Towards an Inclusive and Accessible Digital Scholarly Editing: A Critical Assessment

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Abstract

This paper is based on an ongoing project on Diversity, Inclusivity, Accessibility in Digital Scholarly Editing (DIA-DSE) and in our view it should be seen as a place of critical assessment of existing digital scholarly editions (DSE) and discussion for future developments and improvement. Our idea is the result of a bigger initiative based at the University of Verona (Italy) on the topic Inclusive Humanities: Perspectives of Development in Research and Teaching Foreign Languages and Literatures [1]. In its essence it tries to respond to some of the goals envisaged by globally relevant agendas and strategic plans which put in the foreground the challenges posed by our time and focuses on the idea that a knowledge society like ours needs to develop an open model of science. This novel model pleads for an accessible science and through innovative methodologies seeks to involve wide, inclusive and diverse agents, contents, and targets into the scientific discourse.

In this context, our aim is to investigate from the perspective of Diversity, Inclusivity and Accessibility (which we call by the acronym DIA) a traditional field of study, that is philology and textual criticism, in its very ultimate development: Digital Scholarly Editions (DSE). The field of DSEs raises nowadays the following questions: Do DSE projects consider Diversity, Inclusivity and Accessibility? If so, how much and how do they do this?

To try to provide an answer, in the context of DIA-DSE project we will build a corpus of existing resources and we will try to assess their DIA degree according to different parameters. In the long term, after data collection and analysis, a ranking of diverse, inclusive and accessible resources will be defined. These results will be followed by a survey that will be disseminated among the scholarly community and users, with the objective engage in an open critical discussion, to raise awareness and to gain suggestions for the creation of DIA-DSE guidelines that will be published and promoted at the end of the project.

Keywords: Digital Scholarly Editions, Web Accessibility Initiative, Inclusivity.

1 Context

Diversity, Inclusivity and Accessibility are relevant keywords within the Digital Humanities (Rockwell 2013; Bordalejo & Risam 2020), and they are relevant both inside and outside the scholarly community. Within Digital Humanities (DH), digital scholarly editing qualifies as a specific scientific branch of enquiry, the main goal of which is making historical documents and texts accessible through the web publication of DSEs (Sahle 2013 and 2016, Pierazzo 2015). In order to carry out our analysis we will stick to a shared definition of DSE that is the one elaborated by Sahle (2016): A digital scholarly edition is an information resource which offers a critical representation of (normally) historical documents or texts and which is guided by a digital paradigm in its theory, method and practice. The world of DSE has become bigger and bigger since the first pioneering projects dating back to the ‘90s [2], but of course DSE are still far from equalling the traditional world of print scholarly editions, which can boast about two centuries of history. This aspect can be easily perceived by the consultation of the two main catalogues that collect digital editions: Franzini (2012- = CDE) and Sahle (2020- = DE). They showcase a considerable number of projects (to date CDE counts 320 and DE counts 815) which cover an interesting range of languages, historical periods and subjects.

Diversity is here intended as the practice or quality of including or involving people from a range of
different social and ethnic backgrounds and of different genders, sexual orientations, etc. In the context of DSE, it primarily regards the diversity of subjects involved in DSE projects, including peoples, groups, languages and cultures. Assessing the level of diversity of DSE means to look at the variety in the canon proposed in the digital medium, to see if the it involves authors or works that are usually marginalised and subjects that are not usually part of the traditional scholarly canon). Inclusion, which is strictly connected, is to be seen in the broader sense of creating resources that not only in their content represent usually marginalised subjects, but that can also address a wide target of users with a various range of abilities, backgrounds and possibilities. Accessibility is here to be intended as the design of digital User Interfaces (UI) for people with disabilities, but it is also connected with the concept of Access, that is the ease or difficulty that users encounter in finding and interacting with DSEs, for example from low-income countries where technical infrastructure and good broadband width are still lacking.

It appears striking how, behind the shared label of DSEs, a huge variety of products is included that can be very different from each other as for quality, design, and purposes. Pierazzo & Mancinelli (2020) categorised these heterogeneous projects by grouping them into two main typologies: On the one side the so-called haute couture editions, that is editions based on an advanced level of experimentatiom that also require a high degree of scholarly, human, and time investment. On the other side there are the so-called prêt-à-porter editions, which are scholarly projects in their own rights but less demanding in terms of technical implementation and functionalities. All these DSE projects share a major focus on the user: as a matter of fact, Vanhoutte (2013) has defined digital editions as “ergodic” for the fact that the user is compelled to be actively involved in the edition and to work to find her/his own path within it. In our survey, we will include also editions which cannot be considered DSE in a narrow sense: digital products as collaborative editions or digital exhibitions can represent interesting case of studies for their mixed structure.

