OJS and Lodel possible Interoperability within Open Access Publications: some indications from Turin-based Italian Journals Use Cases

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Introduction

Thanks to the rise of open source software solutions seen over the last few decades, small academic journals have been able to greatly contribute to the expansion of scientific publications. Those who are engaged in this editorial endeavor, however, have numerous demands to face. Aside from guaranteeing a publication's scientific quality, even small academic journals must deal with requests of visibility and transparency on behalf of authors as well as ensuring availability and accessibility for its readers. Furthermore, these journals regularly face tough challenges relating to the duration and sustainability of open access academic publications, increasing the need to optimize working hours. Bearing these factors in mind, whoever intends to publish a scientific journal needs to be familiar not only with publishing tools, but also with how to make them operate synergically.

It is within this context that the question of whether and how Lodel (Logiciel d'édition électronique) and OJS (Open Journal System) can be interoperable has emerged, resulting in the collaboration between the OpenEdition Italia project, which aims at the internationalization of the OpenEdition Journals platform powered by Lodel,[1] and the University of Turin, which promotes the SIRIO@Unito platform, powered by OJS.[2]

The initial approach used to verify the possible interoperability between OJS and Lodel was to analyze the observations presented in three separate journals.

The journals selected for this project are all peer-reviewed publications promoting research in the humanities and social sciences. They are hosted at SIRIO@Unito, a platform of the University of Turin which is maintained by Cineca, an Italian computing centre comprising many Italian universities, research institutions and the Italian Ministry of Education. SIRIO@Unito offers technological support to create new journals powered by OJS.The current version available is OJS 2.4.8.[3] The three journals don't use Lodel yet. However, they were selected for the report because they satisfy the minimum criteria to request the membership application to OpenEdition Journals.

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[*] Inter-University Center supported by the Centre national de la recherche scientifique (CNRS), the École des hautes études en sciences sociales (EHESS), the Aix-Marseille University and the University of Avignon. Collaboration between the University of Turin and OpenEdition is governed by a framework agreement which aims to develop cooperative research projects in the areas of scholarly communication and open access to scientific publishing. See "Missions", OpenEdition, 2018, https://www.openedition.org/6438.

[1] OpenEdition Journals was formerly known as Revues.org, founded in 1999, see "OpenEdition Journals has launched!", Open Electronic Publishing, 2017, https://oep.hypotheses.org/1919; and Delphine Cavallo, "Revues.org : l'invention de l'édition électronique scientifique, entre libre accès et modèle économique pérenne", Érudit, 2009, https://id.erudit.org/iderudit/038638ar.

[2] See "SIRIO@unito.it - SIstema RIviste Open access", 2018, http://www.ojs.unito.it.

[3] According to PKP records, in 2008 OJS was used by 79 Italian journals, see "OJS Map", PKP, 2018, https://pkp.sfu.ca/ojs/ojs-usage/ojs-map/. As of September 2018, according to informal responses received by the mailinglist of OA Italia, the Italian community engaged in open access issues, there are 247 Italian journals powered by OJS (plus 4 in the works).

The issue that prompted the research is the following: how do we enable those academic journals which already use OJS, but that also want to be published on OpenEdition Journals, to take full advantage of the benfits of both services without this leading to a double expediture of time and efforts?

According to these journals the advantages and limitations of using OJS 2.4.8 were described as follows:
1) The procedures are well documented.
2) The peer-review process is well organized and it is useful in ensuring the filing of reviewers' opinions.
3) The workflow communication is facilitated through the use of prepared email messages.
4) It allows for customizing one's own journal, however, it was found that the common style sheets do not fully meet current graphic expectations and the process of uploading personal CSS files seems tedious.
5) Reviewers often do not use the software to submit their reviews.

Representatives from the three journals attended a "Lodel Workshop in E-publishing" held on March 9th 2017 and organized by Lexis srl - Compagnia editoriale in Torino, the editorial partner for OpenEdition Italia. Observing the operability of OpenEdition Journals, they described the following:
1) OpenEdition Journals allows for maintaining the appearance of a traditional journal; the participants appreciated the fact that the HTML version allows for correct referencing of precise parts of the text, as well as the fact that it is possible to upload the PDF of the paper version.
2) The participants expressed interest in the greater visibility afforded by OpenEdition Journals as a platform (and not primarily for its indexing tools).
3) The fact that Lodel does not drastically shorten the text processing phase leads the user to look for solutions which aim to integrate the use of Lodel within their existing workflow.

The following report describes how some of these statements have been analyzed and called into question. This was made possible by combining information collected through various methods. The exchange was facilitated by various instruments such as questionnaires, interviews, observation of participants, collection of informal discussions, consultation of shared conference notes, and constant monitoring on behalf of the members of OpenEdition.[4] The parties involved in the project were as follows: the teams of the three journals of the University of Turin aiming to join OpenEdition Journals; Lexis srl - Compagnia editoriale in Torino, the editorial partner for OpenEdition Italia that currently manages four journals published on OpenEdition Journals; the OpenEdition's International Department; and a final review with the developers of OJS and OpenEdition. Using what has been collected and observed, it is now possible to outline certain substantial elements and provide information on possible steps to be taken in order to concretely consider the interoperability between Lodel and OJS.

The report is structured as follows: Chapter One presents three synoptic tables which describe the main characteristics of the two software applications – this description, albeit not thorough, allows for the comparison of the two instruments; Chapter Two focuses on how the three journals from the University of Turin use OJS, thus getting to the heart of the practical aspects of how humanities and social sciences magazines manage an academic online journal; Chapters Three and Four concentrate on how, respectively, text processing and metadata compilation are handled in both OJS and Lodel: an important issue in understanding "how not to complete the same task twice". We will conclude by presenting how OJS and Lodel can be complementary instruments, and which steps can be taken to conceive a workflow which can exploit the advantages of both software tools.

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[4] On this approach, see Julien Bordier, "Open peer review: from an experiment to a model: A narrative of an open peer review experimentation", HAL, 2016, https://hal.archives-ouvertes.fr/hal-01302597.

1. Editorial Software Description

OJS and Lodel are open source softwares used to publish journals committed to open access.

OJS and Lodel are respectively developed by the Public Knowledge Project (PKP) and by OpenEdition. The general aims of PKP and OpenEdition are similar: fostering quality and dissemination of scholarly publishing, as well as conceiving and developing new tools for open access academic e-publishing.

