distribution of food in the body, called *anádosis* (ἀνάδοσις).

³² He means people who are warm and dry by nature.

³³ Galen, De placitis Hippocratis et Platonis, IX, 6, 38, 1–40, 1.

³⁴ Galen, De placitis Hippocratis et Platonis, IX, 6, 40, 1–8.

³⁵ If follows from the text that both Galen and Hippocrates used this term to refer to sweet wines of this very colour.

³⁶ Galen, De placitis Hippocratis et Platonis, IX, 6, 41, 1–9.

– that wine does less harm to organs located in the upper part of the body and the urinary system if it is diluted with water, but he made this remark stressing also that non-diluted wine is more effective in treating ailments of the digestive tract³⁷.

The above fragment is one of the most distinctive examples of principles followed by the science of wine that Galen advocated. The author claimed that his competence in oenology was based on the best tradition of the Greek medicine, that is the authority of Hippocrates. He also added that its formulation was an important discovery of the doctor from Kos³8, which was probably supposed to reinforce the value of the doctrine he followed, as the only right group of theoretical assumptions. However, the text simultaneously suggests that Galen was acquainted with the existence of other medical trends, which were based on slightly different premises than those worked out by his master, with the reservation that they applied only in the period before the activity of the "Father of Medicine". Not specifying them by Galen is not only aimed at dissociating from doctrines other than those of Hippocrates, but it should also be understood as their negative assessment.

As regards the essence, the teaching of the doctor from Kos, similarly to that of Galen, was based on the preference for white and dry wines³⁹. These were somehow the safest for every patient, irrespective of the ailments they developed. As far as the remaining kinds of beverages are concerned, both of them pushed into the background yellow (and sweet) wines as well as black ones, recommending them to be administered only in some specific situations⁴⁰.

Galen on wine in de Methodo Medendi

Of the two latter varieties of wine, more attention was paid to yellow beverages, attributing them with considerable therapeutic application. Data on this

³⁷ Galen, De placitis Hippocratis et Platonis, IX, 6, 42, 1–43, 1.

³⁸ Galen, De placitis Hippocratis et Platonis, IX, 6, 41, 2-3.

 $^{^{39}}$ Cf. D.L. Thurmond, op. cit., p. 226, where wine from the vicinity of Tibur is mentioned (*Tiburtum* in the text, in Galen's work – *Tibourtinos*, see: further part of the article), which was highly valued around the $2^{\rm nd}$ century A.D. and later, described as light, vintage, astringent, dry and white.

⁴⁰ White and sweet wine produced from the must of fruit which were pressed under their own weight, mixed with must obtained by traditional pressing, was later specially aged by pouring it into closed amphoras and keeping it in the sun for several tens of days. In this way, a rare, valued and luxurious beverage was made, *cf.* D.L. Thurmond, *op. cit.*, pp. 153–154. However, Galen wrote primarily with medical questions in mind, leaving the taste sensations in the background.

subject is missing in *De placitis*, but there is plenty in e.g. *De methodo medendi*, where mature yellow wines were described as the basic medicament in treating such diseases as $synkop\acute{e}$ ($\sigma u\gamma \kappa o\pi\acute{\eta}$).

Weakness, hidden in this term, begins when yellow bile starts to negatively impact the part of stomach called the entry (στόμα τῆς γαστρὸς). People with such a process should receive cool beverages. They must also be administered wine since it is warming by nature, and therefore stimulates assimilation of food (anádosis; ἀνάδοσις) in patients⁴¹.

In order to treat patients with $synkop\acute{e}$, the selected yellow wines should be thin, mature and have good fragrance, best if they are slightly diluted with water, and wines with somewhat bitter taste due to their age must be absolutely avoided. This last reservation results from the fact that they neither have good fragrance and taste which would indicate the presence of good juices inside them ($e\acute{u}chymon$; $e\~{v}\chi\nu\mu\nu\nu$), nor they are nourishing. Besides, they are assessed by those sick with weakness caused by yellow bile as unpalatable⁴².

Those yellow wines should also be dry, but they cannot be clearly astringent, as they tend to become with age. Additionally, they must be effectively warming, promote digestion and assimilation of food, help alleviate the detrimental effect of yellow bile, and strengthen the stomach⁴³. The best wines in this category are *Sourrentinos* (Σουρρέντῖνος), *Signinos* (Σιγνῖνος), *Sabinos* (Σαβῖνος), *Tibourtinos* (Τιβουρτῖνος) and *Mársos* (Μάρσος). All of them are slightly tart/astringent (στύφοντες), but not all in the same degree⁴⁴.

