Editing scientific publications

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Abstract: This article describes the roles of editors for three kinds of scientific publications: journals; compilations such as books and symposium proceedings; and newsletters. It recommends the best ways to serve science, maintain quality, and complete projects. Effective work combines a specific scientific purpose with scientific rigour and integrity, comprehensive organization, positive interactions with colleagues, and attention to detail.

The editors of journals ensure that published papers are of high quality and follow scientific and ethical guidelines. These requirements should be enforced in a helpful and collegial way, choosing expert and unbiased referees for peer review, briefing them adequately, and transmitting fair and objective final evaluations to authors. Journal management systems can be used to attend to many necessary routine tasks, such as tracking the progress of manuscripts. Plagiarism detection systems, used appropriately, can help to identify ethical transgressions.

Compilations need clear-cut scientific aims, and a coherent scientific approach with a restricted focus. The editor verifies that all contributions meet these goals and have the quality expected of scientific papers. Therefore, authors must be fully informed about scientific and general requirements. Well-considered plans to finish and produce the work, including a publication outlet, should be in place from the start, confirming the format and ensuring production. A closing synthesis to integrate the individual contributions enhances the scientific value of the whole.

Newsletters must be tailored to the target audience. They should have an attractive, consistent format and appear regularly and on time. Newsletters lack impact unless each issue has a range of useful content, with short items of news and information as well as longer scientific articles. Many potential content items are suggested below. Most newsletter editors make considerable efforts to obtain or write sufficient material for each issue. Therefore, detailed evaluation and planning are required to launch any new newsletter.

For ease of reference, the roles of editors are listed and linked in the *Table of contents*, and summarized in tables in the text.

Introduction

Scientific publications depend on efforts in six main categories, each of which demands specific attention.

1. *Authorship.* The fundamental need is excellence in writing to produce first-class scientific manuscripts, Correspondingly, the research on which they are based must be well planned and diligently executed. The same high standards are required for other manuscripts (including those aimed at non-specialist audiences), whether or not they are based on the author's research.
2. *Scientific editing.* Scientific editors select, organize, assess, and help to finalize the scientific content of manuscripts submitted to journals, and to books, symposium proceedings and other works written by multiple authors. For example, editors encourage worthwhile submissions, ensure that appropriate standards are followed, and arrange for thorough review[1].
3. *Preparing newsletters and other ancillary items*. Scientific information can also be transmitted by publications that are not peer reviewed, or are relatively informal.

[1] These tasks are distinct from the "scientific editing" offered commercially, which helps authors to improve their manuscripts before submission.

Typical professional newsletters (termed bulletins by some organizations, although others use that term for reviewed publications) have both scientific articles and other content to promote communication and interest. These documents are most useful when scientists have played major roles in producing them.

4. *General editing and publishing.* Making publications available in final form, online or as hard copy, includes thoughtful design to ensure good appearance and to simplify use, diligent copy editing to maintain consistency throughout, meticulous production, and careful output to avoid the possibility that errors of typography or layout will be introduced. Publications targeted at non-specialists, and especially volumes commissioned by commercial publishers, are subject to particular constraints.
5. *Promotion*. Facilitating access to the content of publications is done chiefly through publishers or by newsletters and ancillary items, but scientists can play important roles too. Authors who associate their papers with well-chosen keywords ensure that digital search engines can find relevant content. The knowledge of scientists is also valuable to make book indexes effective, arrange for newsletters to reach their intended audiences, and identify newsworthy items for wider circulation.
6. *Business management.* Matters such as financing (including sources of revenue), marketing, legal constraints, and evaluating journal performance or impact are significant for commercial publishers in particular. However, they do not focus directly on scientific information.

Scientists can play more than one of these roles. The first role, authorship, was treated in *How to write scientific papers* (Danks 2024). This article addresses the roles of editing journals (*Editing scientific journals*), multi-author volumes (*Editing scientific compilations*), and newsletters (*Editing newsletters*)[2].

Even scientists who write journal papers but are not involved in broader activities such as editing may find that knowing about required processes and relevant limitations will benefit their work. It will also help them to communicate profitably with editors and other colleagues.

Editing scientific journals

The editor[3] of a scientific journal is responsible for many key components of scientific publishing. These roles are summarized in Table 1. In particular, editors arrange for thorough evaluation (see *Managing the peer-review process*) and decide whether a paper should be accepted.

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[2] Fortunately, my career gave me insight into these roles because of the opportunity to organize, edit, review, and write for a number of books and symposium proceedings (and to deal with printers), to review a few hundred papers for dozens of different journals, and to serve on several editorial boards. I also edited various newsletters for many years.

[3] The term "editor" is used here to encompass both single and multiple editors.

Table 1. Roles of scientific editors.