In this chapter I will present summary tables in order to compare OJS and Lodel whilst focusing on three main questions:
1) How do they foster quality and dissemination of scholarly publishing?
2) How do they allow editorial teams to manage the editorial and publishing process?
3) How do they help the development of collaborative online work of editorial teams?

Note: these not thorough tables are specific to **OJS 2.x** and **OpenEdition Journals** – the platform which runs on top of Lodel – but also includes assistance from the OpenEdition team as well as additional features.[5]

1.1. OJS and Lodel:
Tools for high quality and common academic e-publishing

	OJS 2.x	**Lodel/OpenEdition Journals**
Since	2001	1999 (under the name of Revue.org)
Developed by	PKP	OpenEdition Center (formerly known as Centre pour l'édition électronique ouverte - Cléo)
Installed	Locally and locally controlled.	Lodel can be locally installed, but without the "on top" OpenEdition Journals.
Open Source	Users are free to download the software and modify the code under the terms of GPL V2.	Users are free to download the Lodel software and to modify the code under the terms of GPL V2.
Cost	Free	Lodel is free, but the journal team or publisher must submit an application by completing a OpenEdition Journals membership request form.
Open access policy and user subscription	OJS' founder, John Willinsky, is optimistic about the economic viability of open access. OJS provides a subscription management component for journals who do not wish to provide readers with immediate open access to all of its content. Different types, such as individual or institutional subscriptions, are available. OJS also support delayed open access, article processing fees, and article or issue purchase options. A payment module allowing the user to charge a range of fees is also included.	OpenEdition's aim is to develop long-lasting economic models for open access editions. OpenEdition promotes a "Freemium" model (this decision, nonetheless, is up to each editor), according to which: ● HTML texts are available in open access. ● PDF and ePub formats are sold to freemium subscriber institutions or may be purchased via the OpenEdition bookstore. ● On request, reserved access to PDF and ePub formats for colleagues (steering or editorial committees, experts) or subscribers (subscriptions administered by the journal). Another option which can be used for commercial purposes is the Moving Wall solution which defines a period of time during which solely the summary of books, articles and book reviews are

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[5] Several French universities use Lodel as open source software to directly publish journals on the web. See Patrick Gendre, "Exemples de sites propulsés par Lodel", GitHub, 2018, https://github.com/ValentinGeorgesDubost/Doc-Lodel/wiki/Exemples-de-sites-propulsés-par-Lodel.

		published in open access. The texts outside this 'moving wall' are fully accessible in HTML format, while those inside may be used for commercial purposes. If the journal has no interest in commercial distribution a complete open access solution may also be chosen.
Supervision of content quality or journal administration	The peer review process can be kept simple and quick using OJS applications. Each journal must have its own scientific committee.	An OpenEdition Academic Committee accepts or declines the request form that each journal has to present in order to be part of OpenEdition. Once selected, real-time support is provided to journals starting with editing documents, including adding metadata, until the moment they are fully independent. The journal must inform OpenEdition of any new releases and of significant changes to their editorial policy. OpenEdition draws up quality reports: technical audits on editorial criteria such as the quality of data and/or metadata on the publication website. Each journal must have its own scientific committee.
Dissemination and persistent interoperable identifiers	DOI (Crossref, mEDRA, DataCite) ORCID ISSN NBN:IT	DOI (Crossref) Funding registry (Crossref) ORCID ISSN ISBN
Dissemination and interoperability norms: access to metadata and metadata standards	Open Harvester System, the free metadata indexing system developed by PKP, allows for the harvesting of OAI metadata in accordance to a variety of schemas (DC, MODS 3.4, OpenURL 1.0, NLM 3.0, MARC…) The OpenAIRE plugin extends the OAI-PMH interface according to the OpenAIRE Guidelines.	The OpenEdition OAI-PMH repository allows for the harvesting of metadata in DC, Qualified DC and METS. Other common standards are MARC and COUNTER. All these services are done by software other than Lodel.
Dissemination and referencing tools	OJS provides direct output to CrossRef, DSpace, PubMed, and the Directory of Open Access Journals (DOAJ). Referencing in search engines: Google Scholar, Scopus, SciELO, ISI Web of Knowledge...	Referencing is a service provided by the OpenEdition Journal team (not directly by Lodel), and is in part manual. Referencing on library databases: Serials Solutions 360, EBSCO AtoZ, ExLibris SFX, LinkSolver/Links@Ovid, EBSCO Discovery Service, Proquest Summon, ExLibris Primo Central. Referencing in reference directories: Mir@bel, JournalTocs, Elektronische Zeitschriftenbibliothek, Directory of Open Access Journals (DOAJ) Referencing in search engines: Google Scholar, Scopus, ISI Web of Science.
Dissemination and external feeds	Yes	Yes

Editorial team training and autonomy	PKP assists those who need help through:
	    ● Online guides and videos
	    ● Support forum
		OpenEdition offers documentation, online support, discussion lists, and training sessions in the form of practical ateliers and study days. The objective of these activities is to spread e-

	OJS community can also have access to: - Git repository to track the source code. - Github's issue tracker to report bugs. - A development wiki used as a guide to upcoming software releases and to track specific application roadmaps. The wiki also hosts the PKP FAQ and community-written documentation. Moreover, a new initiative to develop free online courses designed to improve the quality of publishing around the world also exists.	publishing know-how as well as encourage the development of digital humanities. One of OpenEdition's objectives is that of providing editors with the expertise necessary in order to freely shape their e-publishing activities according to their own preferences and projects.
Dissemination and promotional undertakings	OJS allows journals to notify users whenever new content is available.	OpenEdition informs its journals' visitors and subscribers of all news regarding the journal. The journal's presentation page is displayed on the journals.openedition.org homepage and journals' calls for contributions appear on Calenda. Each journal can also create a newsletter for its readers.

1.2. OJS and Lodel:
The editorial and publishing process

OJS has been specifically created as both a web publishing and a journal management system. In OJS editors can carry out all (or some) of the stages of the editing process online (submission, review, copyediting, layout editing, proofreading, etc.) as well as include authors in selected stages (e.g. proofreading). Article formatting and layout, as well as copyediting and proofreading, is not something that OJS has automated. Nonetheless, OJS is meant to organize the task allocation of these processes.

