

## VI

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# Appendix, or on a Clear Understanding



**A**s an appendix to the above analysis of milk and other dairy products we attach our research into one term that is connected with the subject of dairy. This is a study into the meaning of one noun exclusively, a term which reads in Greek *pyriephta*. In the text we try to demonstrate how important it is to correctly and fully understand ancient terminology regarding foodstuffs<sup>1</sup>.

### 1. *Pyriephta* – an enigmatic term

In book XIV of the *Deipnosophistae*, there is a line from the comedy entitled *Flutes* (*Auloí*), written in the 3<sup>rd</sup> or 4<sup>th</sup> c. BC by Philippides<sup>2</sup>. Together with a commentary on the meaning of the term used by the comic

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<sup>1</sup> As we consider ancient Greek indispensable to fully understand our line of reasoning, in the appendix, we deviate from our normal pattern of transliterating it and include select passages in the original version.

<sup>2</sup> G.B. Philip p, *Philippides, ein politischer Komiker in hellenistischer Zeit*, G 80, 1973, p. 493–509; J. Henderson, *Comedy in the Fourth Century II: Politics and Domesticity*, [in:] *The Oxford Handbook of Greek and Roman Comedy*, eds. M. Fontaine, A.C. Sca furo, Oxford 2014, p. 190.

poet which precedes the quotation, it reads in the following fashion:

Πυριέφθων δὲ μνημονεύει (οὕτω δὲ καλεῖται τὸ πρῶτον  
γάλα) Φιλιππίδης ἐν Αὐλοῖς (III 304 K).  
τὰ δὲ πυριέφθα καὶ τὰ λάγανα ταῦτ' ἔχων<sup>3</sup>.

Our translation of the excerpt is as follows:

*Pyriéphtha* (πυριέφθα) (and this is how colostrum is named)  
are mentioned by Philippides in *The Flutes*:  
*pyriéphtha* (πυριέφθα) and *lágana* (λάγανα) having...

Despite the excerpt being quite short, it does provide grounds to envisage the situation it outlines, which we imagine as a meal of some kind. Moreover, the author lists its *sui generis* menu which consist of two items only. The term *lágana* refers to a type of bread which belonged to a broader category known as *ítria* – unleavened flatbread made of wheat flour and water<sup>4</sup>, which was characterised by Athenaeus himself in a separate chapter, namely the bread catalogue included in Book III of his work<sup>5</sup>.

On the other hand, we conclude from the same menu that *pyriéphtha* were a kind of addition to bread, i.e., *ópson*, eaten with broken pieces of flatbread. Their role is confirmed by another extract from the *Deipnosophistae*, in which Athenaeus explains that foodstuffs of this type were *bedýsmata*, i.e., the thing that distinguished menus served during get-togethers. He also mentions that the Macedonians called these kinds of snacks *epideipnídes*, and that they were served during wine-drinking feasts<sup>6</sup>.

<sup>3</sup> Athenaeus of Naucratis, XIV, 658 d–e (76, 32–34).

<sup>4</sup> A. Dalby, *Food in the Ancient World from A to Z*, London–New York 2003, p. 251; M. Kokoszko, K. Jagusiak, Z. Rzeźnicka, *Cereals of Antiquity and Early Byzantine Times. Wheat and Barley in Medical Sources*, transl. K. Wodarczyk, M. Zakrzewski, M. Zytka, Łódź 2014, p. 92, 105, 140, etc.

<sup>5</sup> Athenaeus of Naucratis, III, 110 a–b (74, 55–65).

<sup>6</sup> Athenaeus of Naucratis, XIV, 658 e (76, 35–36).

Athenaeus provides us with a definition of *pyriephtha*, thus indicating that it was not a widely known term. Indeed the noun must have been extremely enigmatic because it tended to be explained both in ancient and Byzantine lexicography. For instance, in the writings by Julius Pollux (2<sup>nd</sup> c. AD)<sup>7</sup>, *pyriephtha* (also quoted in the context of the extract from Philippides' comedy) was mentioned<sup>8</sup> alongside such synonymous expressions as *pyyon* and *pyriate*<sup>9</sup>. We can also come across this word in medical literature, e.g. Galen maintains that the word *pyriefthon* or *pyriefthos* was used during his times in Asia Minor<sup>10</sup>.