Role	*Key elements*
Basic operations	
Ensure appropriate submission criteria	Establish guidelines for potentially acceptable manuscripts
	Inform authors about requirements for scientific content, and other journal guidelines (cf. Table 2)
Evaluate submissions	Follow an established process that is prompt and fair
Manuscript tracking and processing	
Record keeping	Maintain detailed records about the progress of submissions (cf. Table 3)
Journal management systems	Consider journal management software to assist in basic tasks such as receiving submissions, tracking timelines, facilitating routine correspondence, and screening manuscripts for faults
	Choose software appropriate for the journal, based on features such as capability, ease of use by authors and editors, flexibility, and cost (cf. Table 4)
Managing the peer review process	
Peer review	Conduct an initial evaluation to reject submissions that are clearly unsuitable
	Organize peer review for potentially suitable manuscripts
	Make final decisions about acceptance
Choosing referees	Select reviewers who are competent and unbiased
	Build up knowledge of individual scientists to assist in referee selection
Liaison with referees	Respect referees, and do not take them for granted
	Brief referees fully as to general expectations, journal requirements, time frame, and format of the review
Liaison with authors	Provide consistent and collegial personal communication to authors, in addition to routine logistics
	Summarize post-review requirements carefully
	Establish a process for handling disputes with authors
	Edit the text in more detail if desired
Ethics	Judge all submissions with fairness and objectivity
	Check conformity of submissions with originality, sole submission, and other ethical standards
	Ensure that referees are fair, free of bias, respectful of authors, and maintain the confidentiality of submitted manuscripts
	Expect that publishers will honour the scientific integrity of the journal
Journal content	Influence content by favouring or restricting certain subjects or approaches
	Encourage or invite individuals to submit papers on desirable topics

Many documents about scientific editing have been produced by organizations—notably the Council of Science Editors (CSE 2025a, b) and the Committee on Publication Ethics (COPE 2025)—and by publishers, journals, and universities. The book by Hames (2007) covers all aspects of peer review. Some publishers briefly summarize the wider publishing context (e.g., AME 2022). Partly applicable too is considerable literature discussing similar themes in the humanities, arts, and social sciences (e.g., chapters in the book by Hay et al. 2024).

Some publishers provide support for the editors of their own journals, and even offer training (e.g., Elsevier 2025a).

Basic operations

The day-to-day work of the scientific editor ensures that submitted manuscripts are treated fairly and that accepted papers meet the standards of the journal. In addition, submissions have to be handled in a timely way to respect both authors and journal deadlines.

Fixed procedures and requirements maintain the quality of submissions and favour ethical behaviour. The requirements should be clearly communicated to authors by publishing them, or a link to them, in each issue of the journal. They must then be persistently enforced.

Editors can help to develop or improve upon journal procedures. For example, long-standing journal guidelines might profit from additions, updating, or clarification to ensure that authors understand them. Clear and complete guidelines limit the possibility that authors will be misled into submitting manuscripts that are unsuitable.

Typical journal requirements are briefly outlined in Table 2. Verifying that submissions meet all aspects applicable to a given journal is left chiefly to the scientific editor.

Table 2. Elements that govern the suitability of papers for a particular journal.

Element	*Sample requirement or potential restriction*
Scientific quality	[Evaluated through procedures listed in Table 1]
Language	English, French, other
Topic	Subjects, taxa, regions
Approach	Basic or applied themes Quantitative or qualitative analysis Types of contribution (e.g., original research, reviews, techniques, identification guides, checklists, required data or voucher material, commentary, opinion)
Route of submission	Web portals, email, and their proper use

Continued ...

Table 2 (*continue*d). Elements that govern the suitability of papers for a particular journal.

Element	*Sample requirement or potential restriction*
Length	Number of words (range or maximum; may differ for different types of papers)
Layout	Style of presentation (may differ for different types of papers)
	Order of material, required headings
Ethics	Original work unless acknowledged (no plagiarism)
	Free of conflicts or potential conflicts of interest (financial or otherwise)
	Correct assignment of authorship
Text standards	Quality of writing; conformity of spelling, abbreviations, citation formats, etc.
Technical requirements	Word-processor formats allowed
	Types of images allowed (e.g., line drawings, photographs)
	Requirements for images (e.g., file format and size, resolution)
Legal requirements	Copyright transfer
	No infringement of copyright

Manuscript tracking and processing

Record keeping

The progress of submissions should be recorded. Dates relevant to documenting the pathway of each manuscript (which includes the stages of peer review) are listed in Table 3, although not all are necessary for any particular journal. Some of these stages are outlined more fully in other subsections.

Journal management systems

Manuscripts can be processed and tracked by journal management systems, suites of software that streamline the handling of papers by receiving submissions, recording dates, and providing other services (Table 4).