Lodel has been conceived to optimize the time required to publish a document on OpenEdition. Specifically, it has been designed to import text and automatically create content pages and indexes (XML-TEI format) by applying paragraph styles adapted to academic needs. Lodel also allows for the creation of users with specific rights; for example the administrator can add an "editor" who can edit the article, or a "reader" who can read his article online before publication. This allows for smoother management of some of the steps of the whole editorial process.

	OJS 2.x	Lodel/OpenEdition Journals
Submit manuscript online	Authors can submit manuscripts and supplementary files online. The submission process ensures that all relevant information (including metadata) is gathered at the very beginning, saving editors time. Authors are notified that the manuscript has been successfully uploaded to the journal, and they can check the whole review process online.	No

	The manuscript can be rejected or assigned to reviewers for evaluation before possible publication. The Archive page lists all declined submissions as well as any published submissions along with information on which issue they appear in.	
Review online	The whole peer-review process can be done online. Editors choose the best method of peer-review for the journal (how long reviewers have to complete their review; when to send reminders to reviewers; whether to use a rating system for reviewers visible only to the editors; one-click access for reviewers; blind review). Editors assign two or more reviewers to evaluate the manuscript for possible publication. The Select Reviewer button suggests a list of reviewers to the editor, indicating their area of competence and other info about their activities as reviewers. Editors may also assign reviewers not on the list. The reviewer needs to agree to complete the review, download the submission files, and upload review comments. If reviewers do not log in directly to the system to complete the review process, the editors may act on their behalf.	No
Open Peer Review online	There is no specific tool yet. But PKP suggests some steps you could take using OJS.	There is no specific tool yet but OpenEdition has started interesting experimentation on this topic.[6]
Copyediting online	The Copyeditor receives an email request to copyedit a submission. After that, the copyeditor has online access to the file and can upload the new version, after revision. The editor receives a notification after the copyeditor has completed his work.	No
Formatting and layout online	The Layout editor receives an email request along with instructions and templates to assist him in properly formatting the files for publication. When the HTML or PDF files are ready, they can be uploaded as galleys. If the Author has uploaded any Supplementary Files, they will already be in place.	No
Proofreading online	The Proofreader records the corrections needed in a specific text-box. Then the Layout editor applies the changes to the galley files. The Editor receives a notification that the submission is ready to be published.	No
Final document format	The final format is arbitrary, but PDF, HTML, and JATS XML are the most common.	The final formats are HTML and PDF, but editors can upload an ePub version too. Two types of PDF are available. Editors can either upload a PDF themselves or one generated from HTML will be uploaded automatically. PDF/ePub generation is an OpenEdition additional feature and not included in Lodel.
Images	Yes	Yes

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[6] On this approach, see Julien Bordier, "Open peer review: from an experiment to a model: A narrative of an open peer review experimentation", HAL, 2016, https://hal.archives-ouvertes.fr/hal-01302597. See also the book peer-review via Hypothes.is within the HIRMEOS project: "Open Annotations: OpenEdition Launches a Partnership with Hypothesis", Open Electronic Publishing, 2018, https://oep.hypotheses.org/2052.

Inclusion of multimedia content	Yes. It is possible to add MP3 Support (e.g: for audio versions of the articles or supplementary items to the article).	Yes
Cover for each issue	Yes	Yes
Customizing	Editors can: • Change the background color and the fonts • Change the header • Add links to the default navigation bar (e.g. to the journal's research group website) • Provide news and updates (e.g. call for submissions) • Integrate blogs, wikis, forums… • Add a multilingual interface • Add a splash screen	Editors can: • Change the background color • Add the journal's logo • Add links (e.g. to the journal's research group website or to specific Calenda announcements) • Add partner logos under the default navigation bar • Add a multilingual interface
Indexing	Customisable indexes (by authors, keywords…)	Customisable indexes (by authors, keywords…)
Metadata	Upon submitting a paper, the author is asked to insert metadata information. The editor establishes which indexing elements they wish to include in the journal. They can suggest examples and classification systems to the author in order to guide the indexing process. The editor can review and change this information at any time.	Metadata information are provided by editors during the layout process.
Reading tools	• HTML text can be enlarged and printed • 'About the author' (also link to ORCID) • How to cite items (enables the export of basic citation data to bibliographic management software, such as MLA, ABNT, Reference Manager, CBE, APA, Turabian, RefWorks, ProCite, EndNote, BibTeX, cfr. Citation Format Plugins) • Indexing metadata • Supplementary files • Look up terms (enables the reader to look up definitions of terms in the article) • Related studies (directs readers to relevant sources such as databases or bibliographies related to the current article and specific to the domain of the journal) • Review policy	• HTML text can be enlarged and printed • 'About the author' (also link to other articles of the same author and ORCID) • Author's note • Bibliographical and electronic references • Abstract on top • Text, bibliography and notes are presented separately but users can easily navigate between one and the other using links • Indexing (e.g.: keywords, geographical index, chronological index…) • Outline (enables the reader to navigate the content of the article quicklier and to select the desired area of reading) • Each image can be enlarged or downloaded
Networking tools (social and otherwise)	• Email the author • Notify colleague (provides an email form) • Share buttons (Facebook, Twitter, Linkedin, Pinterest…)	• Share article via email • Dissemination via social networks
Commenting ability for readers	Yes	No

Archiving	PKP has developed the PKP Preservation Network, which offers perpetual access and preservation of the original version of the content.	No
Plagiarism checker software	iThenticate is supported via plugin.	No
Publishing services	Yes	Online: ● Possibility of structuring publications released before 2004 ● Possibility of structuring publications released after 2004 ● Conversion of .doc files to files created by means of CAP. Print on demand.
Responsive design and navigation	Both HTML and PDF galleys can be easily read on mobile devices, but website navigation is not user friendly.	Both HTML and PDF galleys can be easily read on mobile devices, but website navigation is not user friendly.

1.3. OJS and Lodel:
Software as a collaboration space

By allowing remote access to everyone involved in a journal's management and editorial activities, OJS and Lodel provide support for organizations who have an international team of editors.

Furthermore, in OJS all communication flows and platform activities have the advantage of being recorded by the software.

