CATULLUS ONLINE

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Abstract: *Catullus Online*, a collection of the author's poems and a repository of the conjectures collected through the centuries, was published by Dàniel Kiss, with the support of the Laitinische Philologie of the Ludwig-Maximilians-Universität München, in 2013. Dàniel Kiss faced many difficulties in the creation of such a resource both from a technical standpoint and from the inner complexity of the philological tradition behind Catullus and his poems.

He still ended up creating a rather interesting Scholarly Digital Edition, which has made such work more accessible also to those that don't typically belong in the academic world, offering the possibility to access high-quality photos of the manuscripts, a curated apparatus, and much other information about the texts and the author, with just a simple click. What is mostly missing inside of this project is a standard since it doesn't follow any (such as TEI), a lost opportunity to further deepen the quality of such a Scholarly Digital Edition.

Keywords: critical edition, Latin, Catullus, conjectures.

Bibliographic identification of the Scholarly Digital Edition

Catullus Online was developed thanks to the research project *An Online Repertory of Conjectures for Catullus* (2009-2013), promoted by the Center for Advanced Studies and the Abteilung für Griechische und Lateinische Philologie of the Ludwig-Maximilians-Universität München, who financed the project. The result of the project is now reachable as a digital resource through the URL address "http://www.catullusonline.org".

Dàniel Kiss is the editor and creator of *Catullus Online*, and he was helped by a group composed of philologists like Giuseppe Gilberto Biondi and Michael Reeve and experts in Classics like David Butterfield, Carlotta Dionisotti, Julia Gaisser, Daniel Hadas, Stephen Harrison, Jeffrey Henderson, Giovanni Maggiali, and John Trappes-Lomax who worked with him on tracing conjectures – critical reconstructions of corrupted passages of text - and rare books.

After having been published in 2013, the work on *Catullus Online* was further developed – during the research project *The textual transmission of Catullus* (2015-2017)*,* which was realized at the Universitat de Barcelona.

General parameters and introduction

The idea behind this project first appeared to Dàniel Kiss during his stay at Scuola Normale di Pisa in 2005, where he was confronted with the controversial textual history of Catullus' poems and their

manuscripts (Kiss 2020, 101). To better understand this complex history, Dàniel Kiss went to the University of North Carolina at Chapel Hill in 2007, where he was able to study the Halle-Ullman Papers as well as the collation and the transcription of 113 manuscripts of Catullus made by William Gardner Hale, Euan T. Sage, Berthold L. Ullman, and other scholars of the 20th century[1]; by this time, he chose not to create a new edition of Catullus' poems and instead, he focused on «mapping the manuscript tradition and drawing up conjectures» (Kiss 2020, 101).

Catullus Online was first created as a repository of conjectures, and later – with the development and employment of further elements – as a digital critical edition; the choice of an online publication was due to the various problems that came with printed editions since many were expensive and not accessible across the world while a digital publication instead allowed Dàniel Kiss to make his project more accessible and to display some additional elements (e.g.: search tools, the possibility to visualize the images of the manuscript and to consult more easily the apparatus), that couldn't be used in a printed edition (Kiss 2020, 102-103).

It is easy to understand the general parameters of *Catullus Online* since the title of its various sections are very explicit and Dàniel Kiss has done a good job in explaining his work and his editorial principles, through the two sections in the menu on the left in the lower side of the site: "ABOUT THE WEBSITE", where he explains the journey to the creation of the project and then of the website, and "ABOUT THE REPOSITORY", which instead illustrates his philological attitude towards the manuscripts and conjectures; in these two sections there are many links to external web resources, which are clickable and offer the possibility to further explore the sources used for *Catullus Online*, although a few haven't been updated and will lead to old pages or inactive ones.

To know more about the methods used in this project, users can read *Catullus Online: A Digital Critical Edition of the Poems of Catullus with a Repertory of Conjectures,* an essay written by Dàniel Kiss, where he further explained his working process and his editorial choices.

Subject and content of the edition

Catullus Online is composed of the full text of all 116 poems written by Catullus, accompanied by a critical, diachronic, and positive – meaning that both accepted and rejected readings are present (Macé and Roelli, 2022) – apparatus containing the textual notes and all the conjectures which have been made on the text so far and which Dàniel Kiss has collected through his work.