Nearly all large journals and publishers use these programs because they are efficient, relieving editors of a good deal of time otherwise required for documentation and for routine correspondence with authors and reviewers. Large systems can handle many manuscripts simultaneously.

All systems support much more than basic uploading and tracking of submissions. Typical programs facilitate correspondence between authors, editors, and reviewers, and provide forms for copyright and other purposes. Some include automatic updates to authors and others about manuscript status.

More complex platforms provide sophisticated interfaces for scientific editors, authors, reviewers, and copy editors. They also report and analyze journal statistics, and may include further analytical tools.

Table 3. Dates that might be used to track journal submissions. Many journals automate some of these processes through journal management systems. Most journals do not record (or even take) all of these steps.

Manuscript received
Simple acknowledgement of receipt sent to author
Manuscript distributed to associate editor(s) if required
Initial decision by editor about rejection or sending for review
Formal editorial acknowledgement sent to author, with initial decision
Requests sent to referees
Manuscript sent to referees who agree to review it
Follow-up for delayed reviews if necessary
Reviews received
Editor's review-based decision communicated to author (rejection, acceptance with minor revision, or need for major revision)
Revised manuscript received
Notification of acceptance, need for additional revision, or rejection, sent to author
If necessary, second revised version received and evaluated
Required documents received (copyright forms, etc.)
Accepted paper sent to press

The best systems have an author interface that is easy to use, a feature that does not necessarily depend on size or general capability. Systems also vary in how easily they can be used by editors, and—depending chiefly on their complexity—in how easy they are to learn. Apart from whether operation of the software itself is intuitive, user-friendliness depends on the clarity and degree of detail of easily available instructions, which can be provided to authors by the journal as well as by the software. Editors can learn from the software, from providers (e.g., Silverchair 2025a), and from publishers (e.g., Elsevier 2025b). The work of both authors and editors is more efficient when the system readily accepts integration with databases and other software programs.

Flexibility (with or without advanced features) is a great advantage, allowing different journals to use individual—and even custom—templates for correspondence, forms, and final manuscripts. Systems that that have only a few set formats might be easier to use, but they disallow some editorial preferences. Flexibility is especially useful when a journal adopts or changes a system, because pre-sets in the software may clash with established practices.

Advanced journal management systems can be set to flag faulty manuscript layouts automatically, and to recognize patterns that suggest plagiarism (using similarity-detection software). Several recent platforms detect additional potential problems by verifying researcher identity, and scanning for papermill characteristics, unusual terms, irregular publication patterns by authors, content potentially generated by artificial intelligence, and submissions lacking relevance to the journal. Most large publishers have

Table 4. Potential features of journal management systems, influencing their suitability for a particular journal.

Feature	*Variables*
Capacity	Number and diversity of manuscripts that can be handled simultaneously, speed of interface
Access	On-board or online platform
Tracking of manuscripts	Degree of detail, reliability of routine tracking
Routine correspondence	Suitability and efficiency of tools for authors, editors, and reviewers
Routine forms	Forms to satisfy editor or publisher requirements such as author copyright and payment
Additional communication for authors, scientific editors, reviewers, and copy editors	Tools facilitating interactions, such as automatic updates about manuscript status, completeness of submissions, and detailed revisions
Analytical tools	Relevant journal statistics, such as number of submissions, rejection rates, and turn-around times
Ease of use by authors	Simplicity of instructions, clarity of interface, ability to operate software without explicit instructions
Ease of use by editors	Clarity and convenience of interface
Ease of learning by editors	Degree of complexity, clarity of instructions
Integration	Ability to work with other software, such as word processors and databases
Flexibility	Diversity of formats allowed, for various elements (number of choices, or custom)
Automatic screening of manuscripts	Availability of tools to check for issues such as faulty layout or formatting, plagiarism, and dishonesty
Additional capabilities	Journal hosting, archiving
Robustness	Likelihood of technical faults
Security	Level of data protection
Customer support	Degree and promptness of technical help
Cost	High to low one-time or annual fee; or no cost

implemented in-house or stand-alone software with these capabilities (e.g., STM 2025) to maintain the integrity of their journals.

A few of the larger systems have additional capabilities, such as hosting a journal, or supporting archives of past issues or other records.

The best programs are robust technically and relatively forgiving, reducing frustration and failures. Long-standing systems that are used by many journals tend to contain fewer unwanted operational surprises. Advanced systems also have better security protections throughout. Nevertheless, desirable features like these, as well as some of the elements already discussed, are more common in systems that are very expensive.

Most large companies offer substantial support to customers, but it is more limited elsewhere. Despite the stronger support and wider capabilities of comprehensive systems, however, they tend to be harder to learn for editors and costly, so that they are worthwhile only for large journals, and for suites of journals produced by the same publisher. Simpler systems have fewer features and track manuscripts in less detail, but they are markedly less expensive. Open-source software is cost-effective too, but may require technical expertise. The type of journal (e.g., entirely online, or both online and in hard copy), and the number and diversity of manuscripts it receives, are other considerations in choosing a system.