	OJS 2.x	Lodel/OpenEdition Journals
Enroll different users	Available Roles: ● Site Administrator ● Journal Manager ● Editor ● Section Editor ● Reader ● Reviewer ● Author ● Subscription Manager ● Copyeditor ● Layout Editor ● Proofreader	Available Roles: ● Administrator (one person only) – responsible for creating and managing all accounts and passwords ● Publisher ● Editor ● Reader It is also possible to grant a user access only for a limited period of time, after which it will be disabled again.
Workflow communication	All the people engaged in the editorial process (whether author, editors, reviewer, copyeditor, or proofreader) can communicate at each step of the editorial process.	Yes, among back-office users.
Prepared set of emails	OJS facilitates work flow communication through the use of prepared email messages. The email can be personalized, except in such cases as automated reminders.	There is a "liste des traductions" where you can find standard templates.

2. How journals use OJS

By observing how the journals participating in the research interact with OJS, one aspect in particular emerged as evident: OJS is correctly defined as software used for managing the editorial process and the publication of a journal, yet editorial staff members appreciated the software not so much for its defined purposes but mostly as a formal archiving tool. We will now delve into this point.

OJS proposes an articulation of editorial workflow and at each step provides services which allow for the automation of certain actions. As far as this feature is concerned, the journals observed that:

1) OJS is easy to use: editorial staff did not encounter any particular technical difficulties in using OJS' functions. Editorial staff recognizes that it is necessary to get accustomed to the software, yet this does not require specific training or computer knowledge which academics did not already possess. It is, however, necessary to specify that although OJS is installed on a local web server, journals often rely on the *Unità di progetto Open Access* of the University of Turin, the owner of the SIRIO@Unito platform: journals did not create the site, and in certain particularly difficult tasks (such as installing specific plugins) editorial staff members contacted the office. The journals have a different approach: while one journal places great importance on maintaining workplace autonomy, another prefers to ask for support from a University-based service, stating that these tasks are not up to the researcher.

2) OJS is a flexible instrument: editorial staff members were able to easily create changes in order to adapt OJS to their working necessities. For example, one journal changed the Italian email templates since the templates had been translated from English and were too informal in style for Italian academic language standards. Furthermore, all journals often skipped various passages laid down by OJS in the editorial process without encountering any difficulties. For example, when a peer-review was uploaded by an editorial board, journals used the "skip" button in order to avoid forwarding an email to the editor.

From a technical point of view all journals expressed satisfaction with OJS and the technological support offered by the University of Turin. Nonetheless, certain issues inhibit the use of OJS to its full potential, creating a situation in which many of its automatic functions are not exploited. These factors can be summed up as follows:

1) Force of habit: editorial boards observe how some authors and editors prefer classic channels of communication, especially personal emails. Two journals exhibited flexibility from this point of view, allowing authors to communicate through their preferred channels and registering the information on the software afterwards, while another journal adopted a more rigid line of action, forcing all its authors to forward their contributions and to communicate with the editorial board using only OJS.

2) Academic practices: in some cases the use of OJS is perceived as being contrary to (national) academic etiquette. Journals consider it appropriate to allow editors and (for two journals) also authors to freely choose their communication instrument of choice. Moreover, in some cases editorial staff themselves would prefer communicating through institutional emails or orally, considering these channels to be, according to their perception, a more personal, direct and therefore appropriate tool. Typical situations in which this happens is if the author or reviewer is selected among university staff or during research missions or institutional leaves abroad.

3) Problems with malfunctioning: one journal stated that reviewers did not receive emails forwarded through internal mail services (according to the testimony of the reviewers themselves). In these cases, the journal preferred not to impose and to use traditional email. This shows us that, despite the presence of technological support by the University of Turin, OJS procedures are sometimes eluded.

4) Member composition of editorial boards: the editorial teams of the journals taken into consideration are composed of members who are mostly affiliated with the University of Turin, implying that most editorial internal communications occur within informal meetings or journal staff meetings.

5) Lack of synergy: as stated above, the characteristic flexibility of OJS makes it possible to use only certain services offered by the software. However, one can obtain an effective advantage

as far as time and labor are concerned by only using a couple of these functions and doing so systematically. Let us consider, for example, the case of one journal of the University of Turin which does not go forth with peer-review through OJS: this journal will not have its list of reviewers compiled on the software, which instead occurs almost automatically when the peer-reviewing process or final archiving is completed through OJS. Once it was necessary to create this list, the journal preferred to create a "simple Word document" regardless of the simplicity of this process on OJS or of the journal's intention to use OJS as an archive for future peer-review. It is worth remembering that at the start of the workflow imagined for Lodel there is the Word document: it was a clear choice, intended to allow researchers, who often run journals without a publisher's endorsement, to work with an established tool with which they are comfortable.

In summary it can be said that journals use OJS in the following cases:
1) With "virtuous" authors and editors. As we have observed, two editorial boards decided against obligation, stating they'd prefer to avoid the risk of imposing on authors and reviewers a tool which was not perceived as better compared to other tools of communication.
2) Forcing it upon all authors. One journal forced all authors (but only authors) to send all their contributions and communication exclusively through the software, stating a twofold reason: on one hand to save time (the journal used templates) and on the other to provide a clearer identity to the journal. This journal was the only one which explicitly stated that OJS had indeed helped reduce the workload of the editorial board.
3) As an archive. The contributions of authors and reviewers who do not use the software are uploaded by the editorial staff by accessing the software on behalf of that author/reviewer and submitting the documents in his/her name. Journals declared their intention to continue this practice, although they have not yet undertaken it on a regular basis.

All three editorial boards converged on this last point. In particular, according to the boards, it is important to keep track of:
1) the process and files of peer-review;
2) official communications with authors, meaning communications regarding not only peer-review but also the outcome of the first selection and final publication.

Considering these observations, it is clear that OJS as an archiving tool is preferred to other cloud storage tools such as Dropbox or Google Drive (which are, however, used in some stages such as text processing). It seems as though Drive and Dropbox are not considered to be an appropriate archiving tool for an open access journal. Not so much because they are public clouds managed by private firms but more so because they do not provide identity to the journal. Reviewing these practical and academic matters, we can observe two important functionalities: OJS provides authors with a professional interface and provides editors with a platform to manage both their research results and communication in full transparency.

Since the three journals have not already joined OpenEdition Journals, it is not possible to provide details (as those included in the annex to the present document) which display their use of Lodel. In order to cover how the three journals can use both OJS and Lodel limiting any unnecessary efforts, it is now appropriate to investigate the text processing phase.