The text of the poems is based on the manuscripts which stem from the *Codex Veronensis* (V), the oldest witness of Catullus' manuscripts and is directly accessible through "POEMS", whereas to use the apparatus, the user will have to go to the section "POEMS WITH APPARATUS".

The biggest achievement of such a format is that it creates a free curated digital edition of Catullus, allowing the user to both have complete access to all the conjectures found by Dàniel Kiss and to interact with different texts, and even unpublished papers (e.g., Berthold L. Ulman's ones). The editor focused on the investigation of his sources, many of which had not been verified by previous scholars; to do so he proceeded to personally transcribe half a dozen undocumented manuscripts he found at Chapel Hill, and two incunables that weren't available in any libraries of Munich and neither online; this resulted in Dàniel Kiss owning a collation, a reproduction, or a transcription of all known manuscripts of Catullus that were copied before 1520, and of all printed editions from the editio princeps of 1472 up to the first Aldine of 1502 (Kiss 2020, 104-105).

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1   From the Section ABOUT THE WEBSITE in *Catullus Online*

Other than *Catullus Online*, there are many classical Latin texts already available online, but unlike this case, they are just digital reproductions of the printed edition, in some cases scanned with OCR, with no optional functionalities or a full apparatus (Nappa 2017).

Another achievement of *Catullus Online* is the fact that users can directly visualize the images of the manuscripts and the possibility to access these them helps to shed light on the complex textual schema behind Catullus' tradition, allowing academics – and other interested users – to be able to consult the manuscripts behind the text of the project. More precisely we can see images of only O, G, and T, since *Biblioteca Apostolica Vaticana* – which is currently holding the manuscript R – doesn't allow the online publication of high-resolution images of its manuscripts, outside of its website (Kiss 2020, 107).

The possibility to directly see the images of the manuscripts employed for a critical edition is not frequent, mostly for traditional copyright restrictions; in fact, many libraries don't allow high-quality reproductions of the manuscripts they store, and neither they are trained nor funded to handle the incoming need for digitalization other than conservation. To solve this problem, new application format interfaces – e.g., IIIF, International Image Interoperability Framework– are being implemented to offer the possibility to let the libraries – e.g., the *Bodleian Library* - continue hosting their images on their home servers while allowing other sites to display them, offering the possibility to easily share various cultural artifacts on the web (Mastronarde 2020, 116).

The users can also access the section "TESTIMONIA", where Catullus' quotes from ancient and medieval texts are stored as indirect witnesses of his textual tradition, while through the section 'BIBLIOGRAPHY', instead, the user will be able to find the bibliography which was used to create this project.

"MANUSCRIPTS" gives us the full list of the manuscripts and they are divided into two groups:

1   T, O, G, R, m, S.

These manuscripts are introduced with a small description of their main details, such as where and when they were copied, the writing used, their measures, and other important specifics, as can be seen in figure 1.

> **1. *T***
>
> Paris, Bibliothèque nationale de France, Parisinus lat. 8071.
>
> France (between Paris and Auxerre?), about the third quarter of the 9th century. Carolingian minuscule; scribe unknown. Parchment. 61 folios, mutilated at end. Ca. 280-285 x 195-197 (235 x 165) mm. Two columns of 37 lines each to the page. Folio 1 taken from a copy of Ambrose, *Expositio Evangelii secundum Lucam*, in a different, roughly contemporary hand; fols. 2-61 bear a poetic anthology that contains Catullus 62 (on fol. 51*r*, col. ii – fol. 51*v*, col. ii).
>
> Images of *T*

Fig. 1: Screenshot of the description of manuscript T

2   Other surviving manuscripts of Catullus' *Liber.*

They are each identified by a number and ordered alphabetically. This system is based on the list of manuscripts created by D. F. S. Thompson (1997: 77-92) and further elaborated and curated by Dàniel Kiss in 2012; they have their main details – such as where they are now stored, and where and when they were copied – besides it, as can be seen in figure 2.

90. Pesaro, Biblioteca Oliveriana 1167 – Siena, 1470

Fig. 2: Screenshot of the description of manuscript 90

In "ABOUT THE WEBSITE" and "ABOUT THE REPOSITORY" all the information about the methods and tools that have been used to build the repository and the website is given, and in "HELP" and "CONTACT" you can find all the useful information to navigate the website and to properly contact the editor for feedback or further inquiries.