Referring back to Athenaeus' work, we would like to stress that the definition of the term *pyriephtha* as colostrum in his text raises serious doubts. First of all, the chapter in which this term is originally used constitutes part of a larger entity, the main subject matter of which is a description of various types of cheese, i.e., one of the typical *ópsa*. Therefore, a sudden deviation from the main issue to colostrum seems unwarranted<sup>11</sup> as it had never been classified within the said group, since *ópsa* referred to solid products or spreads, but not liquids.

Secondly, the grammatical form of the word *pyriephtha* clearly indicates that this term is in the plural of the neuter gender. In accordance with the rules of Greek grammar, this form cannot refer to milk, and thus is inappropriate in relation to the *designatum* which Athenaeus stipulated as 'colostrum' (*próton gála*), since this word (as an uncountable noun) ought to be used exclusively in the singular. Due to such a *usus linguae*, the plural form of *pyriephtha* used by Philippides implies that the *designatum* is a countable noun of neuter gender (accordingly,

<sup>7</sup> On Pollux, cf. R. Tosi, *Polluce: struttura onomastica e tradizione lessicografica*, [in:] *L'Onomasticon di Giulio Polluce*, eds. C. Bearzot, F. Landucci, G. Zecchini, Milano 2007, p. 3–16; S. Matthaios, *Greek Scholarship in the Imperial Era and Late Antiquity*, [in:] *Brill's Companion to Ancient Greek Scholarship*, eds. F. Montanari, S. Matthaios, A. Rengakos, vol. I–II, Leiden–Boston 2015, p. 286, 294–296.

<sup>8</sup> We find it symptomatic that it was mentioned among animal foodstuffs, which are typical *ópsa*. Cf. deliberations below.

<sup>9</sup> Pollux, VI, 54.

<sup>10</sup> Galen, *De alimentorum facultatibus*, 694, 17, vol. VI.

<sup>11</sup> Athenaeus of Naucratis, XIV, 658 a–e (76, 1–36).

in its singular it takes the form of *pyriefthon*), which is logically (and situationally<sup>12</sup>) linked with the noun *lágana*, and it means not one, but many additions consumed with the said flatbread.

Fortunately, the text of the *Deipnosophistae* itself enables us to reinterpret the meaning of the term *pyriephtha* given by Athenaeus. As mentioned above, the whole chapter in which the word appears is devoted to cheeses and there is no reason for *pyriephtha* to be regarded as an exception to the rule. ‘Cheese’ in Greek is a countable noun, since it is a solid product with a specific shape attributed to each of its types. If the term *pyriephtha* meant ‘colostrum’<sup>13</sup>, there would be no justification for making use of this noun in the plural, but instead it would be more logical to use its singular form, and illustrate the concept of amount, using degrees of volume.

Even more information on the nature of *pyriephtha* can be retrieved from an extract that precedes the quotation from Philippides, since Athenaeus places the line in question from *Auloí* in the section of the chapter devoted to small-sized cheeses. As we can learn, the category included, for instance, flattened oval-shaped cheese pats, which, in Crete, were called *theleiai* (i.e., ‘feminine’)<sup>14</sup>. A similar size is suggested in another quotation by Athenaeus, in which cheeses served during the feast<sup>15</sup> are presented as snacks consumed with wine<sup>16</sup>.

Finally, it is worth noting that the word *pyriephtha* is itself a term that is connected with the production technology of its *designatum*, because this noun incorporates the words *pýr* (‘fire’) and *héftho* (‘boil’), which leads to the inference that the said cheeses were produced through heat-induced coagulation of milk. This hypothesis is confirmed in an extract from Galen’s *De alimentorum facultati-*

<sup>12</sup> Philippides described a meal during which the feasters consumed flatbread with the addition of *pyriephtha*.

<sup>13</sup> As it was interpreted until the publication of the *Deipnosophistae*, translated and edited by Stuart Douglas Olson.

<sup>14</sup> Athenaeus of Naucratis, XIV, 658 d (76, 29–31).

<sup>15</sup> The author used the term *kóthon*, which normally means a drinking bout.

