To guard scientific integrity, to promote open science, and to retain copyright and ownership of texts, data, and all other products of research, universities must take control over publication and dissemination.

The progress of science requires research to be published quickly and fully. However, for various reasons, publication through commercial publishers tends to be slow, fragmentary, and selective. By using their own repositories, universities can establish an alternative publication platform that enables fast and comprehensive publication of all products of research, not only scientific articles, but also research reports, data sets, tests and questionnaires, intervention protocols, and software.

Many universities already use their own repositories for publication of research products. To make this option more attractive and accessible, we propose to consolidate such repositories in a set of electronic journals, hereinafter referred to as university journals. Items in the repositories of universities can be automatically transformed into articles in university journals, organised by discipline, with their contents indexed in the same way as traditional journals (see Figure 1, last page).

Publication in electronic university journals, based on institutional repositories, with quality control by the institutions themselves, and management and editorial tasks delegated to the university libraries, can be accomplished with only modest resources and offers many advantages over the current system that depends on commercial publishers. Copyright and ownership of articles, reports, data sets, and other research products published in university journals remain with the university.

University journals would make for a valuable alternative publication platform that fits in seamlessly with the system of commercial journals. Publications of articles, data sets, and other research products can all be indexed in the same way, in established abstract and citation data bases with established search engines. In this way, we enable an easy transition to open science. The university journals can be instrumental in achieving the ambitions of open science. The cultural change need not be disruptive.

Researchers can still also publish in high-ranking commercial journals, but the university journals would offer an immediate alternative to lower-ranking journals, to journals that charge open access fees and especially to the so-called predatory journals. Eventually, university journals could largely supplant commercial journals. Below follows a point-by-point description of the concept, a list of advantages, and some initial thoughts about the first steps towards realisation.

The concept

(1) Universities can use their own repositories to publish scientific articles, research reports, data sets, tests, questionnaires, intervention protocols, software, and any other research products.

(2) To make this publication platform attractive and accessible, the repositories of a large number of universities should be joined into a limited number of disciplinary journals (electronic, open access).

(3) University journals can then be indexed the same way as existing commercial journals, with each item assigned a digital object identifier (DOI).
Research need not be innovative, important or particularly noteworthy to be published. The premise is that all research should be published. Articles are published in university journals without initial peer review, in order to minimise editorial work and to simplify the organisational process. The universities themselves are responsible for the quality of their publications. Quality control can be delegated to faculties, research institutes or research groups. Quality control might include an assessment of standards of transparency and openness. Such assessments could be published alongside the articles. To account for variation in research and publication practices, different university journals are established for different disciplines, with each journal relying on its own discipline-specific quality control procedures (e.g., University Journal of Social Sciences, University Journal of Life Sciences, etc.). University libraries can be made responsible for editing, to ensure all publications have a neat, uniform layout. Readers can write commentaries or full reviews that can then be published alongside articles, subject to moderation (to guard against breaches of etiquette). Voluntary post hoc commentaries make up for the absence of a priori peer review. University libraries can be made responsible for moderation, to ensure that commentaries are respectful, and for liaison with authors. Article revisions can also be published, but the original versions should be kept available as well, as these may have been cited already. Any research product can be published (e.g., reports, data sets, intervention protocols, tests and questionnaires, software), but it will appear as an article in the university journal, with a DOI, ensuring usual indexing and admission into the existing electronic library databases. Research materials and complete data sets can be appended to articles and research reports. Data sets can also be published as separate items, with comprehensive descriptive information, following the FAIR principles (findable, accessible, interoperable, re-useable). Research protocols can be published before research starts, possibly under an embargo to be lifted after the research concludes and results are published. To lend university journals immediate credibility and status, it would be preferable to work in alliances made up of a large number of reputable universities. The university journals could then be published under the name of that alliance (e.g., LERU Journal of Social Sciences, LERU Journal of Life Sciences, etc.). Researchers of the participating universities can publish free of charge. Publication in the university journals should also be open to researchers of non-participating universities, with a fee to cover the cost of quality control and editing, provided such can be arranged.
Advantages

(1) Knowledge can be shared faster and more fully. Research can be published more quickly and without the time-consuming and obscure review process. Research can be published in full, without cutting out less salient results, insignificant results or undesired outcomes (which typically impedes publication in commercial journals). All accompanying research materials can also be published, aiding reproducibility.