Although the interface and the navigation bar alongside most of the sections are in English, no translation of the poems in such a language is available, which I think would be very helpful since this edition is meant to reach not only scholars but anybody with Internet access (Kiss 2020, 103), and this might further involve people who are not experts of Latin literature at an academic level, hence it might be useful to also offer some contextual information about the author. It'd also be an extremely useful tool for further analyses, such as comparative or linguistic research.

Aims and methods

Catullus Online was originally born as a repository of conjectures, but later the editor chose to transform it into a digital critical edition, by adding the text of the poems to the repository; the digital aspect of this edition was meant to allow for searchability through an interconnected text, a user-friendly and easy-to-use interface supported by all the browsers, and reminiscent of the standards withstood by printed editions (Kiss 2020, 103).

The constitution of the text is built in a rather traditional way, with an apparatus and a repertory of conjectures (Nappa 2017), to avoid distracting the viewer from the focal points and to avoid further complicating the consultation of the website; in fact, the two missions of this digital critical edition are to offer a reliable text and to give students a research tool for the future (Kiss 2020, 113-114) since an audience that could benefit from this edition is also undergraduates or secondary school students because the easy-to-use interface will quickly allow them to study the poems and the apparatus, to deepen their knowledge (Nappa 2017).

The main manuscripts are known as TOGR, and since they are all independent of each other, they have all source value (Kiss 2020, 103):

1   *Oxoniensis*, copied in Northern Italy, 14th century, currently stored in Oxford, *Bodleian Library* (O).
2   *Sangermanensis*, copied in Verona in 1375, currently stored in Paris, *Bibliothèque Nationale de France* (G).
3   *Romanus*, copied in Florence 1375-1395, currently stored in Rome, *Biblioteca Apostolica Vaticana* (R).
4   *Thuaneus*, an anthology of Latin poetry copied around 850 in central France stored in Paris, *Bibliothèque Nationale de France;* unlike the others it doesn't derive directly from the *Codex Veronensis* (T) (Kiss 2020, 101-103).

Another important element of a critical edition is the apparatus where all the conjectures are stored, alongside the critical and textual notes; in this case, we can talk about a proper critical apparatus because the variant readings of the various witnesses are stored, alongside the conjectures.

The apparatus appears on the right of the poem either through clicking the option "SHOW FULL APPARATUS" or the triangle icon in the section "POEMS WITH APPARATUS", next to the first line of the poem. This way you can easily visualize all the diachronic dimensions of the text with one click, as shown in figure 3.

| 1.1 | Cui dono lepidum nouom libellum | ▼ ■ " | Cui OGR, Scholia Veronensia in Verg. Ecl. 6.1, Caesius Bassus GL 6.261.21, Aphthonius GL 6.148.22, Terentianus Maurus De Metris 2562, Isid. Orig. 6.12.3, Auson. Ecl. 1.1 : Qui Pastrengicus De Originibus Rerum 88v ed. Veneta, MS. 12 a. 1445 ca., MS. 1 a. 1451, prob. Munro 1872a, Ellis 1878 : Quoi MS. 98 a. 1450 ca., MS. 122 a. 1460 : quui MS. 9 a. 1465 ca. : cuoi MS. 13 a. 1474 : quin MS. 'Patavinus alter' teste Statio 1566, at ego D.K. hunc codicem reperire nequiui | lepidum <et> 'poterat ... scripsisse, si nostro more ineptire uoluisset' ita Fruterius (†1566) 1605 341 | nouom Postgate 1893a in contextu, Friedrich 1908 : nouum OGR : meum MS. 19 a. 1450 ca., MS 45 a. 1465 ca. |

Fig. 3: Screenshot of the apparatus of verse 1 (carmen 1)

The manuscripts inside the apparatus are either recognized through their sigla or with their number in the list, while the apparatus itself is ordered chronologically, registering all the first instances of the conjectures stored inside of it, although there are a few exceptions and limitations due to the still unknown relationships between many Renaissance manuscripts and humanistic conjectures. Not having a fully developed stemma of all of Catullus' manuscripts and having many families of codices that cannot be linked to any of the parent nodes (TOGR) has made the task of fully understanding the relationships between manuscripts and their dates rather difficult and complex (Bertone 2017, 1).

Dàniel Kiss distanced himself from Mynors' theories – refusing the theory of the eight layers of humanistic conjectures[2] – and edition, in the aspects of presentation and editing, for example choosing not to reproduce here the fragmentary *Priapea*, placed by Muretus between the poems 17 and 21 (Nappa 2017).