The differences in journal requirements mean that many systems have been successful. Given the range of options, journals and editors are well advised to weigh multiple features and costs before deciding on a journal management system to best meet their needs. Ease of use by authors and editors, flexibility, and the automation of routine processes are among the most important.

Popular choices, most of them with diverse features, include [in alphabetical order] Bench Press (HighWire Press 2025), Editorial Manager (Aries Systems 2025), Editorial Office (Editorial Office 2025), eJournal Press (eJournal Press 2025), Manuscript Manager (Manuscript Manager 2025), Open Journal Systems (free: Public Knowledge Project 2025), PeerTrack (Knowledge Works Global 2025), ScholarOne (Silverchair 2025b), and Scholastica (Scholastica 2025).

Alternative packages are used outside biology (e.g., Editflow for mathematics). There are many other packages, which include free and open-source systems such as JournalXPress (Lumina Datamatics 2025). However, some of them have limited capability.

An informative way to evaluate all such systems—in addition to the parameters just described—is to assess the number, nature, location, and reputation of journals currently using the software. Many established companies list the journals that use their services, especially if the list is impressive. In contrast, small packages may serve only a few narrowly distributed journals in a single region.

Insight into commonly used systems is available too from colleagues who have used them, and from promotional materials on product websites. Some companies offer free trial versions for potential customers.

Given the demand for journal management systems, the industry continues to develop. New and upgraded programs are being introduced (e.g., Morressier 2025). ScholarOne Manuscripts was sold recently to Silverchair (which focusses on service to publishers), while Clarivate, the former owner, focusses instead on services to academic and government institutions.

Small regional journals and other publications that handle relatively few manuscripts each year may judge that the cost of a journal management system, and the time needed

to learn it, are not worthwhile. However, there are ways to substitute for some of the advantages those systems offer.

Submissions can be received by email rather than online, of course, and image or other files that are too large to transmit easily can be deposited in a free file-hosting service[4]. Word processors store correspondence and forms for routine use. Spreadsheet (or database) software can be set up to tabulate manuscripts as they are received and allow the progress of each one to be recorded. Simple spreadsheet formulae then allow handling times, rejection rates, and other statistics to be calculated if required. Computer alerts can be set to ensure that unduly delayed reviews are followed up. Screening of manuscripts by stand-alone plagiarism checkers is possible too (see *Plagiarism detection systems*).

Managing the peer-review process

Peer review

Scientific journals use peer review by qualified external referees to ensure manuscript quality. An editor's chief task is to organize this process to ensure that it is uniform and unbiased, and that all requirements are met in a timely manner.

Manuscripts should always be subjected to an initial judgment by the editor (or an associate editor) before they are sent for review. At this stage, submissions that do not meet journal guidelines because they are not relevant, have limited scientific merit, lack originality, or are shoddily written, for example, can be rejected. Less responsible editors waste the time of referees by asking them to evaluate or improve papers that superficial inspection would show are clearly inadequate. Nevertheless, if the research seems to be of interest but weak presentation hinders scientific assessment, the author might be invited to rewrite and resubmit the paper for potential future review.

After review, editorial judgments, based chiefly on the comments of referees, typically result in one of three possibilities: rejection; provisional acceptance pending minor revision in response to reviews [rarely, acceptance unchanged!]; or potential acceptance but major revision required, perhaps followed by re-review. However, if evaluations by the referees are strikingly divergent, the editor might decide—in fairness to authors—to seek additional specialist review(s).

Choosing referees

Referees assist the editor by evaluating and helping to improve submissions. Therefore, they should be fully competent to judge the papers they are asked to review, a qualification shown partly by their own peer-reviewed publications. Most editors work with associate scientific editors, whose wider range of expertise helps to ensure that reviewers are well chosen.

In addition to scientific competence, referees must be unbiased. Most editors try hard to assess possible sources of bias, although their efforts are not flawless because people's objectivity can be swayed in so many ways. Personality, personal knowledge of the

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[4] File hosting services store files, providing a way for multiple users to access them. Useful free services include Google Drive, OneDrive, and Dropbox. Some services create security or copyright concerns, however, because users are required to give the host a right to use uploaded content.

author, financial or academic influences, and political or religious beliefs are the main sources of prejudice or conflict of interest.

Given these requirements for reviewers, the review process is best served when the editor and associate editors are familiar with the work and personalities of many individual scientists[5]. For this reason, editors should retain adequate control of referee selection for each paper, and avoid giving undue credence to centralized referee databases. These listings are promoted by some journal management systems, but they tend to index subjects too broadly and to be incomplete or outdated.