Black wines

Thus, while white and dry wines were good for everyday consumption, and mature, yellow and not very dry were, according to Galen, good for treating patients, black wines were neglected in the analysed doctrine or, when he mentioned them, rather criticised. However, this lack of acceptance was broader and did not merely concern the attitude which characterised physicians, but also most certainly connoisseurs and the wide public, which is indicated by Galen's words preserved in *De victu attenuante*.

In this work, the author maintained that black wines which were devoid of sweetness and instead tart in taste, did not have a good reputation ($\alpha\delta$ 050 δ 5)

⁴¹ Galen, De methodo medendi, 830, 1-6, vol. X.

⁴² Galen, De methodo medendi, 830, 6-15, vol. X.

⁴³ Galen, De methodo medendi, 830, 15–831, 3, vol. X.

⁴⁴ Galen, De methodo medendi, 831, 3-6, vol. X.

οἱ τοιοῦτοι πάντες εἰσὶ) and that was why many varieties were not commonly known (λανθάνουσι τοὺς πολλοὺς), which means that they did not make a good name in the Mediterranean market, although their production was common in the entire world known to Galen (πολλαχόθι γεννώμενοι). Therefore, tradesmen were not willing to risk buying them from manufacturers or, having bought them, did not make great effort to encourage customers to purchase such beverages. It was not appropriate, as the doctor from Pergamon wrote, to serve dry or sour wine, which was thick and black at the same time (στρυφνὸν γὰρ ἅμα καὶ παχὸν οἶνον μέλανα), during a symposium or wedding reception, as an offering to gods, or during any other occasion whatsoever⁴⁵.

Galen also explained why it was so. It was justified with the way these beverages influenced the organism. Thus, we can read in *De victu attenuante* that wines of this kind are carminative, move through the body slowly and, in addition, suppress the excretion of both faeces and urine. They remain in *hypochóndria* for a long time, quickly go sour in the stomach and provoke vomiting. Their only good side is that, when drunk in small amounts, they can stop the influx of juices to the stomach⁴⁶.

However, Galen also added that such wine is produced in large quantities in the lowland areas of Aigai in Aeolis (in Asia Minor), and another beverage of this kind is made near Pergamon, in the vicinity of Perperene. Inhabitants of these areas drink them without any harmful effects, having become accustomed to their consumption (οἱ μὲν ἐπιχώριοι πάντες αὐτοὺς ὑπὸ συνηθείας ἀλύπως). Besides, they do not drink them in excess, but they know when to stop (καταπαύουσιν ἐν τῷ προσήκοντι μέτρῳ τὴν πόσιν). However, when somebody oversteps the line or is not used to such beverages, drinking them usually ends in trouble.

Galen also admitted that, according to his knowledge, these wines nourish their enthusiasts' bodies well (τρέφουσι δ> οὖτοι φανερῶς τὰ σώματα τῶν πινόντων)⁴⁷. He wrote that because he knew many young people who lived in those areas, who practiced in the palaestra there, and who were nourished with these beverages not worse than with pork (thus, it was typical food for increasing athletes' fitness)⁴⁸.

⁴⁵ Galen, De victu attenuante, 100, 1-101, 1.

⁴⁶ Galen, De victu attenuante, 100, 1-102, 1.

⁴⁷ Since they were thick.

⁴⁸ Galen, De victu attenuante, 102, 1-103, 3.

Conclusions

The presented fragments of Galen's works indicate the universal presence of wine in the diet and the diversity of the wine market in the 2^{nd} c. A.D. On the other hand, his words show the existing preferences of the consumers of this product.

Data concerning black wines refer primarily to wines from Asia Minor. It was from there that beverages produced in the vicinity of Aigai⁴⁹ and Perperene⁵⁰ came from. In Cilicia, *Abátes* (Άβάτης) was produced, which was at the same time, as Galen wrote, black, thick, dry or sweet, whereas wines produced in Aigai and Perperene were neither very sweet nor had any clear astringent power⁵¹. From Maionia in Lydia⁵² came wines named *Karýinos* (Καρύϊνος) and *Thérinos* (Θήρινος)⁵³. In *De rebus boni malique suci* the doctor wrote that the former was darker and sweeter⁵⁴. In Galatia, they produced *Skybelites*. Galen described the wine as thick and black. It was most likely produced from raisins, which he also mentioned in his works. Finally, in his *Linguarum seu dictionum exoletarum Hippocratis explicatio* the Pergamonian also mentioned wine called *prámnios* (πράμνιος). It was produced near Smyrna, and the doctor described it as black and dry⁵⁵. Because Perperene is located near Smyrna, Andrew Dalby supposes that the beverage called *prámnios* was identical with *Perperínios*, which is not

⁴⁹ For other Galen's mentions concerning wine from Aigai, in other works than *De victu attenuante* cf. Galen, *De rebus boni malique suci*, 800, 8–15, vol. VI (*Aigaios* – 800, 10, vol. VI; 800, 13, vol. VI).