As a direct effect of this situation, the community of scholarly and common users is exposed to a broad range of digital products that are not bound any longer to the paradigm and limits of the page (Hockey 2000; Sahle 2016). However, interestingly enough, in the digital paradigm they sometimes move away from expected criteria of user friendliness and, as a matter of facts, users can find it even more difficult to use these editions. Considering this, the fundamental phases of guidance through the use of digital editions and digital resources are completely lacking. From this perspective and if compared to the world of the web in general, the DSE world has underestimated its power, ethics and responsibility to overcome the boundaries which define the world of printed editions, in order not to reproduce its biases (Sahle 2016).

Peer-review initiatives are very important to understand whether these projects meet scholarly standards, and it must be also added that DH and DSE need peer-review evaluation also because a clear distinction between editor and publisher, that usually function as a guarantee of scholarly value, in the context of DSE mostly blurs. Important efforts of peer reviewing have been carried out by the Modern Language Association (MLA; *Guidelines for Editors of Scholarly Editions*) [3], and also by the RIDE journal (*A review journal for digital editions and resources*) [4]. However, these peer-review initiatives do not address issues such as inclusivity and accessibility, with the exception of the MLA guidelines, where among the questions for veters of scholarly editions one can read: “Does the edition provide a rationale for its accessibility standards? Does the edition follow the Web Content Accessibility Guidelines? Is it usable on multiple devices and by those in low bandwidth environments?” (MLA 2022).

Surely, the FAIR principles [5] have contributed to the creation of a more open science. Within this initiative, specific Guidelines for FAIR digital scholarly editions have recently been published (Gengnagel et al. 2022). The importance of FAIRness is also mentioned in the *DSE-Manifesto* (Ciotti et al. 2022) and the FAIR good practices are surely relevant parameters to implement in the creation of a DSE. When it comes to DIA parameters, however, the FAIR principles only state that once the user finds the required data, he or she needs to know how they can be accessed, possibly including authentication and authorisation. Policies regarding Open Access are surely to be addressed as a DIA assessment criteria.

That said, the meaning of accessibility here corresponds with the availability of (meta)data, but does not refer either to web-accessibility issues or to a more encompassing concept of accessibility of data for people with any kind of disadvantages. A FAIR
compliant project has to make data more accessible as possible for the user; however, even high-accessible data are in many cases inaccessible for specific categories of users, due to physical or technological barriers. Indeed, a FAIR compliant digital object responding to criteria directly connected to access protocols and metadata, might not guarantee a high grade of accessibility for impaired or low band users.

The technological and methodological evolution of the DSE in the last fifteen years shows how unfortunately still scarce attempts have been made to create more accessible, inclusive and diverse DSE. The state of the art so far illustrated shows the actual lack of debate and engagement on these crucial topics and reveals the need to sensitise the community of digital editors regarding a more DIA-DSE model.

2 Purposes

The real impact of this not yet strongly debated topic can be easily perceived by means of the critical investigation of the existing DSE catalogues: Franzini’s CDE and Sahle’s DE. In these catalogues, we will consider only self-declared scholarly projects and we will define a set of parameters useful to measure their DIA-degree: What are the subjects/contents of these projects? Do they try to represent diverse cultural objects or do they reproduce the traditional canon? What is the provenance of these resources? Do they come from the Western, Educated, Industrialised, Rich and Democratic (WEIRD) societies or do they move beyond in terms of content or actors within the projects? How do they address issues like Open-Access policies and license? Do they consider web accessibility and take care of user interface so that they can be accessed and used by a more diverse audience?

The overall objectives of the project we are going to realise are the following: to explore the current situation, to develop best practices, and to disseminate guidelines for DIA-DSE. The first goal concerns a close examination and screening of current available resources, in order to detect best and worst practices. This preliminary work is needed to carry out our analysis and assessment. The census of existing resources is not so easy as it might look, for the reason that only a part of the DSEs are collected in the DSE catalogues and often resources are simply online but not within a specific container as a catalogue, a library or the website of a publishing house. Moreover, the digital turn has also shaped new kinds of resources that are not so easy to identify because they are often hybrid: to mention one example, the borders between an archive and an edition sometimes can fade or simply the resource can integrate both.