Membership on the boards of journals often comes with an agreement to provide reviews. Because these referees are already committed, editors may be tempted to send them papers that are marginally within their field of expertise, or that cover too broad a subject. Searching more widely for suitable referees is preferable.

Liaison with referees

A review invitation shows that the editor recognizes the knowledge and judgment of the referee. Treating referees with respect and providing appropriate information makes their unpaid service to science more efficient.

Referees should be asked if they are willing to review a manuscript, rather than taken for granted by sending it to them[6]. However, sending abstracts at the same time allows an informed response.

Referees need to know what is expected of them. A few editors prefer to provide little guidance, lest they appear to undervalue the ability or experience of referees. However, a set of guidelines that is sent to every referee, under the auspices of the journal, is essential.

There are considerable differences from one journal to another in the breadth of the guidelines. Journals in health and life sciences, and those produced by medium or large publishers, tend to alert referees to the widest range of topics; even so, many of the guidelines would profit from updating (Malički et al. 2019). Given the differences among journals, an editor should ensure that referee correspondence generated by journal management software accurately reflects scientific guidelines for their particular journal.

Guidelines for referees can include the following elements:

Journal expectations. A condensed summary of the journal's guidelines for scientific content is needed, because—except for originality and scientific rigour—some referees will not be familiar with them. For example, each journal has restrictions or preferences for submissions such as conciseness and approach (e.g., theoretical, methodological, quantitative, statistical, or synthetic). However, referees should not be expected to read or apply all of the instructions available to authors.

General obligations. The role of referees is to help the journal and the editor, but also to help authors by providing constructive and informative comments that will assist their colleagues. Therefore, a summary of general obligations (including ethical requirements, see *Ethics*) belongs in the guidelines. Although reviewers are asked or assumed to consider the normal components of a manuscript such as text, figures, and

[5] The learning process is helped in particular by attending scientific conferences.

[6] Except for some editorial board members, perhaps!

tables, other facets that are seldom mentioned (e.g., keywords, format of complex data) may not receive critical evaluations.

Time frame. Requesting review by a certain date is appropriate, provided the interval is reasonable. A deadline also helps referees to decide whether to accept a particular assignment. Editors should have a plan to follow up with tardy reviewers, and might consider enlisting a replacement referee if there are extended delays.

Anonymity. Most journals assure reviewers that their identity will not be disclosed to authors. This policy is wise, because even the most constructive and measured review triggers personal animosity in some individual authors. Granting anonymity, however, increases the responsibility of editors to ensure that referees are unbiased.

Format of review. Reviewers should always be briefed about how to return their comments and recommendations to the editor. In my experience, asking for three separate sets of comments is particularly helpful: 1. General comments about the manuscript, suggesting how its overall content, structure, clarity, or other features might be improved, but also noting its strengths; 2. Specific suggestions to improve unclear or erroneous paragraphs, sentences, words, tables, and figures; 3. Confidential comments to the editor, and an optional recommendation, that will not be sent to the author. Separating advice to the editor from remarks sent to the author reserves to the editor an overall judgment and a balanced response. Otherwise, divergent referee opinions might confuse authors. Also, some referees lack the time or inclination to express their conclusions diplomatically! Their caustic opinions might then upset authors unnecessarily.

Liaison with authors

The review process is intended to be constructive and collaborative, helping authors and the journal to achieve the best results. Therefore, journals are best served by editors who are pleasant and supportive to authors. In contrast, a journal's reputation can be harmed by those editors (fortunately very few in number) viewed as arrogant or obnoxious by authors because they have acquired "hubris syndrome". By the same token, ethical behaviour is required of editors (see *Ethics*).

Even if submission and follow-up are handled automatically, personal communication with authors is important. In particular, conclusions and recommendations sent after peer review should adhere to a set pattern that is prompt, accurate, and collegial.

Although the process should be consistent, authors should be treated as individuals by avoiding "form letters" that are not universally applicable. Most helpful to authors are editors who not only send on the referee reports intended for the author, but also summarize requirements for revision after examining those reports and the manuscript itself. An author who may have spent months crafting a manuscript deserves to receive a thoughtful evaluation.

If only minor revisions are required, a covering letter from the editor might simply advise the author to make adjustments by considering the comments of referees, and perhaps draw attention to any more substantive queries or challenges. For major

revisions, the nature of the key changes required (without repeating referee comments) is helpful. If a paper has been rejected because it is not suitable for the journal, but otherwise appears sound, experienced editors might be able to advise the author how to proceed for submission elsewhere.

A deadline, albeit a generous one, should be suggested for the return of revised versions. The deadline might serve in planning future journal issues—and in encouraging the author to focus!