<sup>16</sup> Athenaeus of Naucratis, XIV, 658 e (76, 35–36).

*bus*, in which the author describes a method of precipitating milk curd without the addition of rennet, by only heating up milk<sup>17</sup>. Another fact that supports the thesis is that in the same extract from Galen's work we can find the term *pyriáte*, whose root also stems from the noun *pýr* or the verb *pyróo* ('to heat up over fire'), and which in ancient Greek comedy, as the doctor of Pergamum puts it, was a synonym of *pyriéftthon/pyriéftthos*. Furthermore, he also writes that these nouns have the meaning of 'milk curd' (*pagén gála*) and not just milk itself<sup>18</sup>. This opinion is additionally confirmed by Hesychius of Alexandria<sup>19</sup>, who recorded the term *pyriatón* in his lexicon, defining it as a dairy product obtained by boiling milk over fire<sup>20</sup>. A topical entry can also be found in the work by Pausanias (1<sup>st</sup>/2<sup>nd</sup> c. AD)<sup>21</sup>, who states that the term *pyós* describes either fresh milk or a product made by boiling yesterday's milk, i.e., soured, and fresh milk. Additionally, he indicates that this foodstuff can also be called *pyriéftthon*. Therefore, not only does the explanation provided by Pausanias define the term, but also it precisely reveals the production technology of the said foodstuff, by specifying it in a manner analogical to the approach taken by Galen<sup>22</sup>. Last but not least, it should be noticed that similar definitions of the words *pyriéftthon/pyriéftthos* and *pýos/pyós*, together with the production technology of the said foodstuff, were included in lexicons compiled by such

<sup>17</sup> Galen, *De alimentorum facultatibus*, 694, 10 – 695, 1, vol. VI.

<sup>18</sup> Galen, *De alimentorum facultatibus*, 694, 16–17, vol. VI (*pyriáte*); 694, 16, vol. VI (*pagén gála*).

<sup>19</sup> On the person, cf. E. Dickey, *Ancient Greek Scholarship. A Guide to Finding, Reading, and Understanding Scholia, Commentaries, Lexica, and Grammatical Treatises, from their Beginnings to the Byzantine Period*, Oxford–New York 2007, p. 88–90; S. Matthaios, *Greek...*, p. 288–290.

<sup>20</sup> Hesychius of Alexandria, pi, 4418, 1 (s.v. *pyriaton*).

<sup>21</sup> On Pausanias, cf. E. Dickey, *Ancient...*, p. 99; S. Matthaios, *Greek...*, p. 292–293.

<sup>22</sup> Pausanias, pi, 43, 1–2 (s.v. *pyón*).

authors as Photius (9<sup>th</sup> c. AD)<sup>23</sup>, as well as in *The Suda* (Latin: *Liber Suda*; 10<sup>th</sup> c. AD)<sup>24</sup> and *Etymologicon magnum*<sup>25</sup>.

As far as determining the appropriate meanings of the analysed terms is concerned, it is also crucial to scrutinise testimonies given by the ancient comic playwrights that Galen mentions while discussing methods used to coagulate milk. In this respect, informative material is provided in the form of an extract preserved by Athenaeus of Naucratis from Pherecrates' (5<sup>th</sup> c. BC)<sup>26</sup> comedy *Miners* (*Metalleís*). Notably, the comic playwright mentions *pyou tómōi*<sup>27</sup>, i.e., 'pieces' or 'slices' of *pyós/pyós*, which unambiguously indicates that this was a solid type of food which could be divided into portions, e.g. cut with a knife. Since this noun could be synonymous with such terms as *pyriáte* and *pyriefthon/pyriefthos*, the latter must also have been used to describe the cheese obtained from curd produced by heating up milk.