⁵⁰ For other Galen's mentions concerning wine from Perperene, in other works than *De victu attenuante* cf. Galen, *De rebus boni malique suci*, 800, 8–15, vol. VI (*Perperínios* – 800, 10, vol. VI; 800, 13–14, vol. VI); 804, 14–805, 3, vol. VI (*Perpérinos* – 804, 17–805, 1, vol. VI).

⁵¹ Galen, *De rebus boni malique suci*, 800, 11–15, vol. VI. Cf. Galen, *De victu attenuante*, 99, 1–100, 1; Galen, *De sanitate tuenda libri libri VI*, 337, 10–13, vol. VI; Galen, *In Hippocratis de victu acutorum commentaria IV*, 645, 10–13, vol. XV.

⁵² For information on the origin of wines cf. Galen, *De dignoscendis pulsibus*, 774, 17–18, vol. VIII.

⁵³ Galen, De victu attenuante, 99, 1; Galen, De rebus boni malique suci, 801, 3–4, vol. VI; Galen, In Hippocratis de victu acutorum commentaria iv, 632, 4–8, vol. XV (Karýinos – 632, 6–7, vol. XV)

⁵⁴ Galen, *De rebus boni malique suci*, 801, 4–6 vol. VI. *Karýinos*, also cf. Galen, *De victu attenuante*, 99, 1; Galen, *De dignoscendis pulsibus libri IV*, 774, 14–775, 4, vol. VIII; Galen, *De methodo medendi libri xiv*, 404, 15–405, 2, vol. X; Galen, *De compositione medicamentorum secundum locos libri X*, 11, 15, vol. XIII; Galen, *In Hippocratis de victu acutorum commentaria iv*, 632, 4–8, vol. XV (*Thérinos* – 632, 6, vol. XV).

⁵⁵ Galen, Linguarum seu dictionum exoletarum Hippocratis explicatio, 132, 10, vol. XIX.

confirmed in any way by Galen, although he knew the area of this city perfectly, as he stayed there for a longer period⁵⁶. Galen suggests that the production of red wines was limited outside Asia Minor. Of the beverages he mentioned, only *Theraios*, made in Crete, was unquestionably a black wine⁵⁷ from the islands of the Aegean Sea.

Galen's data induce the conclusion that black wines from his times did not belong to the group of coveted commodities in the Mediterranean market, which is why they probably did not find many enthusiasts in major metropoles of Imperium Romanum. Thus, if they did not constitute a brand in the commercial sense, their importance was usually only local. Only black and sweet wines, such as *Skybelites* or *Theraios*, found a bigger market, most likely not only due to their sweetness but also because it ensured their durability, which made them suitable for longer transport. Therefore, black wines with lower sugar content were not usually maturated, but instead were drunk as young since, owing to the lack of natural preservatives, they could not survive the hardships of a long journey.

However, because black wines can potentially be maturated, as it is done in contemporary wine making, the fact that merchants at the time of Galen considered trading in black and dry wines to be unprofitable, should be regarded as an indication of the current fashion for wines of other kinds. As Galen suggests, at least the Italian market in his times was dominated by fair-coloured vintages⁵⁸.

According to Galen's suggestions, the preference for mature and yellow wines did not lead to complete abandoning of production of wines of other kinds. However, fair and young, as well as black and young, were of significance only locally. Moreover, the Pergamonian's texts trigger the conclusion that the market of dry black wines shrank to the areas where they had traditionally been produced and did not include ancient Italy. There, as follows from the catalogue of wines mentioned by the doctor in his works, young and mature fair wines prevailed.

⁵⁶ Galen mentioned his stay in Smyrna in several of his works. Cf. Galen, *De anatomicis administrationibus libri ix*, 217, 13–17, vol. II;

⁵⁷ Perhaps it was also available in the yellow variety, because Galen mentions it in the catalogue of known wines (and thus quality ones [ἐπιφανεῖς]) of this type in *De victu attenuante* – Galen, *De victu attenuante*, 94, 1–95, 1 (*Theraíos* [Θηραῖος] – 94, 3).