Catullus Online does not follow the TEI guidelines since, back in 2009, when the project was planned by the editor, he was not aware of the possibility to use models which were different from the digitalized book and the text-only online publication. By then the TEI consortium had already developed digital guidelines for digital critical editions like *Catullus Online* but these guidelines would not have been compatible with the project since the apparatus had to be marked up manually or semi-automatically which would have been too time-consuming for the project at hand, although they might have been useful as a starting point since they offer a rather durable and robust system of tags (Kiss 2020, 103-104).

All the information about the aims and methods of *Catullus Online* can be found in the "ABOUT THE REPOSITORY" section on the website and in the essay *Catullus Online: A Digital Critical Edition of the Poems of Catullus with a Repertory of Conjectures* (Kiss 2020, 99-114), where all methods, theories, and ideas are documented to fully explain the process behind the choices made on the text constitution.

Publication and presentation

Dàniel Kiss worked with Woodpecker Software to construct the website where *Catullus Online* would be hosted, and with Stalker Studio for its design; to realize Catullus Online, the engineers of Woodpecker Software employed PHP – a programming language – and MySQL - an open-source database management system, employed mostly in the apparatus part (Kiss 2020, 105-109).

The TEI guidelines are not employed, and neither a model like the one used by the digital project *Musisque Deoque*[3] – a platform where many digital critical editions of Latin literature are stored – is used, since it'd need to be manually or semi-automatically converted into software code, which would

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[2] R.A.B Mynors, to make sense through the complexity of Catullus' tradition, recognized eight layers of humanistic corrections and named them after the Greek letters αβγδεζηθ to distinguish them (Kiss, 2017); according to Dàniel Kiss, this system proved to be highly problematic due to its inconsistency.

[3] It is possible to further explore *Musisque Deoque* at https://mizar.unive.it/mqdq/public/

be a rather slow process for the huge number of conjectures stored in Catullus Online; in this case, the models which are the closest to this edition are the digitalized books and the simple text-only online publications (Kiss 2020, 103-104).

The interface of *Catullus Online* is quite easy to understand and this format does not require any introductory readings or explanations, but if needed, the user can find a small summary of the various functions of this website inside the section 'HELP'.

The user is directly introduced to the poems in the central part of the homepage, whereas on the left part of the website they can find the first part of the navigation bar, – composed of "POEMS", "POEMS WITH APPARATUS", "BIBLIOGRAPHY", "TESTIMONIA" - the search tools, and the rest of the navigation bar – MANUSCRIPTS", "ABOUT THE WEBSITE", "ABOUT THE REPOSITORY", "CONTACTS", "HELP", as shown in figure 4.

Fig. 4: Screenshot of the homepage

On the right side of this section, there are only two relevant elements, which are the Facebook icon – *Catullus Online* is very much active on Facebook – and the 'SHOW FULL APPARATUS' option, which will lead the user from 'POEMS' to 'POEMS WITH APPARATUS', where the user can visualize the apparatus in its entirety and they can fully visualize various textual phenomena which are interconnected with the text (Kiss 2020, 107), as shown in figure 5.

Fig. 5: Screenshot of *Show Full Apparatus* detail

As much as this interface is very easy to understand, it is not very accessible and usable, since reading the text of the poems and their apparatus might be a rather tiring task for users; in fact, showcasing the full texts might be a bit troubling to read and follow-through, even more on a screen with small font and a high density of the text; the website might benefit from showing one poem at a time, instead of all of them at once and the apparatus would also greatly benefit from such a change since it could be further improved by allowing the user to zoom in the specific part they are interested in.

In the section "POEMS WITH APPARATUS", three icons appear next to the verse chosen, as shown in figure 6.

Fig. 6: Screenshot of the three main icons

The triangle icon will make the critical apparatus appear on the right beside the verse studied and if the apparatus is longer than one line, the following verse is moved down, so that the text can be properly aligned, and the user can fully visualize all the conjectures and secondary readings for that specific line without having them overlap with the following verse.

The rectangle icon, instead, will lead to the visualization of the images of the manuscripts at a lower quality, while clicking directly on the image will open another window in the browser, showcasing the manuscript in a much higher resolution and with a larger dimension; the images can also be downloaded, and they are extremely precious for the user since they allow them to directly witness the tradition behind Catullus' poems.