What still remains to be determined is whether the terms *pyós/pyós*, *pyriáte* and *pyriefthon/pyriefthos* are truly synonymic. When it comes to differences and similarities between the meanings of the said individual nouns, the aforementioned lexicographic material recorded by Photius appears to be particularly useful, since the author states the term

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<sup>23</sup> P h o t i u s, *Lexicon*, pi, 1541 (s.v. *pyon*). Photius indicates that the term *pyon* may also mean a product obtained by boiling fresh milk with soured milk, i.e., a curd or fresh cheese. Cf. P h o t i u s, *Lexicon*, pi, 1542 (s.v. *pyon*). In the second entry, Photius adds that this product can also be called *pyriefthon*. Analogous data, cf. P h o t i u s, *Amphilochia*, 21, 121–126 (esp. 126). Photius writes exactly about the ambiguity of this term, and as its final meaning he nominates the one analogical to that described in the lexicon. On Photius and his writings, cf. D i c k e y, *Ancient...*, p. 101–104; F. P o n t a n i, *Scholarship in the Byzantine Empire (529–1453)*, [in:] *Brill's Companion to Ancient...*, p. 331–337.

<sup>24</sup> *Suda*, pi, 3179, 1–4 (esp. 2–3) (s.v. *pyos*). The author defines the term as, among other things, a product made by boiling fresh and soured milk. On the work cf. E. D i c k e y, *Ancient...*, p. 90–91; e a d e m, *The Sources of our Knowledge of Ancient Scholarship*, [in:] *Brill's Companion to Ancient...*, p. 472–473.

<sup>25</sup> *Etymologicon Magnum*, pi, 697, 4 (s.v. *pyos*). The author identifies the term as synonymous to curdled milk. He does not, however, specify the technology used to obtain this product. On *Etymologicon Magnum*, cf. E. D i c k e y, *Ancient...*, p. 91–92; R. T o s i, *Typology of Lexicographical Works*, [in:] *Brill's Companion to Ancient...*, p. 634.

<sup>26</sup> I. C. S t o r e y, *The First Poets of Old Comedy*, [in:] *The Oxford...*, p. 108–110.

<sup>27</sup> A t h e n a e u s o f N a u c r a t i s, VI, 269 a (96, 30).

*pyón* can be associated with several definitions. First of all, it can mean a liquid (that comes out of breasts and udders) prior to proper milk. Secondly, it can refer to transmogrified blood. Next, it can simply be used to describe milk in general. In addition, it could also refer to any milk-coloured liquid (and secretion). Finally, this word is also used to describe fresh milk boiled together with yesterday's milk, i.e., soured, and thus, it means cheese which has been made by means of the said technology. Photius certifies that the term is synonymous to the concept of *pyriēfthon* (but, as one can presume, only in the last meaning).

To conclude our research, we also turn to the author of the scholia to *Vespae*. He, referring to Palamedes' (2<sup>nd</sup>/3<sup>rd</sup> c. AD)<sup>28</sup> authority, claims that the term *pyriáte* (or more precisely, *pyriátes*) is synonymous with the term *pyriēfthon*<sup>29</sup>, which means that it may have referred to cheese as well. It is also worth noting that the remark regarding the identical meaning of the nouns *pyriáte* and *pyriēfthon* can also be found in Photius' lexicon<sup>30</sup>.

The consequence of the reasoning presented above is the fact that *pyriēftha* as mentioned by Philippides cannot have been 'colostrum', as claimed by the author of the *Deipnosophistae*, but must have been cheese served together with pieces of flatbread called *lágana*. What is the cause of this considerable mistake made by such a food expert as Athenaeus of Naucratis?

## 2. Trying to fully understand Galen

As for the above question, through the analysis of the source material, we are able to prove that the author of the *Deipnosophistae* was not ignorant, but he was influenced by a text written by another prominent mind in the realm of dietetic research, i.e., Galen's *De alimentorum facultatibus*.

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<sup>28</sup> On Palamedes, cf. R. Förster, *Eleatikos Palamēdēs*, RMP 30, 1875, p. 331–339; S. Matthaios, *Greek...*, p. 241.

<sup>29</sup> *Scholia in Aristophanis vespas*, 710 a, 1 – c, 1.

<sup>30</sup> Photius, *Lexicon*, pi, 1558 (s.v. *pyriatē*).