⁵⁸ Galen, De methodo medendi, 831, 3-6, vol. X.

Data preserved by Galen do not show how long this tendency lasted, although a mention on not using certain wines in official public festivities (offerings) or even private events which could be intended at showing the social status of the person who organised them (symposia and wedding receptions) suggest, in our opinion, that the consumption scheme presented by Galen was permanent.

On the other hand, the local market of black wines probably did not shrink. Firstly, Galen testifies to their constant and common consumption in the regions where they were traditionally produced. Secondly, he suggests that dry black wines were not replaced with white ones produced in the same areas or imported from overseas, since the latter also had to go bad during transport. Also yellow wines were not a competition as mature wines so, due to the expenditures related to the process of maturation, they were probably sold at high prices, thus being a costly option for wealthy buyers. Galen himself wrote that he had not tasted the sweet variety of *Falerinos* before he got to ancient Italy⁵⁹, which confirms this conclusion. Thus, this beverage, if it was imported to Asia Minor at all, only occurred there in relatively small amounts and at a price which rendered it unaffordable to a young person as Galen was at the time⁶⁰. The high price of mature yellow wines is also indicated by e.g. Galen's reflection on wine forging using the mature *Katkoubos*.

Although many black wines were drunk in Asia Minor, fair-coloured beverages were also available there. Such was the wine from the vicinity of Afrodisias, namely Afrodisiaios (Ἀφροδισιαῖος) and Tmolites (Τμωλίτης)⁶¹. It is difficult to determine if the market of Asia Minor was poor in this respect, as the last apellation d'origine included two varieties, of which one was sweet and the other – dry⁶². Similarly to Falerinos and Tmolites, the beverage called Hippodamánteios (Ἱπποδαμάντειος), which was maturated, was also fair⁶³. All the same, the number of fair varieties attributed by Galen to Asia Minor is smaller than that true for ancient Italy.

To sum up, dry black wines enjoyed local but steady recognition, especially in the eastern areas of the Mediterranean, which is testified by Galen himself

⁵⁹ Galen, De dignoscendis pulsibus libri IV, 774, 14–16, vol. VIII.

⁶⁰ Although it must be remembered that owing to his breeding, he had belonged to the Pergamonian elite since his birth.

⁶¹ Galen, De methodo medendi, 835, 4-10, vol. X.

⁶² Galen, De methodo medendi, 835, 18-836, 4, vol. X.

⁶³ Galen, De methodo medendi, 836, 7–11, vol. X.

by listing their brands, and by justifying, from the point of view of his medical theory, advisability of their consumption. However, they were not commonly known in the capital of the Empire, whose citizens imposed trends since white wines prevailed in ancient Italy, and their mature varieties were particularly valued, even when they became clearly dry and even slightly bitter⁶⁴.

References

Aëtius of Amida, *Iatricorum libri – Aetii Amideni libri medicinales I–VIII*, ed. A. Olivieri, Lipsiae–Berolini 1935–1950.

Athenaeus of Naucratis, *Dipnosophistae – Athenaei Naucratitae dipnoso-phistarum libri XV*, reviewed by G. Kaibel, vol. I–III, Lipsiae – Berolini 1887 –1890.

Bednarczyk A., Galen. Główne kategorie systemu filozoficzno-lekarskiego, Warszawa 1995.

Bergoldt K., Wellbeing. A cultural history of healthy living, transl. J. Dewhurst, Cambridge – Malden, Mass. 2008.

Boudon V., Medecine et enseignement dans l'art medical de Galen, "Revue des Etudes Grecques" 1993, vol. 106.

Boulay T., Wine appreciation in ancient Greece, [in:] A companion to food in the ancient world, eds. J. Wilkins, R. Nadeau, Malden-Oxford 2015.

Byl S., L'alimentation dans le Corpus Hippocratique, [in:] Voeding en geneeskunde. Alimentation et médecine. Acten van het colloquium. Actes du colloque. Brussel – Bruxelles 12.10.1990, eds. R. Jansen-Sieben, F. Daelmans, Brussel/Bruxelles 1993.

Corner S., *Symposium*, [in:] *A companion to food in the ancient world*, eds. J. Wilkins, R. Nadeau, Malden–Oxford 2015.

Dalby A., Food in antiquity from A to Z, London-New York 2003.

De alimento – Hippocrate, De alimento, [in:] Oeuvres completes d'Hippocrate, ed. É. Littré, vol. IX, Paris 1861.