Editors are also responsible for dealing with disputes with authors, such as objections to the results of review—some of which have a valid basis. Editors must treat objections in a measured way, despite any temptation to issue combative or authoritarian responses, especially when authors have sent unpleasantly terse or defensive replies. A mechanism should be in place too to deal with disputes that cannot be resolved. Typically, an editorial board or publications committee considers appeals by authors who choose to escalate disagreements with editors.

Authors may object to format constraints imposed by the journal. Editors need to be flexible within the existing framework when necessary. For example, a particular paper might be more useful to readers if minor differences from normal layouts or text standards are allowed. An unusual table structure, or additional abbreviations to prevent excessive and distracting repetition, might occasionally be deemed worthwhile by the editor.

In addition to approving or rejecting submissions, editors may elect to edit texts in detail, in liaison with authors. This function is more often left to authors as they respond to reviews, and to copy editors for the journal, who are charged with making minor standardizations in texts that have been accepted.

Ethics

Editors, authors, reviewers, and publishers are expected to behave ethically. Ethical concerns are addressed by the Committee on Publication Ethics (COPE 2025), and the Council of Science Editors (CSE 2025b). Considered there are number of issues not included or treated in detail in this article, such as citation manipulation, censoring or editing reviewer comments, authorship, author disclosures (including the use of Artificial Intelligence), and retractions.

Editors oversee ethical requirements. Editors themselves must strive to make objective judgments about all submissions, and about subsequent corrections made by authors in response to review. At the same time, they check that contributions are original, have not been published elsewhere, and have applied appropriate principles with respect to the use of experimental procedures and the expression of opinions, for example.

Ethical standards for publication have been violated more frequently since the digital revolution, triggering the development of increasingly sophisticated software designed to detect unethical practices (see under *Journal management systems* and *Plagiarism detection systems*). These programs flag potential problems automatically (including dishonesty about the origins of a manuscript), and editors and reviewers use these and other methods to detect plagiarized text, inappropriately manipulated photographic images, and falsified data. Additional examinations may be necessary if editors or reviewers harbour suspicions about the content.

Formal instructions provided to authors normally include reminders about these and other obligations, including any potential conflicts of interest (such as commercial funding) that might generate concern about bias in the way results have been presented. Ethical and legal considerations for authors are discussed further by Danks (2024, pp. 36–40).

Editors expect referees too to be fair, respectful of authors, and free of bias. Submitted manuscripts are confidential documents while under review; included results or ideas cannot be used further; and reviewers should have no conflict of interest with respect to contents or authors (such as competition with the author of a manuscript they are asked to review). Most editors are aware of these and other potential ethical and quality-control problems that can arise during peer-review (see Smith 2006 for one critical viewpoint, albeit softened by an introductory comparison with democracy as *a system full of problems but the least worst we have*). The existence of many other articles, and even journals—such as *Science and Engineering Ethics, Research Integrity and Peer Review*, and *Accountability in Research*—reflects the difficulty of these issues.

Referees can be reminded about their ethical obligations (see *Liaison with referees*). However, reminders should be crafted with a light touch. Serious conflicts of interest are relatively rare, but a few journals issue instructions that are so heavy-handed as to be almost accusatory, and so may offend rather than encourage reviewers.

Finally, editors expect that publishers will honour the integrity of their journals and of science in general. Predatory publishers (see Danks 2024, p. 36) abuse these norms.

The many ethical and general responsibilities described above make editors powerful arbiters of the work of others. However, they are not infallible, and should be fully transparent about any significant errors they make, or that are introduced during the publication process. Prompt correction in the pages of the journal itself might be required.

Plagiarism detection systems

Plagiarism has been a continuing problem in scholarly publishing (e.g., Li 2012, Zimba and Gasparyan 2021), and many software packages are available to allow editors to check manuscripts for plagiarism. However, evaluating the various packages is difficult, and web reviews can be misleading[7].

Checkers are designed for different purposes, and also differ widely in coverage of potential source documents, as well as in technical capability, ease of use, and reporting.

[7] For example, web-search results are dominated by systems that advertise heavily. Several sites produced by different companies purport to review and evaluate different systems, but—unremarkably—they tend to show how their own software is the best, sometimes by omitting superior competitors. Some other sites list sponsored entries first, or merely rank systems by their popularity. Nevertheless, although most systems are targeted at students or instructors, the information available illustrates the range of options and indicates what parameters are likely to be relevant (e.g., GetApp 2025a, b, Scribbr 2025, Techradar 2025). Unfortunately, most academic analyses of specific software are relatively limited, or focus on how they work, how instructors use them, or how they influence students, for example. Moreover, the field is advancing so fast that comparisons may be outdated by the time they are published!