3. Text processing

3.1. Current state

Most texts are sent to the three journals in .doc and .docx formats (as well as .odt), and most of the time authors do not comply with editorial guidelines set by editorial boards.
This implies that:

1) Some functions of OJS are jeopardized. For example, OJS automatically uploads the article to the email that will be sent to the editor. However, since the file is often not anonymous, it is up to the editorial board to download the file, render it anonymous, and upload it again.
2) Text processing becomes a longer process than what the editorial board expects. The editorial boards did not attribute this aspect directly to OJS, since the software has no direct influence on text processing.[7] Nonetheless, two journals expressed that this phase is considered particularly strenuous since it is not a customary task for researchers.

Setting aside the issues regarding the organization of tasks within an academic journal, even though it does help explain the initial disappointment toward OpenEdition Journals as expressed at recital 3), p. 2, we will instead concentrate on the aspects of text processing. In OJS text processing is software-independent. Furthermore, neither Desktop Publishing Software nor Single Source Publishing tools are used by the three journals taken into analysis. Two of the journals use Word Processor software to handle the texts: one uses a limited number of styles, the other one requires authors to format their articles according to the journal's templates, which can be downloaded on the website in the Author Guidelines section. However, the editors of that journal said that this does not guarantee that the document will be received correctly formatted. The third journal uses the XeLaTeX typesetting engine.

3.2. Metadata

In OJS the author, the reviewer and the system itself are all involved in the process of metadata compiling of a document. During the submission stage, the author is asked to first upload the article. The names of authors and co-authors should not be on the document. In fact, the document will be automatically uploaded in the email addressed to the selected reviewer and must be anonymized. Then the author is asked to fill in a form containing specific fields. The author will have their personal information, such as name, surname and email, automatically inserted (before submission the author must sign up with the journal). Additional information may also be added. Editors can choose what metadata field is included in the submission form. As part of the Copyediting step, editors should then review and revise metadata. The system itself also generates some of the indexing or metadata elements (such as journal title, date, URL, etc.). Once the article is published in OJS, the software automatically inserts GS and DC meta tags (the article abstract is included among the DC meta tags, but it is possible to set OJS to add a GS tag for the abstract).

By reading discussions on the PKP forum the shortcomings of this metadata compilations system seem to be the following:
1) the lack of the possibility to indicate which fields to be completed during submission by the author are compulsory;
2) authors can edit the metadata fields during the submission stage, but editors can not ask authors to fix them later.[8]

However, these issues were not raised during the meetings with the journals of the University of Turin. According to the journals analyzed in this project, the authors almost never complete all fields correctly (one journal in particular stated that authors rarely indicate their institution of belonging). Nonetheless, the fact of having to review and correct metadata during the copyediting phase is not perceived as a burdensome task but rather as something on which editors should make some last checks.

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[7] However, OJS saw a lot of uptake in JATS XML; i.e. OTS ("Open Typesetting Stack", PKP, 2018, https://pkp.sfu.ca/open-typesetting-stack/) and increasingly Grobid ("Grobid Documentation", Grobid, 2018, https://grobid.readthedocs.io/en/latest/) for producing JATS from Word documents; Texture ("Texture. A word processor for structured content", Substance, 2018, http://substance.io/texture/) for editing, etc. Generally on similar tools and some trends, see the OPERAS White Papers: Elisabeth Heinemann, "OPERAS launches White Papers", OPERAS, 2018, https://operas.hypotheses.org/2136.
[8] See "Issue with input and display of keywords", PKP Web Application Library, 2016, https://github.com/pkp/pkp-lib/issues/1828.

One of the reasons why the idea of making OJS and Lodel complementary tools has raised interest is that the quality of structuring metadata allowed by OpenEdition Journals is more accurate. OpenEdition indeed helps ensure more consistency with recognized standards:

1) OpenEdition assistance teams ensure that metadata is correctly structured and quality rules enforced;[9]

2) in OpenEdition Journals metadata are integrated with the document itself through the use of XML-TEI (inserted in the TEI header);

3) if metadata are not correctly added to the document processed with Lodel, the text will not be uploaded to the platform;[10]

4) the metadata compilation system used by OpenEdition Journals is compatible with the tools used by librarians to retrieve data.[11]

Let us now compare metadata in OJS and OpenEdition Journals

OJS	OpenEdition Journals
Title (multilingual) Subtitle (multilingual)	Title Subtitle Title in another language
OJS 2.x - 3.1.x: For each author: first name middle name last name email affiliation (multilingual) biography (multilingual) country URL ORCID OJS 3.2+ For each author: given name (multilingual) family name (multilingual) email affiliation (multilingual) biography (multilingual) country	Author Author's description (affiliation) E-mail

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[9] For a journal published with Lodel outside OpenEdition, these rules would have to be set and enforced by the journal team. OpenEdition is now in the process of setting up a network of "journal incubators" in France and French-speaking countries, where best practices could be shared. See Jean-Luc de Ochandiano, "L'incubateur de revues de l'université Lyon 3. Accompagner les chercheurs dans leurs projets éditoriaux", *Bulletin des bibliothèques de France (BBF)*, 2018, n. 15, p. 68-77, http://bbf.enssib.fr/consulter/bbf-2018-15-0068-010 and "L'Université Jean Moulin Lyon 3 et OpenEdition Center s'engagent dans un partenariat pour le développement d'une pépinière de revues au service de la science ouverte", CNRS, 2018, http://www.cnrs.fr/inshs/recherche/open_editions_univ_jean_moulin.htm.

[10] See Caroline Terrier, "Creating a TEI document in Lodel 1.0", GitHub, 2018, https://github.com/OpenEdition/tei.openedition/wiki/Creating-a-TEI-document-in-Lodel-1.0.

[11] Emma Bester, Pierre Mounier, "Usages des ressources en libre accès dans les bibliothèques universitaires et services communs de documentation. Le cas de Revues.org. 2009. <sic_00627672>", HAL, 2011, https://archivesic.ccsd.cnrs.fr/sic_00627672/document.