The quotation mark, instead, will give the user further textual and contextual information and in some cases, it is possible to also visualize a cross icon, which offers an overview of the different reconstructions of that specific line, also shown in the apparatus, but this way it allows a better a clearer layout separating the reconstructions from the other information stored in the apparatus.

It'd be rather difficult and time-consuming to browse through the entirety of the collection, hence two search tools have been added to allow the user to jump directly to the part of the text they want to study.

1   a search box that allows you to search a word inside either the poems, the apparatus, or the testimonia (or through all three options); this is very useful because it would allow the user to confront various passages in the text with a similar theme or use a specific keyword to see how it is differently used in the text or its popularity, as shown in figure 7.
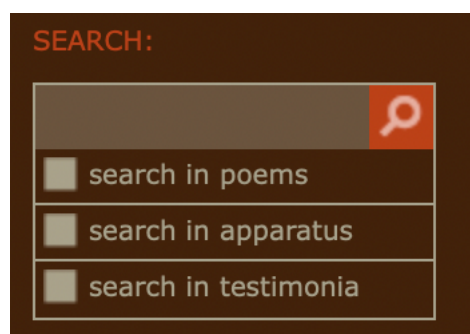

Fig.7: Screenshot *Search by poems, apparatus, and testimonia* option

2   to search, instead, a specific paragraph, the second search tool can be employed. It will simply jump into a specific poem or line selected and obviously in this case it is important to point out that the user would need to know which specific passage they are searching; this second search tool is a bit faulty since it sometimes either does not work at all or will not jump directly to the poem or line selected, as shown in figure 8.
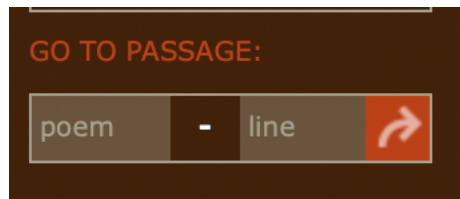
Fig. 8: Screenshot *Go to passage (poem and line)* option

To also facilitate the navigation of the 'BIBLIOGRAPHY' page, the author has organized the bibliography through quick links to individual letters, alphabetically ordered, as shown in figure 9.

Fig. 9: Screenshot of the alphabetic order of the *Bibliography* section

All the rights of this project – the text and the website – are copyrighted by Dàniel Kiss, 2013, 2017, following the author's goal to create a freely accessible digital edition, since such a status allows the fair use of the website and texts. This enables the use of these materials for criticism and commentary, nonprofit educational purposes, and research and scholarship, which are all environments that might be interested in *Catullus Online*, whereas for the images all the rights belong to the institution hosting the photographed manuscripts, such as *Bibliothèque Nationale de France* has given the permission to reproduce digitally the images of the manuscripts T and G, whereas the *Bodleian Library* at first requested a small fee for the publication of the images of O, but now they are freely available on the *Digital Bodleian* (Mastronarde 2020, 116-117).

The website is not hosted on an institutional site, although that is something that Dàniel Kiss hopes to obtain in the future since it would make the site much more stable and durable in time, and currently, he has been paying an annual fee to Woodpecker Software for the domain rights of *Catullus Online*. The platform is accessible from every kind of browser, although in the future technological change problems might prove to be rather intense for the website even more for mobile users since a responsive version has not been developed yet and neither a printed edition is available (Kiss 2020, 109-112).

In the future, it is also important to review the content of *Catullus Online* since during the years growing feedback from the users has been collected. This could be useful to update the edition with newfound conjectures and ideas and this was possible thanks to the presence of *Catullus Online* also on Facebook, which has proved to be extremely useful for the first years of the website since it allowed the editor to promote it in groups about classics and digital humanities (Kiss 2020, 109).

Conclusion

According to Patrick Sahle's definition, Catullus Online is a Scholarly Edition, a «critical representation of historical documents»; the choices regarding the reproduction of the text and the additional material chosen to portray the historical tradition behind Catullus' poems are explained, justified, and stated by the editor, through specific editorial methods and based on academic studies, that are respected throughout the entire edition, while the historical aspect of this edition is visible in the apparatus and the "MANUSCRIPT" section where the user can fully witness the diachronic dimension of Catullus' tradition, being able to directly bridge the distance in time. There's also a full representation of the subject and all the self-stated rules – e.g.: offer a way to freely access the conjectures, collect as many conjectures as possible and give the user some extra tools to further

understand the context and historical tradition - are respected throughout the entirety of the edition (Sahle 2016, 23-26).