(2) Data sets can be published as separate items, with comprehensive descriptive information, and possibly with computer programs, aiding re-usability. Any other product of research can also be published, such as intervention protocols, tests and questionnaires, manuals, and software.

(3) Copyright of texts and ownership of data and other products of research are not transferred to commercial publishers and can remain with the university (or its employees).

(4) By giving the combined institutional repositories the appearance of disciplinary journals, the new publication platform fits in seamlessly with the traditional publication culture, which may be reassuring for anyone who would like to continue to rely on the old ways of disseminating research and evaluating scientific quality through the standard bibliometrics (impact factors, h-index).

(5) Citation scores and the newer next generation metrics enable the measurement of both scientific and societal impact of individual articles (instead of only the impact of the journal).

(6) Researchers employed on temporary contracts are not delayed in publishing their work.

(7) Researchers are no longer under the stressful pressures to both publish and meet the demands of journal reviewers and editors. The reduction of such pressure would also lessen the incentive to resort to questionable research practices and scientific misconduct to get research published.

(8) Researchers are no longer judged on the reputation of the journal in which they publish but more on the quality of their research and research reporting. Recruitment and promotion, and thus academic careers, would depend more on personal research capabilities and less on article authorship in high-ranking journals.

(9) All publications are open access at no additional cost. By publishing open access and by also publishing research data and other research products, the whole academic (and non-academic) community can participate in academic research.

(10) The university journals provide excellent means to achieve all goals of open science that are mentioned by the Open Science Policy Platform of The European Commission.³

(11) University journals have a transparent and public review process. University journals leave assessment up to readers who only review articles that they find worthwhile, whereas editorial boards of commercial publishers are finding it increasingly difficult to attract good, independent reviewers and to organise the review and editing process.

(12) Reviews and commentaries are also published, alongside the articles, thus aiding readers to gauge the quality of the research, and stimulating scientific discussion.

(13) Universities no longer have to negotiate open access with commercial publishers, and thus gain more independence and negotiating clout as the university journals grow.

(14) University journals would significantly raise the profile of the alliance. They could assume names such as LERU Journal of Social Sciences, LERU Journal of Life Sciences, etc., or mention the name of the alliance as a quality mark (e.g., LERU, VSNU, Universitas 21).
Realisation

The idea is to establish a set of university journals; one journal for each discipline. First, we have to ascertain which universities are willing to take part. Next, participating universities have to confer both internally and with each other on how to proceed.

(1) Deans, academic directors and research programme leaders have to discuss the establishment of quality control systems appropriate to their disciplines. They may want to rely on existing quality assurance as much as possible.

(2) ICT staff has to build and maintain a suitable environment for the university repositories that automatically feeds articles to the journals, with a back end consisting of a large number of repositories at the participating universities and a front end that presents as a set of journals (one per discipline); see Figure 1.

(3) Library staff has to make arrangements for management, editing and moderation and to communicate with the research staff that takes part in quality control.

(4) Policy staff has to be involved in the agreements reached among parties both within and between universities.

Initially, additional efforts are needed to get the university journals up and running. Ultimately, however, universities would reap benefits in the form of major contributions to the progress of science, to scholarship, and in cost reductions as universities become less dependent on commercial publishers.

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2 University College London is already publishing its own journal:
https://www.timeshighereducation.com/news/ucl-launch-open-access-megajournal

https://ec.europa.eu/research/openscience/index.cfm?pg=open-science-policy-platform. The document contains a large set of actionable recommendations on (1) rewards and incentives, (2) research indicators and next-generation metrics, (3) scholarly communication, (4) an European open science cloud, (5) FAIR data, (6) research integrity, (7) skills and education, and (8) citizen science.


5 Nosek et al., 2015, doi:10.1126/science.aab2374
Figure 1: From university-based repositories to discipline-based university journals.

Note: Items can be scientific articles, research reports, data sets, and other research products such as tests, questionnaires, intervention protocols, software, and also commentaries and full reviews of articles and other items that have been published earlier. By relying on existing quality control, the efforts required to establish the university journals are largely limited to building and maintaining an ICT-application that automates the transformation of items from a large number of university-based repositories (back end) to a limited number of discipline-based journals (front end).