3 Accessibility and User Interface

Because digital editions are all different and do not follow the same publication structure, Graphic User Interface (GUI) becomes fundamental for the delivery of the scholarly discourse. Indeed, SDE software integrates and interconnects layers of information through hypertextuality and hypermediality, and this can represent an obstacle for end users, who have to learn how to use a new GUI for almost every new electronic edition. Already some years ago in a fundamental article Rosselli Del Turco (2012) observed that we should pay more attention to usability and inclusive design of UIs and he proposed a list of requirements for a good digital edition interface. Among the requirements it is possible to find future developments concerning legibility and scalability of interface and contents, usability of tasks and controls, image manipulation tools and visual consistency. The content of Rosselli Del Turco’s long list of future improvements clearly manifests a growing interest in producing scholarly guidance for interface design, as well as a dissatisfaction with some of the digital visualisation applications that are currently available.

While ‘accessibility’ is a highly-cited term in DSE, indeed, its use generally refers to making data (Sahle 2014) and source materials available to users rather than to making data more accessible to different types of users – which is the predominant definition of the term in the context of software and web development (W3C 2018). The most prominent figure in the history of the world wide web, Tim Berners-Lee, reminds us of the fact that the power of the Web is in its universality and in this context access by everyone regardless of disability is an essential aspect [6]. The Web must be accessible to provide equal access and equal opportunity to people with diverse abilities. The United Nations Convention on the Rights of Persons with Disabilities [7] also recognizes access to information and communications technologies, including the Web, as a basic human right. Accessibility supports social inclusion for people with disabilities as well as others, such as people in rural areas and people in developing countries. Properly designed websites
and tools can be used by people with disabilities, but despite international regulations and initiatives such as the European Accessibility Act [8] many websites and tools are still developed with accessibility barriers that make it difficult or impossible for some people to use them. And yet most of the Web Accessibility Initiative- (WAI) Guidelines of W3C are fairly easy to implement and also relatively easy to integrate in already published resources.

Furthermore, the themes of accessibility and usability are essential for developers and organisations that want to create high quality websites and web tools, and do not want to exclude people from using their products and services. Accessibility represents the main field of action of the WAI [9]. According to the W3C, the Web is designed to work for all people, whatever their hardware, software, language, location, or ability can be. The Web, moreover, should be accessible to people with a diverse range of: hearing, movement, sight, and cognitive ability. For the so-called four pillars of Web Content Accessibility Guidelines (WCAG), web contents have to be: perceivable, operable, understandable and robust. In order to perform a combined analysis on existing resource the basic accessibility criteria of DSE resources will be tested:

1) Are there alternative text for images?

Images should include equivalent alternative text in the code. As clearly demonstrated by the studies conducted by the WAI, the inclusion of ‘alt text’ allows a wide number of users to have access to the data: the lack of it, as a matter of fact, represents a barrier which makes visual data as images inaccessible, for example, to people who cannot see and use a screen reader that reads aloud the information on a page, including the alternative text for the visual image. When it is provided, information is equally available to people who are blind, as well as to people who turn off images (for example, in areas with expensive or low bandwidth).

2) Are keyboard inputs available?

This aspect concerns the use of digital resources through simple keyboard inputs, giving access to people who cannot use a mouse for physical or age reasons as limited fine motor control. An accessible website, therefore, does not rely on a mouse making all functionality available from a keyboard. Moreover, an accessible resource allows people with disabilities to use assistive technologies that mimic the keyboard, such as speech input.

3) Are there any transcripts for audio?

Providing a text transcript, audio information becomes accessible in a textual form to people who are deaf or hard of hearing, as well as to search engines and other technologies that can’t hear. In this sense, the technological level reached by the web can improve this specific aspect, and the actions promoted by the WAI can permit developers of websites to have access to easier and relatively inexpensive tools for providing transcripts.

4) Is there a possibility to alter the contrast ratio according to specific needs?

Some people cannot read text if there is not sufficient contrast between the text and background. For instance, high contrast is required by some people with visual impairments, including many older people who lose contrast sensitivity from ageing.