Deichgräber K., Sextius Niger, [in:] Realencyclopädie der Classischen Altertumswissenschaft, Supplementband V, Stuttgart 1931.

Dioscorides, *De materia medica – Pedanii Dioscuridis Anazarbei de materia medica libri V*, ed. M. Wellmann, vol. I–III, Berolini 1906–1914.

Drygas A., "Soki" (humory) w teorii Hipokratesa, "Farmakologia Polska" 1995, vol. 51/15.

⁶⁴ For this last feature cf. Galen, *De methodo medendi*, 830, 11, vol. X.

Everett N., The alphabet of Galen: pharmacy from antiquity to the Middle Ages: a critical edition of the Latin text with English translation and commentary, Toronto 2012.

Fisher N. R. E., *Drink, hybris and the promotion of harmony in Sparta*, [in:] *Classical Sparta. Techniques behind her success*, ed. A. Powell, London 1989.

Flemming R., *Galen's imperial order of knowledge*, [in:] *Ordering knowledge in the Roman Empire*, eds. J. König, T. Whitmarsh, Cambridge 2007.

Galen, De alimentorum facultatibus – Galeni de alimentorum facultatibus libri III, [in:] Claudii Galeni opera omnia, ed. C. G. Kühn, vol. VI, Lipsiae 1823.

Galen, De anatomicis administrationibus – Galen, De anatomicis administrationibus libri IX, [in:] Claudii Galeni opera omnia, C.G. Kühn, Leipzig 1821.

Galen, De antidotis – Galeni de antidotis libri II, [in:] Claudii Galeni opera omnia, ed. C. G. Kühn, Lipsiae 1827.

Galen, De compositione medicamentorum secundum locos – Galeni de compositione medicamentorum secundum locos libri X, [in:] Claudii Galeni opera omnia, C. G. Kühn, Lipsiae 1826.

Galen, De dignoscendis pulsibus – Galeni de dignoscendis pulsibus libri IV, [in:] Claudii Galeni opera omnia, ed. C. G. Kühn, Lipsiae 1824.

Galen, De methodo medendi – Galeni de methodo medendi libri XIV, [in:] Claudii Galeni opera omnia, ed. C. G. Kühn, vol. X, Lipsiae 1825.

Galen, De placitis Hippocratis et Platonis - Galen on the doctrines of Hippocrates and Plato, ed. P. H. De Lacy, vol. I–II, Berlin 1978.

Galen, De rebus boni malique suci – Galeni de rebus boni malique suci libellus, [in:] Claudii Galeni opera omnia, ed. C. G. Kühn, vol. VI, Lipsiae 1823.

Galen, De sanitate tuenda – Galeni de sanitate tuenda libri VI, [in:] Claudii Galeni opera omnia, ed. C. G. Kühn, vol. VI, Lipsiae 1823.

Galen, De simplicium medicamentorum temperamentis ac facultatibus – Galeni de simplicium medicamentorum temperamentis ac facultatibus libri XI, [in:] Claudii Galeni opera omnia, ed. C. G. Kühn, vol. XI–XII, Lipsiae 1826 –1827.

Galen, *De victu attenuante – Galeni de victu attenuante*, ed. K. Kalbfleisch, Leipzig–Berlin 1923.

Galen, In Hippocratis de victu acutorum commentaria – Galeni in Hippocratis de victu acutorum commentaria iv, ed. G. Helmreich, Leipzig 1914.

Galen, Linguarum seu dictionum exoletarum Hippocratis explicatio – Galeni linguarum seu dictionum exoletarum Hippocratis explication, [in:] Claudii Galeni opera omnia, ed. C. G. Kühn, vol. XIX, Lipsiae 1830.

Garcia Gaul C., Dieta hipocrática y prescripciones alimentarias de los pitagóricas, [in:] Dieta Mediterránea. Comidas y hábitos alimenticios en las culturas Mediterráneas, eds. A. Pérez Jiménez, G. Cruz Andreotti, Madrid 2000.

Geoponica – Geoponica sive Cassiani Bassi Scholastici de re rustica eclogue, reviewed by H. Beckh, Lipsiae 1895.

Grace V. R., Amphoras and the ancient wine trade, Princeton 1979.

Halstead P., *Food production*, [in:] *A cultural history of food in antiquity*, ed. P. Erdkamp, London–New York 2016.

Hankinson R. J., *The man and his work*, [in:] *The Cambridge companion to Galen*, ed. R. J. Hankinson, Cambridge 2008.