URL ORCID	
Publication language Publishing date online Open or limited access	Publication language Publishing date for print Publishing date online Issue ISBN Open or limited Access Issue number
Abstract (multilingual)	Résumé
Keywords	Mots-clés
Abstract (multilingual)	Abstract
Keywords	Keywords
	Author's note
	Editing team's note
	Dedication
	Acknowledgements

## 3.3. Attempts at integration

3.3.1. Word-InDesign-Word-Lodel

Lexis srl - Compagnia editoriale in Torino is a partner of OpenEdition Italia and currently manages four journals published on OpenEdition Journals. Lexis was contacted to better understand how to integrate Lodel into the pre-existing workflow of the journals. Among Lexis' task is that of retrieving archives of paper-based journals and providing services to those who currently use OpenEdition Journals. Focusing on this second task, they realized that a great amount of time was spent working on the documents in Microsoft Word, and decided to rather use Adobe InDesign for page layout. The reason for this choice is two-fold: on one hand it allows for operations which are editorially quicker and more stable. On the other hand it creates a passage from Word to Lodel without the need to work on styles. The 'Word-InDesign-Word-Lodel' relay simplifies the part of the workload which Lodel defines as 'stylage': since styles have the same name in both Word and InDesign, when exporting a text into Lodel the software automatically recognizes the styles.

The two Turin-based journals which use Word could rely on Lexis for this part of the workload, or carry it out on their own: the tasks brought forth by Lodel with InDesign can (to a certain extent) be carried out in Word. If on one side it is true that journals receive articles which are not completely in line with editorial guidelines, the flipside is that editors resort to homespun methods which complicate the subsequent exportation to Lodel. According to Lexis, acting upon this second aspect

with simple interventions could be highly advantageous. For example, if someone were to receive a document in Word, instead of working on it as is, it would be best to re-import it using a layout made with the same version of Word, with fonts and styles already set. Editing in this manner will create a much cleaner document compared to what would be obtained working directly on the received file, and the passage to Lodel would be less complicated.

3.3.2. TeX-XML/TEI

Publishing LaTeX documents on OpenEdition is a more complicated issue because it requires a higher amount of steps. Lexis' experience was not positive: after a few autonomous attempts, they contacted an external partner which converts LaTeX files to a Word file set up to be easily transported into Lodel. JIHI journal instead started an experimentation to understand how to transform a LaTeX file into a file which follows the XML/TEI schema of OpenEdition Journals without passing through OTX, which provides a conversion server from .doc or .odt files to XML-TEI integrated with Lodel 1.0.[12]
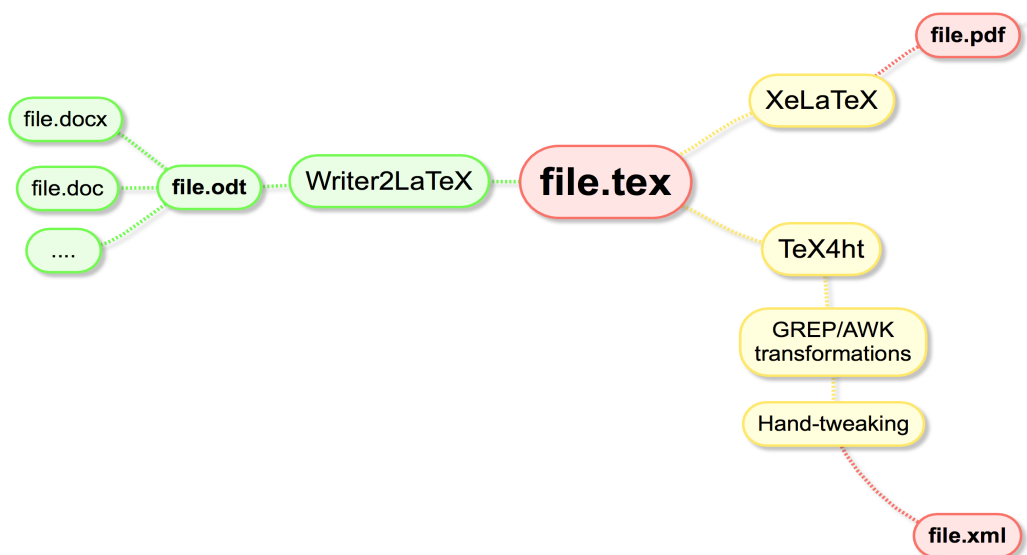
Manuscripts (90% of these are Word files) are converted into an OpenDocument file and then, using Writer2LaTeX v. 1.2,[13] into a TeX file (author.tex). Metadata are inserted into another TeX file (1-author.tex), which contains many \input commands allowing one to call those files where the Journal layout and formatting commands are specified.

XeLaTeX processes the 1.author.tex document (and the various files included) and exports a PDF which is then uploaded to OJS.

In order to convert documents into PDF and XML starting from the same source files, the identified steps are as follows:

1) To separate the typographic features (in order to use them or not whether creating a PDF or an XML)
2) To rewrite metadata according to the XML OpenEdition Journals format

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[12] See "OTX. Conversion server from word processing document (odt and doc) to TEI document", GitHub, 2018, http://openedition.github.io/OTX/.
[13] See http://writer2latex.sourceforge.net.

3) To create a *ML (HTML, XHTML, XML, XML/TEI) using TeX4ht[14]
4) To transform the *ML into a XML OpenEdition Journals, making changes using scripts and some tweaking (manually)

OpenEdition Journals		LaTeX - JIHI	
Fields in Lodel	TEI		LaTeX
title subtitle title in another language	<titleStmt> <title type="main"> <title type="sub">	title subtitle note (acknowledgements)	\jTITLE \jSUBTITLE \jNOTAtitolo (mythanks)
author author's description e-mail	<name> <affiliation> <email>	author affiliation (institution name+ e-mail)	\author \def\affiliation
Publication language Publishing date for print Publishing date online Issue ISBN (?) Open or limited Access issue number	<publicationStmt> <date> gg/mm/aa <availability> <idno type="document number"> numero XXXpag	NO: publication date online document info	\jYEAR \jVOL \jISSUE \jSEZ \jITEMNO \PEERREV + 1/2
text	<text> <front>		
résumé	<div type="abstract" xml:lang="fr">	abstract (only in the language of the text)	\jABSTEXT
mots-clés	(comma separated)	keywords (only in the language of the text)	
abstract	<div type="abstract" xml:lang="en">		
keywords	(comma separated)		
Author's note	<note resp="author">		
editing team's note	<note resp="editor">		

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[14] See http://tug.org/tex4ht/.

dedication	<div type="dedication">		
acknowledgements	<div type="ack">	Cfr. title note	
body			
footnote	<note place="foot" n="1">		\usepackage [perpage, bottom, hang, norule] {footmisc} … that must be replaced by endnote (no footmisc package)

3.3.3. MÉTOPES

OpenEdition saw an increasing usage of Métopes (Méthodes et outils pour l'édition structurée) as a tool for Single Source Publishing[15]. Not only for books but also for journals. Since Métopes interoperates well with Lodel (it can feed Lodel with OpenEdition TEI content), further research has to take it into account.