In Book III of the latter's work, more precisely in the extract devoted to soured milk, i.e., *oksýgala*<sup>31</sup>, Galen writes about methods that lead to the precipitation of milk curd, i.e., *schisis*. The passage is written in a relatively complex manner and it has a composite structure, since it consists of two major parts. The first section is nothing more than a summary of the passage included within the treatise by Sextius Niger<sup>32</sup>. The second part is Galen's digression, following his reading of the text<sup>33</sup>, containing some remarks on colostrum (to complement Niger's lecture)<sup>34</sup>, a reference to Galen's general literary knowledge<sup>35</sup>, his deliberations stemming from his own life experience (transposing the subject of his divagations into the body of words and terms he knew from his homeland)<sup>36</sup>, and an indication of the effects resulting from the described process in the context of *materia medica*<sup>37</sup>.

As for the contents of the passage, Galen writes that even though rennet is customarily used to curdle milk, the same effect can also be obtained by exposing milk to high temperatures and by adding cold *oksýmeli* or *oinómeli*. At times, it is also possible to curdle milk just by boiling milk and simultaneously immersing a vessel with extremely cold water inside it.

In his comment to the original text, Galen states that rennet is also used to curdle the milk obtained immediately after birth, especially if it is heated for a short period of time on wood charcoal. He also mentions that ancient comedy playwrights used to call this kind of curdled milk *pyriáte*, whereas in his times, in Asia Minor, this product was referred to as *pyriéfthon/pyriéfthos*. Galen recaps his divagations by stating that the final product<sup>38</sup> is, as a matter of fact, a pure milk curd without any

<sup>31</sup> Galen, *De alimentorum facultatibus*, 689, 8 – 696, 6, vol. VI.

<sup>32</sup> Galen, *De alimentorum facultatibus*, 694, 10–14, vol. VI.

<sup>33</sup> Galen, *De alimentorum facultatibus*, 694, 14 – 695, 1, vol. VI.

<sup>34</sup> Galen, *De alimentorum facultatibus*, 694, 14–15, vol. VI.

<sup>35</sup> Galen, *De alimentorum facultatibus*, 694, 16–17, vol. VI.

<sup>36</sup> Galen, *De alimentorum facultatibus*, 694, 17, vol. VI.

<sup>37</sup> Galen, *De alimentorum facultatibus*, 694, 17 – 695, 1, vol. VI.

<sup>38</sup> I.e. *pyriáte*, which is synonymous to *pyriéfthon/pyriéfthos*.



additive substances.

Galen's text, and particularly his comments on colostrum, caused some interpretative issues, since one could conclude he believed colostrum to be synonymous with two other terms: *pyriáte* and *pyriéfthôn/pyriéfthos*. Nevertheless, Galen, who was then writing about the technology applied to produce milk curd, only pointed to the fact that colostrum curdles in no time when exposed to high temperature, and this technology (i.e., heating up milk) was also used in the production of cheese, which in comic poetry was called *pyriáte* and in Galen's time *pyriéfthôn/pyriéfthos*. As a result, Galen only states the synonymousness of *pyriáte* and *pyriéfthôn/pyriéfthos*, and never claims that cheese known by this name was made of colostrum

An example that illustrates the interpretative difficulties is *Iatricorum libri* by Aëtius of Amida. In Book II, within a lecture on milk and dairy products<sup>39</sup>, following the chapter *Peri oksygálaktos*<sup>40</sup>, the author placed another chapter, entitled *Peri protogálaktos Galenoú*<sup>41</sup>, where he tries to specify the contents included in the original text by taking the following measures. Firstly, from the chapter within *De alimentorum facultatibus* entitled *Peri oksygálaktos*, he separates two, in his opinion, thematically connected pieces, i.e., one regarding soured milk and another on colostrum. Secondly, in order to guide the reader to his way of thinking, each piece is provided with an appropriate heading, clearly indicating the contents of the passage to follow. Thirdly, in the extract *Peri protogálaktos Galenoú*, he specifies Galen's words, by adding τὸ καλούμενον πρωτόγαλα... at the beginning, and then he also introduces καὶ prior to Galen's πυρωθὲν ἐπὶ θερμοσποδίας... In consequence, there is an impression that τοῦτο, used in the next sentence of Aëtius' text, refers to πρωτόγαλα, and not to τὸ γάλα πυρωθὲν..., and thus, it seems that this pronoun refers to colostrum, and not to the curd obtained after

<sup>39</sup>Aëtius of Amida, *Iatricorum libri*, II, 86, 1 – 104, 13. The chapter is a compilation of texts by Rufus of Ephesus and Galen.