Most available systems, and reviews, introduce software designed to help instructors at academic institutions to discover plagiarism (and collusion) in student submissions, or to help students avoid plagiarism in their assignments (e.g., Turnitin Similarity [formerly Turnitin], Scribbr, Grammarly, and other grammar checkers). They are much less suitable for researchers and academic journals. Many have limited capability, and those made available free on the web—some of which offer paid premium versions too—normally have low word limits too.

Some other checkers focus on web content, serving chiefly to prevent duplication of material already online (e.g., Originality.AI); they are favoured by web publishers and content marketing agencies, for example. A few checkers identify mainly content generated by Artificial Intelligence (e.g., StrikePlagiarism). Many of these platforms are not really suitable for use by researchers and journals, which require software adapted for the purpose, such as iThenticate. In turn, the latter are not well-suited for use by instructors.

Plagiarism checkers detect similarity by comparing submitted text with databases of existing information. Similarities are recognized by complex algorithms that differ among systems according to their purpose and complexity. Simple systems have limited databases; better ones use large databases from multiple sources. The simplest systems identify only blocks of text that are identical with a source; more sophisticated software also recognizes when a block of text has been condensed or paraphrased using language patterned on the original (paragraph plagiarism), is composed of copied fragments (mosaic or "shake and bake" plagiarism), or has been taken from a foreign language (translation plagiarism), for example. Some checkers also indicate potential text problems such as inconsistent characters or metadata. Suspicious non-text issues can also be flagged (see *Journal management systems*).

Interpreting the results takes care, because similarity and plagiarism are not the same. Simple systems—including most free ones— merely identify the level of similarity, giving a raw "similarity score" that is likely to be misleading without additional detail. A proper report gives users the tools to identify sources, compare and evaluate matches, and exclude noise (e.g., Meddings 2011). Authors can modify specific similarities when appropriate.

Similarity can be high for a number of reasons apart from plagiarism. Larger databases generate more matches, whether significant or not. Ordinary text components, like direct quotations (even if credited), reference lists, footnotes, and citations, can artificially inflate the score. The best systems reduce false positives by recognizing and automatically excluding non-plagiarized components like these (with varying degrees of success), and by allowing users to remove selected items by applying filters or exclusions.

Some systems allow the number of successive identical words that they deem suspicious to be changed. Even high thresholds are exceeded by widely used phrases such as "Australia has been separated from other continents for millions of years", or "this species has a wider range than …", although adequate checkers automatically exclude most of them.

Overlaps of a few percent each with a large number of source documents give high total similarity but infrequently stem from plagiarism, whereas plagiarism is more likely

when the same score reflects large overlaps with only a few sources. Most reviews have significantly higher scores than typical specific research papers. When a given field uses standard technical terms and procedures, the methods sections of different papers resemble one another. Introduction, discussion, and conclusion sections normally contribute more similarity than results. In addition, innocent repetition can stem from overuse of everyday phrases, and from multiple items placed in a logical sequence (which is likely to mimic independent use by other authors), for example.

These factors may lead inexperienced users to over-rate the power of plagiarism checkers. A few journals even reject papers simply because they have a similarity score above a certain level, but their authors are being evaluated unfairly when software is used without informed judgment (e.g., Manley 2021). For example, authors commenting online have reported that their papers were summarily rejected because they echoed an uploaded pre-print, or material from the author's own thesis, and even because statements about copyright, conflict of interest, and other routine elements increased overall similarity but were not excluded by the software or by editorial review.

Editors should also rely on referees, and can remind them to flag potential problems. Moreover, expert judgments about the originality and potential impact of the work may be more useful than mindless text-matching alone. Reviews can have high similarity scores, but are worthwhile even though they use facts already available—duly accredited but typically not enclosed in quotation marks. Their value lies in revealing new patterns and synthesizing new ideas (not just repeating those facts), or at least in finding all of the relevant facts and organizing them intelligently in one place to support future work.

Despite the complexity of these issues, the choice of software by journal editors is simplified in two ways. First, many journal management systems used by large journals and publishers include plagiarism checkers (see *Journal management systems*), notably Similarity Check [formerly CrossCheck] available through Crossref[8]. Publishers also provide appropriate context and briefing for editors—although apparently not all editors have taken full advantage of these materials!

Checkers used by many journals, including Similarity Check, are based on iThenticate (iThenticate 2025a, b), which has overtaken potential competitors[9]. The software provides automatic avoidance of common false positives, user options to distinguish plagiarism from noise, side-by-side comparisons, and databases claimed to cover 244 million subscription content sources and 85,000 journal articles, more than 20 million open access articles, books, conference proceedings, pre-prints, encyclopedias, and abstracts, and 54 billion current and archived web pages.

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[8] Crossref (formerly CrossRef) is a non-profit organization supporting the research community. The services it makes available to members (mainly publishers and research institutions) include checking for plagiarism with Similarity Check.