3.4. Publishing in multiple formats

In the last few years there has been a rise in interest towards HTML due to the attention placed on the diffusion of knowledge in developing countries, the interest in multimedia and interactive resources for teaching, and the widespread use of mobile devices. HTML files present the advantage of visibility and flexibility: they can be read in countries where broadband connections are absent, they handle linking and multimedia very well, and they can be read on phones or tablets.

OJS offers the possibility of publishing in HTML: it proposes a workflow which aims at creating an HTML file from a Word document, which can then be uploaded to OJS as an HTML galley file. However, among the journals analyzed in this project only one publishes in HTML and this choice concerns only the editorial of each issue. The articles of this journal and every contribution of the other two journals are all published exclusively in PDF. Why do these two editorial boards not use HTML at all? One journal stated that they did not want to try HTML because they were already fatigued by the editorial workload of creating PDFs, while another journal had not taken interest in this topic and was not aware of this possibility offered by OJS. The lack of interest in HTML seems driven by the necessity to reduce workload as well as being linked to the vision that each editorial board has for their journals: this appears to be an online version of the traditional paper-based scientific journal, and PDF represents the format which most closely recreates the printed page. In confirmation of this, it can be observed that two journals upload the PDF of single articles, numbered in a consecutive fashion, as well as the PDF of the entire booklet.

OpenEdition places great attention upon the possibility of publishing text in various formats and it promotes the use of HTML as the only way to ensure all open access criteria. While OJS does not establish one strict workflow, Lodel instead allows for the creation of an HTML file first and then,

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automatically a PDF, all starting from a Word file. As written at p. 12, Word was considered (and probably still is) the best way to support non specialized editors on digital publishing. This is one of the advantages of using OpenEdition Journals. However, it does not precisely meet the demands of the considered journals:

1) The fact that the PDF may or may not be uploaded since the HTML text is already quite usable did not spark much attention since the PDF format is what allows journals to present themselves as a traditional academic journal, as was observed above.
2) Not much consideration was given to the fact that Lodel automates the passage from HTML to PDF. For a similar reason the PDF has editorial characteristics which editorial boards value since they represent the identity of the journal.
3) All three journals promote a full open access approach and are not interested in the Freemium program, which would cause the journal's content to be available to all Internet users in open access HTML format, while users of partner institutions can download the PDF and ePub formats.[16]
4) Lastly, there is currently no interest in publishing texts in other formats, such as ePub.

Considering these points it would appear that Lodel has not raised much their interest as an instrument for converting Word documents into multiple formats. However, the Lexis experience with Lodel shows that it is possible to make advancements by utilizing best practices and already existing instruments. As far as the prospect of easily creating multiple formats is concerned, XML might be the answer. It is the main innovation of OJS 3 and also found in the next version of Lodel, and could exhibit their advantages and ease of use.[17]

Conclusion

During "La non-conferenza per l'Editoria accademica aperta" held at Università degli Studi Roma Tre on May 30th 2017 and organized by OpenEdition within the OpenEdition Italia project, the workgroup tasked with reflecting on the possible interoperability between Lodel and OJS reached the conclusion that the two software applications can operate as complementary tools since OJS handles the upstream workload (peer-reviewing) while Lodel deals with text[18]. A degree of criticality underpinning this statement can be sketched by considering information gathered through observing the examples of the three journals analyzed.

First of all, let us analyze the use of OJS in handling the peer-review process. All the journals stated that it is an important and useful tool, and that they intend to use more of it in future. What emerged was that the journals did not use OJS's peer-review system to its full potential and that this was mostly due to non-technological barriers. Furthermore, certain elements highlighted how the software is perceived by the journals as a working environment useful in maintaining internal and external transparency. In that light OJS takes on a different resonance. It becomes the scene of an exchange of information; a place where ideas are visible and available to specific users. Picking up the observations made throughout the report, it can be said that OJS could be used as a tool that allows one to:

1) Save peer-reviews in order to simplify administrative supervision.

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[16] See "The OpenEdition Freemium programme", OpenEdition, 2018, https://www.openedition.org/14043.

[17] OJS 3 is now using JATS XML as a pivotal publishing format. With respect to specific tools designed to automatically convert a scholarly article in ODF, MS-Word, and PDF format to JATS XML, PKP has developed the open source software Open Typesetting Stack (OTS for short), which is integrated into OJS 3 as a plugin. There is also a plugin which transform JATS XML into HTML (Lens Viewer Plugin).

[18] The aim of the meeting was to open the way to structured partnership to help identify and adopt common standards and best practices able to foster a digital scholarly communication framework. See Alessia Smaniotto, "Cento in una volta sola è meglio di cento volte soli. La non-conferenza per l'Editoria accademica aperta", OpenEdition Italia, 2017, http://openeditionitalia.it/1034, and Alessia Smaniotto, "Messaggio conclusivo #EdAA17", OpenEdition Italia, 2017, http://openeditionitalia.it/1273.

2) Keep a detailed chronology and track alterations in a manner that is orderly and easy to consult, thus creating mutual trust among authors, editors and institutions.
3) Improve communication amongst authors and editors without clogging institutional email inboxes and avoiding duplication of work.
4) Keep track of communications within the editorial boards thus providing the opportunity to discuss ideas and to include people who might not be present during informal meetings.

OJS can then be used as something more than a simple peer-review system: it can be a useful tool to facilitate exchange between knowledge, expertise and good practice.

We can now analyze the interest that the journals showed in OpenEdition Journals, namely the possibility of being part of a humanities and social sciences platform. This interest was not explicitly based on the factors that OpenEdition Journals is renowned for such as better visibility, the possibility of being commercialized, or easily obtaining content in HTML. In fact, the journals are satisfied by the web visibility afforded by OJS, they are not interested in the Freemium program and are worried about the excess workload necessary to publish in HTML in addition to PDF. However, this divergence mostly highlights the need for new studies – along with quantitative data – which can demonstrate and communicate the importance of the model of metadata compilation put forth by OpenEdition Journals, and of HTML texts for a full open access culture, being available in university libraries. These, and not only the simple gathering of different journals in the same place, are indeed the core elements that make OpenEdition Journals an important platform in the humanities and social sciences.