The issue concerning full or partial accessibility to contents became of primary importance with the transformation of the Web to an archive of human knowledge. Related to this aspect, also the need to improve the access to digital archives and primary sources on which DSE are based represents a challenge for national and international digital resources. Huge digitization initiatives such as Gallica [10] and British Library [11] declare that their contents are still not accessible enough, as only the main sections of the portal were checked. The sections dedicated to digital collections, manuscripts, newspapers and mixed contents were not analysed in these surveys. These parts are the core of the online resources, but also the more complicated to re-edit in an accessible form, for the presence of mixed contents, for the use of complex search forms, and for the high number of nested information and interconnected levels of consultation. The challenge will be to give a more readable form in the future to these archives.

The investigation of the current panorama of DSE will also be useful to verify the existence, among the variety of scholarly resources available online, of projects which could be taken as a model for the definition of DIA standards. This will be a quite complex operation given the heterogeneity of resources available online, but it will be worth doing it in order to find a shared methodological common, that is at the core of DH (see McCarty 2014). As for accessible DSE projects, one example of best practice is surely The Cædmon’s Hymn. A multimedia study, edition and archive by Daniel Paul O’Donnell [12]
(see Figure 1) that represents an example of re-editing of DSE in a more accessible form. Indeed, the edition is the result of a re-coding of an older edition, which was victim of obsolescence and digital erosion. As re-coded and re-edited, the edition was adapted in order to be accessible to different kinds of users; the high level of readability is given by the structure and the form of the edition, conceived as an interactive book. For instance, image-based aspects are reduced, and this makes the accessible format easier to reach, and it also calibrates the structural aspects of the edition in a form respecting W3C good practices.

4 Diversity

Aiming at assessing diversity of a DSE, a first parameter could be the language in which the edition is provided. If it is true that not all the editions can be multilingual, it is also true that when more than one language is available, it is more likely that the edition will reach a wider audience (Martinez et al. 2019). As for the diversity in the contents of the editions, this is also not easy to investigate, because the creation of DSE often depends on the availability of source material which is not protected by copyright, or even by the existence of a print edition, that often represents a starting point for the development of digital projects.

A useful way to approach the relevancy of the languages in which editions are realised can be to check some of the search parameters that can be activated in the catalogues. Out of 320 projects listed in CDE, 84 are in Latin, 82 are in English, 44 in German, 24 French, 23 Italian, 19 Spanish. The DE catalogue lists the resources in the same way. In it, out of 291 editions with subject “literature” 142 are English, 46 German, 24 French, 11 Spanish, 10 Italian. As for historical languages like Latin, the relatively high number of resources (84 listed in CDE) can be directly connected with related resources for the study of the language (dictionaries, thesauri, etc.). As a result, the data of both CDE and DE reveal a clear predominance of projects dealing with source material in English and concerning the English language, increasing the bias of the DH as an Anglo-American endeavour.

A second criterion that is worth considering is the provenance of the projects, that is the institutions and places where the digital projects have been developed and maintained. To analyse that we have to rely on a parameter available on the CDE, thanks to which it is possible to identify a European and North American bias in the creation of DSE. This can be also explained in different ways: first of all, philology has a long tradition in Europe, where it first assumed the status of a scientific discipline in the 19th century with the foundation of the so-called genealogical method. Second, the Text Encoding Initiative (TEI) Consortium [13] was born as an Anglo-American project in 1987, and swiftly became the reference initiative in the field of DSE: the impact of TEI can be easily perceived, again, by data. Among the digital editions produced up to today, around a half are TEI compliant. This influx has favoured the production of DSE dealing with English material and as a matter of fact editions listed in the catalogues draw attention to the fact that the landscape of DSE is still too European and North American.

Another parameter could be the presence of multiple text levels in the edition, which can be useful to widen the audience of the ones who access the resource. Is there only a facsimile version of the manuscript with a faithful reproduction of all its peculiarities (diplomatic text) or does the edition also provide a text in which abbreviations are expanded (normalised text) or even a reading text? This would be in line with the plural idea of textuality elaborated on by Sahle (2013), where the editorial text is seen as a wheel where each spoke represents a possible perspective of the text.