<sup>40</sup>Aëtius of Amida, *Iatricorum libri*, II, 98, 1–15.

<sup>41</sup>Aëtius of Amida, *Iatricorum libri*, II, 99, 1–6.

heating it up. Striving to avoid ambiguity, Galen, however, specifies γάλα πυρωθέν by means of τὸ οὕτω παγὲν γάλα, as he believes that in this way he univocally points to the subject of his deliberations. As a result of the aforementioned measures, the reader of *Iatricorum libri* was provided with a slightly different message, which implied that Galen's aim had not been to describe the technology of producing milk curd, but to define the terms referring to colostrum. Moreover, the said modifications introduced by Aëtius of Amida could lead readers of his encyclopaedia to conclude that πρωτόγαλα as well as πυριάτη and πυριεφθον were terms used to refer to colostrum.

Having proved that Galen's text was the basis of the mistake made by Aëtius of Amida, and having suggested its origins, we may now return to the *Deipnosophistae* and state that the erroneous explanation – provided by Athenaeus of Naucratis – of the term *pyriēftha* used in Philippides' comedy is, in its nature, identical to the one we can find within *Iatricorum libri* by Aëtius of Amida. Therefore, we can assume that the definition preserved in the *Deipnosophistae* and, considering the terms *pyriēftha* and *próton gála* to be synonymous, was also coined on the basis of the said fragment of Galen's *De alimentorum facultatibus*.

It is also worth noting that Galen is the very first person that we know of in the history of literature to put *pyriáte* and *pyriēfthon/pyriēfthos* together. Both in medical and lexicographic works, they only appear next to one another in texts written in Galen's time (Julius Pollux, Pausanias, Palamedes) and later (Oribasius<sup>42</sup>, Aëtius of Amida, authors of scholia to the comedies of Aristophanes and Photius). Thus, it could be argued that all these compilations of the nouns *pyriáte* and *pyriēfthon/pyriēfthos* stem from the remarks which Galen included in *De alimentorum facultatibus* (and which were later taken into account by other lexicographers and medical doctors in their works).

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<sup>42</sup> Oribasius, *Collectiones medicae*, II, 59, 10, 2 – 11, 1.

### 3. Consequences

Our hypothesis that Athenaeus of Naucratis was familiar with Galen's reflections which are included in the treatise *De alimentorum facultatibus* has several effects. First of all, it renders it possible to determine the time when the *Deipnosophistae* was written. Since *De alimentorum facultatibus* is dated to between 180 and 182, which means that Book XIV, at the very least, of Athenaeus' work must have been written after that time.

Secondly, we believe that the fact that Galen is one of the banqueters named by Athenaeus and that the author from Naucratis manifestly refers to his output not only suggests that they were contemporaries in time and space, but also that the latter aimed to learn Galen's thoughts. Therefore, at some point between 182 and 216 (Galen's death), the two authors were very likely to have met, and thus our final conclusion in the matter is that Galen in the *Deipnosophistae* is not a purely a literary figure but a true representation of the prominent medic of Pergamum<sup>43</sup>.

Thirdly, we suggest re-examining and correcting translations of all the belles lettres which contain the terms *pyon* (or *pyos* either *pyós*), *pyriate* and *pyriefthon* (or *pyriefthos*), in order to apply their appropriate interpretation and meaning.

Finally, we would like to note that the aforementioned conclusions would not have been possible without directly linking the results of studies of medical sources with other types of literature. We are also convinced that we have proved without doubt that medical treatises may be useful not only in analysing the scope of the history of medicine, but also the history of ancient literature. We also hope that studies on medical writings will, in the future, allow us to explain other mysteries which today still pose a real challenge to scientists and scholars.

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<sup>43</sup> Our supposition seems to be supported by the latest research by Antoine Pietrobelli, who, although arguing that Athenaeus wrote his work in the first decades of the 3<sup>rd</sup> c. AD, also acknowledges the fact that at least part of it was penned *when Galen was still alive*, cf. A. Pietrobelli, *Galen's Early Reception (Second-Third Centuries)*, [in:] *Brill's Companion to the Reception of Galen*, eds. P. Bouras-Vallianatos, B. Zipse, Leiden–Boston 2019, p. 15.