For integrating OJS and OpenEdition Journals, further research that will provide both figures proving that there is a real "business case" and a description of users' practices, should be encouraged alongside technological discussions. Let us now conclude the report considering the latest discussion about a possible integration between OJS and Lodel. Following the participation of PKP to OPERAS-D Final conference, held in Athens from 31 May to 1 June 2018, discussions started about a way to offer a single workflow, as seamless as possible, between PKP and OpenEdition tools.[19] While reviewing and editing could occur in PKP's environment, formatting and metadata generation could be done in OpenEdition's environment. At the end of the process, it should be possible to retrieve from OpenEdition the publication files or links and their metadata back again to PKP's environment.

At the time of writing, the experimental and generic workflow is the following:
1) Reviewing and editing archived on OJS
2) Data transfer from PKP to OpenEdition:

   • Using PKP plugin for XML export in order to have articles/chapters XML-formatted

   • Using OpenEdition plugin for XML import, in order to ingest articles/chapters directly into Lodel
3) Styling and metadata generation with Lodel

   • OpenEdition generates HTML, XML-TEI, Epub, PDF
4) Data transfer from OpenEdition to PKP:
   - OJS retrieves full text TEI, download links, metadata
   - using OAI-PMH client (at PKP) or SWORD server (at OpenEdition)

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[19] This is also about OpenEdition Books and Open Monograph Press (OMP), the open source software platforms developed, respectively, by OpenEdition and PKP for managing the editorial workflow required to see monographs. See OpenEdition Books, https://books.openedition.org/?lang=en and PKP Open Monograph Press, https://pkp.sfu.ca/omp/.

Annex

Description of the journals analyzed

	Historika Studi di storia greca e romana	COSMO Comparative Studies in Modernism	JIHI Journal of Interdisciplinary History of Ideas
Periodicity	Annual	Biannual	Biannual
Printed Version	Yes	No	No
ePub	No	No	No
Article language	Italian, English, French, German, Spanish	Italian, English, French, German, Spanish	English, French
Peer review	Double-blind PR	Double-blind PR	Double-blind PR (+ Open in the future)
Which kind of contributions are accepted or created?	- Articles - Maybe reviews in the future	- Articles	- Articles - Notes - Interviews - Discussions (where the stock of the situation about a particular subject is taken through the interaction with other specialists) - Research Reports (in which young scholars discuss a research theme and the problems and solutions they encountered in developing it) - Reviews - News&Notice (e.g. the activity of the GISI)

How and when journals use OJS

	Historika Studi di storia greca e romana	COSMO Comparative Studies in Modernism	JIHI Journal of Interdisciplinary History of Ideas
Author submission	Sometimes (10-15%). More often than not (80%) authors send their manuscripts by email	Always (100%)	Sometimes (50%). Sometimes, for example, in the case of special issues, authors send their papers to the guest editor's email.
Submission archiving	Yes. Moreover, the manuscripts which have been sent by email or have not been accepted are also stored on OJS.	Yes	Yes. Moreover, the manuscripts which have been sent by email or have not been accepted are also stored on OJS.
Metadata recording by the author(s) of the manuscript during the submission process	Authors are asked to provide abstract and keywords both in English and in the language of the paper.	Yes, in English. This is then reviewed by the Journal's editors.	Authors are asked to provide abstract and keywords that are then edited by the Journal's editors.
Reviewer selection and	A list of reviewers is under construction, and	A list of reviewers appears in "About"	Editors regularly update the JIHI list of reviewers in OJS, often

	contact (lists of reviewers, database of reviewers, notification, email…)	will appear in "About" section. Filling the list of reviewers in OJS is considered a lot of work. Reviewers are mostly contacted via institutional email address.	section. There is also a list of reviewers hosted in OJS, which is filled by the reviewers themselves. Reviewers can be contacted both by using OJS's incorporated messaging system or via institutional email address.	inserting the reviewer's areas of competence. Reviewers can be contacted both by using OJS's incorporated messaging system or via institutional email address.
Layout editing Copy editing Proofreading online	No	No	No
Reference management software	Mendeley		Mendeley
Persistent interoperable identifiers	DOI ISSN, e-ISSN		DOI ISSN
Referencing tools	DOAJ		DOAJ (in progress)
External feeds	No		No
Reading tools	No	No	No
Possibility for users to comment	No	No	No
Networking tools	Email button and share buttons	Email button and share buttons	Email button and share buttons
Altmetric info	Article metrics plugin	Article metrics plugin	Article metrics plugin
Use of PKP assistance	Help is mostly asked from the *Unità di Progetto Open Access* at the University of Turin.	Help is mostly asked from the *Unità di Progetto Open Access* at the University of Turin.	Help is asked from both the *Unità di Progetto Open Access* at the University of Turin, as well as PKP forum and guides.

Journals' typesetting workflow (selection of articles by editors and peer review excluded)

	Historika **Studi di storia greca e romana**	**COSMO** **Comparative Studies in Modernism**	**JIHI** **Journal of Interdisciplinary History of Ideas**
Word Processor/Text Editor used by authors	.doc/.docx, .rtf Not accepted: .odt	.doc/.docx (pdf)	.odt, .doc/.docx (pdf!)
Word Processor/Text Editor used by editors	.doc/.docx	.doc/.docx	.odt, XeLaTeX
Page layout software used	No	No	No
Metadata	Authorship, title, abstract (2), keywords (2), volume, ISSN, e-ISSN.	Authorship, title (2), abstracts (2), keywords, author affiliation and email.	Authorship, title, abstract, keywords, author affiliation and email, issue number, page ranges, license, PR-notPR.

	Abstract and keywords both in English and in the language of the paper. Some articles in the first issues do not have metadata attached.	Title and abstract both in English and in the language of the paper.	
When and where metadata is created	By the author in OJS during the submission process (except volume number and ISSN, e-ISSN). If the author has sent his paper by email, then by editors in OJS at the very end of the publishing process.	By the author in OJS during the submission process. By editors in OJS at the very end of the publishing process.	By the author in OJS during the submission process. By editors in OJS at the very end of the publishing process.
Format for distribution	PDF	PDF	PDF