As far as we know, one of the best examples of diverse, inclusive (and accessible) digital resource is the Orlando. Women’s Writings in the British Isles from the Beginnings to the Present (= OP) [14] (see Figure 2), which is not a DSE in a narrow sense, but rather a collaborative, digital, and intersectional project that is worth considering.
The OP is relevant at least in two ways: first, in terms of the content it brings to the forefront of scholarship a part of literary history and documentation that has been long neglected. Not only is this amount of information online, but it is also completely annotated to enhance further research and connections and in order to ‘scale up’ humanist methods of interpretation. Secondly, the OP is a virtuous project that can function as a model also in terms of web accessibility, because, as stated in the documentation, “All issues requiring attention in order to meet the WAI Web Content Accessibility Guidelines 2.1 (WCAG 2.1) AA criteria and gain DAC [Digital Accessibility Centre] accreditation, have been identified and will be addressed promptly” [15]. An interesting initiative as OP puts in evidence how interface design represents one of the main topics of DSE.

5 Perspectives and Conclusions

The themes of approach to content and of easy access were recently linked with the topic of DSE as an exhibition (van Mierlo 2022). Indeed, the tasks of curating and editing intersect in the creative-critical modes applied to historical and textual artefacts, aiming both at contextualising and mediating the past for the present. According to Van Mierlo, to bring curation into the editorial process can help make editions more inclusive and to reach a wider readership, simplifying the practices by which data and editorial argument can be communicated. In this challenge also lies an opportunity to think more clearly about editing and inclusivity, in terms of access as well as of the editing works outside of the Western canon. A good example of DSE as an exhibition mentioned in the article is The Melville Electronic Library project [16]. In a more comprehensive perspective on DSE and its evolution, it would make sense to see how many of these digital resources are truly born digital editions or whether editions of the same text exist also in print. This would be a good idea in order to see whether the digital canon reproduces the print canon or if it is trying to diversify the subject of the editions.

Having conducted this field analysis, we will be able to establish a ranking of the most accessible, inclusive and diverse resources, which could guide us into the definition of unavoidable parameters that a DSE should meet to be DIA. Community of practitioners will be also involved in the process. A new survey similar to the one disseminated by the DiXiT fellows in 2017 (Martinez et al. 2019) will be prepared and disseminated, and that will become a sort of white paper in which the community can provide us with ideas, suggestions and criticism in the best tradition of open science. The preparation of a new survey will have the function of reassessing the situation after 5 years from the first one, and will allow us to find whether and how the situation in the perception of the actors within the DSE practitioners and users has evolved in the last years. Second, it will be important also to sensitise the community towards this topic, as only by addressing this issue publicly, this discourse will be normalised.

The data concerning census and evaluation of published resources, as well as the results of the survey will be disseminated and discussed within the community and specific focus groups of users. This will lead us to the formulation of a draft list of good practices in terms of diversity, inclusion and accessibility and will allow us to have a sufficient amount of data for the realisation of a first version of the DIA-DSA Guidelines. This step will be of primary importance, providing us, through a bottom-up approach, a feasible and already in use scholarly best practice.

The census and the following evaluation of the existing resources will also represent a fundamental step for a more complete catalogue of DSE and of their multiple formats or UI, which can expand the still existing catalogues. Because the panorama of DSE is so various and because there are no thorough studies on this issue, there is no way right now to gain a complete or accurate overview on the topic, a goal which can be achieved only with a concrete survey and study of existing projects. This analysis of the extant will serve to define concrete proposals for change through the exploration of a novel model of inclusive textuality in digital scholarly editing, so that the world of DSE will be able respond to the urgency of creating resources that are diverse, inclusive, and accessible. This will represent an improvement of the knowledge concerning not only on DSE as accessible
tools, but also on what they represent in the context of the preservation and dissemination of the collective cultural memory.

To conclude, Diversity, Accessibility and Inclusion are among the crucial topics in the digital world. However, they are not considered enough parameters in DSE and an open debate in the scholarly community of digital philologists and editors is lacking. We can also say that User Interface and usability are challenges of primary importance in DSE in order to become products addressing a wider audience of potential users. In this context, we may infer that this is strictly connected with the evolution of interfaces and coding practices, aiming at releasing fully accessible contents. Hopefully, in the next few years the debate will be one of the main trends in DSE: This could represent a new paradigm, which will open digital editions to new applications, fields of usage, actors, and targets.

Notes:
[7] <https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-persons-disabilities>; Article 21 - Freedom of expression and opinion, and access to information: “c- Urging private entities that provide services to the general public, including through the Internet, to provide information and services in accessible and usable formats for persons with disabilities; d- Encouraging the mass media, including providers of information through the Internet, to make their services accessible to persons with disabilities”, accessed 13 August 2023.

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