Hardy G., Totelin L., *Ancient botany*, London – New York 2016.

Irwin M. E., *Greek and Roman Botany*, [in:] *A companion to science, technology, and medicine in ancient Greece and Rome*, ed. G. L. Irby, vol. 2, London – New York 2016.

Jones-Lewis M., *Pharmacy*, [in:] *A companion to science, technology, and medicine in ancient Greece and Rome*, ed. G. L. Irby, vol. 2, London – New York 2016.

Jouanna J., La régime dans la médecine hippocratique: définition, grands problèmes, prolongements, [in:] Colloque. Practiques et discours alimentaires en Méditerranée de l'antiquité a la renaissance. Actes, eds. J. Leclant, A. Vauchez, M. Sartre, Paris 2008.

Kaczor I., Deus – ritus – cultus. Studium na temat charakteru religii starożytnych Rzymian, Łódź 2012.

Kokoszko M., Jagusiak K., Rzeźnicka Z., Dietetyka i sztuka kulinarna antyku i wczesnego Bizancjum (II–VII w.), part I, Zboża i produkty zbożowe w źródłach medycznych antyku i wczesnego Bizancjum (II–VII w.), Łódź 2014.

Kokoszko M., Jagusiak K., Woda, wino i tak dalej, czyli o napojach i trunkach w Konstantynopolu, "Przegląd Nauk Historycznych" 2010, vol. 9/1.

Lissarrague F., *The Aesthetics of the Greek Banquet: Images of Wine and Rit-ual*, transl. A. Szegedy-Maszak, Princeton 1990.

Mattern S. P., Galen and the Rhetoric of Healing, Baltimore 2008.

Nutton V., Ancient medicine, London - New York 2007.

Oribasius, *Collectiones medicae – Oribasii collectionum medicarum reliquiae*, ed. I. Raeder, vol. I–IV, Lipsiae–Berolini 1928–1933.

Paul of Aegina, *Epitome – Paulus Aegineta*, ed. I. L. Heiberg, vol. I–II, Lipsiae–Berolini 1921–1924.

Pietrobelli A., The pharmacological treatise Περὶ εὐφορβίου of Juba II, King of Mauretania, [in:] 'Greek' and 'Roman' in Latin medical texts: Studies in cultural change and exchange in ancient medicine, ed. B. Maire, Leiden–Boston 2014.

Plinius, *Historia naturalis – C. Plini Secundi naturalis historiae libri XXXVII*, ed. C. Mayhoff, vol. I–VI, Lipsiae 1875–1906.

Prioreschi P., A history of medicine, vol. 3, Roman medicine, Omaha, NE 1998.

Purcell N., Wine and wealth in ancient Italy, "Journal of Roman Studies" 1985, vol. 75.

Radaelli E., *The presence of North-African wines in Rome and Ostia during the Middle Imperial Age (2nd – early 3rd centuries AD)*, "Antesteria. Debates de Historia Antigua" 2018, vol. 7.

Rzeźnicka Z., Kokoszko M., Dietetyka i sztuka kulinarna antyku i wczesnego Bizancjum (II–VII w.), part III, Ab ovo ad γόλα. Jajka, mleko i produkty mleczne w medycynie i sztuce kulinarnej (I–VII w.), Łódź 2016.

Sarton G., Galen of Pergamon, Lawrence 1954.

Sealey P. R., New light on the wine trade with Julio-Claudian Britain, "Britannia" 2009, vol. 40.

Thorndike L., Galen. The man and his himes, "The Scientific Monthly" 1922, vol. 14/1.

Thurmond D. L., From vines to wines in classical Rome. A handbook of viticulture and oenology in Rome and the Roman West, Leiden-Boston 2017.

Unwin T., Wine ant the vine. An historical geography of viticulture and the wine trade, London-New York 1996.

Volpe Cacciatore P., *El régimen según Galeno*, [in:] *Dieta Mediterránea. Comidas y hábitos alimenticios en las culturas Mediterráneas*, eds. A. Pérez Jiménez, G. Cruz Andreotti, Madrid 2000.

Węcowski M., Sympozjon, czyli wspólne picie. Początki greckiej biesiady arystokratycznej (IX–VII wiek p.n.e.), Warszawa 2011.

Wellman M., Sextius Niger, eine Quellenuntersuchung zu Dioscorides, "Hermes" 1889, vol. 24/4.

Wilkins J. M., Hill S., Food in the ancient world, Malden-Oxford 2006.