It is also a Scholarly *Digital* Edition because it imposes itself a specific digital paradigm – a specific view of the text that brings to a certain presentation based on the algorithm (Sahle 2016, 26-27). - and it follows it through the entirety of its creation, giving to the edition various accessory elements which are exclusive to the digital edition (e.g.: «accessibility, usability, and computability»), although *Catullus Online* is not digitally perfect since it lacks both established digital standards for texts (such as TEI) and responsivity, it still hopes to be a starting point for the development of further studies on Catullus' tradition (Kiss 2020, 112-114).

A suggestion for improvement is to adapt the new edition to the TEI guidelines to offer a more durable service over time and it would be good to offer a translation of the poems, alongside their text, so that this website could become more accessible to everyone and on this same topic. I would also suggest offering information on Catullus' life and the history of the manuscripts used since it would be helpful to give a full portrait of the author and the manuscripts used in the section "ABOUT THE REPOSITORY" which explains the editorial methods behind the choices applied to the text and apparatus, but not the story of the manuscripts.

The paper that Dàniel Kiss wrote – *Catullus Online: A Digital Critical Edition of the Poems of Catullus with a Repertory of Conjectures* – could be linked in this section to further explain the story behind Catullus' tradition.

A clearer interface would offer a more accessible tool; I would suggest offering the possibility to consult one poem at a time, instead of all of them. One option would be to offer a drop-down, simply by clicking on the number of the poem, comparable to the method used for the apparatus and it would be also good to solve any problems with the second search tool since it is quite a formidable and useful instrument for this collection.

Bibliography

Bertone, Susanna. 2017. *Tradizione di Catullo e critica del paratesto Divisiones, titoli e facies del Liber* [doctoral thesis], Università di Parma, pp. 1-13.

Biondi, G., Mastrandea, P., Perelli, F., V. Viparelli, Zurlì, L., *Musisque Deoque*, 2005. https://web.archive.org/web/20220831164849/https://mizar.unive.it/mqdq/public/ (Last Accessed: 31/8/2022)

Driscoll, Mathew, James and Pierazzo, Elena. 2016. *Digital Scholarly Editing. Theories and practic*es, OpenBookPublisher, pp. 1-137.

Kiss, Dàniel. 2020. *Catullus Online: A Digital Critical Edition of the Poems of Catullus with a Repertory of Conjectures* in *Digitale Altertumswissen- schaften: Thesen und Debatten zu Methoden und Anwendungen,* curated by Chronopoulos, Stylianos, Maier, Felix K. and Novokhatko, Anna (Hrsg.), Propylaeum (Digital Classics Books, Band 4) Heidelberg, pp. 99-114.

Kiss, Dàniel, Catullus Online. http://www.catullusonline.org/CatullusOnline/index.php?dir=poems (Last Accessed: 31/8/2022).

Macé, Caroline and Roelli, Philipp, Apparatus, Parvum Lexicon Stemmatologicum (Last Modified 17th October 2015). https://web.archive.org/web/20220830162314/https://wiki.helsinki.fi/display/stemmatology/Apparatus

Mastronarde, J. Donald. 2020. *Curated Data for Textual History: Review of Catullus Online* in *Conjectures* in *Digitale Altertumswissen- schaften: Thesen und Debatten zu Methoden und Anwendungen,* curated by Chronopoulos, Stylianos, Maier, Felix K. and Novokhatko, Anna (Hrsg.), Propylaeum (Digital Classics Books, Band 4) Heidelberg, pp. 115-118.

Nappa, Christopher. 2017 *Review: Catullus Online,* «Society for Classical Studies».
https://web.archive.org/web/20220502185159/https://classicalstudies.org/scs-blog/christopher-nappa/review-catullus-online online

Sahle, Patrick. 2014. *Criteria for Reviewing Scholarly Digital Editions*, in collaboration with Georg Vogeler and the members of the IDE, Version 1.1.

The Digital Classicist Wiki(Catullus Online), Institute of Classical Studies (University of London) (Last Modified 1st December 2020).
https://web.archive.org/web/20220502185548/https://wiki.digitalclassicist.org/Catullus_Online