[9] iThenticate is run by Turnitin, LLC, which has reduced the number of other options by purchasing competing platforms and then discontinuing them. For example, it took over and discontinued Unicheck (ending service in 2025), and Ouriginal [which itself combined Urkund and PlagScan] (service ending in 2026). Moreover, Turnitin's own products were simplified by eliminating separate databases for some of them. All or part of the extensive databases maintained by Turnitin are now used not only by Turnitin's own platforms Turnitin Similarity (for instructors), iThenticate (for researchers), and others, but also by checkers such as Enago and Scribbr.

A second simplification is possible because relatively few software packages are designed to evaluate research papers. No free system is close to adequate. iThenticate is effective, but is expensive for individuals (currently US$125 per manuscript). Alternatives that appear to be suitable for research papers have a relatively high cost too, or are less effective.

General opinion holds that iThenticate is better for the purpose than its competitors. Because it is widely available in academia, even small publishers should try to use it. If it is not available to the editor, for example, the responsibility might be transferred to an associate editor who does have access. The alternative, paying to screen each paper with iThenticate or any other kind of premium software, is too costly for small journals.

Editors may choose instead to check only those few papers that arouse suspicion from the editor or the referees. Alternatively, reasonably competent but cheaper programs, though using smaller databases or not specifically designed for researchers, can be enlisted with educated caution to supplement the findings of expert referees.

Journal content

Scientific editors can contribute to the general direction of a journal by shaping its content. Some editors act merely as gatekeepers to maintain quality, accepting any submission in the general subject area, provided it has adequate quality. Others restrict content by disallowing papers of certain types. Many prefer or even prescribe certain scientific directions, emphasizing subjects and approaches seen as influential or neglected.

Shaping is done most aggressively by a few multi-disciplinary journals that receive many submissions and consider the timeliness or popularity of a subject to be more important than the quality of a manuscript that meets minimum standards. Editors or editorial committees make these judgments, but caution is required because scientific topics, capabilities, and perspectives evolve over time. Work deemed "cutting edge" today might be viewed as a faddish trend tomorrow. The novelty of a technique might capture more attention than the enquiry that it supports. For example, more than a few of the papers that contained the first electron micrographs merely displayed them [*Look at those structures!*], rather than interpreting novel findings or addressing significant questions.

Even when the journal does not shape its content deliberately, however, editors should remember that current trends might sway referee judgments about the value of a particular paper.

Whether or not the acceptability of submissions is weighted, editors can try to attract, and even actively seek, additional desirable contributions. Experts can be invited to prepare reviews of appropriate subjects. The more targeted role of issuing invitations to selected authors for a thematic compilation (such as a special issue of the journal) is considered in the next section.

Editing scientific compilations

Compilations, or edited volumes, are sets of chapters or scientific papers for a book, the proceedings of a symposium, or the special issue of a journal. Editing them involves many tasks in addition to those just recounted for editing journals.

Sets of related manuscripts benefit science because they advance knowledge about a distinct theme of interest. That theme dictates the scientific content and how it is handled. In addition, a route of production has to be established early on to ensure that the project will be completed. Therefore, substantial planning is called for before any commitments are made. Furthermore, all steps have to be done within a reasonable time frame. Not infrequently, a project takes so long to develop that it is never completed, disadvantaging contributors and wasting resources. Most efforts that fail reflect a lack of planning. Limited editorial commitment or energy produces the same result.

Successful projects meet the requirements shown in Table 5.

Scientific concept and objective

Editors must be competent in the subject area, of course. In addition, editors should be able to manage the scientific demands of coordinating and publishing the volume, because there is much more to be done than inviting and editing manuscripts, both before and after they are submitted.

The paramount need is a coherent scientific approach. Even within a circumscribed subject area, a restricted focus is desirable. Assembling a set of pieces that are only vaguely related to one another is of limited use.

Second, products tend to be more cohesive if chapters take a limited number of forms. Narrow research reports, detailed descriptions, overviews, and synthetic reviews have a different structure, and many different approaches are possible too (for example, accounts of individual life cycles, habitats, ecological relationships, population structure, or ecosystem dynamics, as well as data sets, checklists, distribution maps, taxonomic revisions, technical information, methodology, image analysis, modelling, economic assessment, and recommendations for future research). Approaches can be mixed judiciously if they have similar aims, but making the volume cohesive will be more difficult. Unless such details have been decided early on, project plans and author briefings will be incomplete. Changes for greater cohesion will probably be needed, involving both authors and editor in additional work.

The same focus should be in place early on for the proceedings of symposia that might be published. Projects are more likely to succeed if general guidelines to facilitate publication are organized before the presentations themselves, rather than afterwards [*That was an interesting symposium. Why don't we invite authors to submit papers to publish together?*].

Commitment

Before authors are asked to undertake the work of preparing chapters, sufficient preparation must be done to ensure that a volume that is both feasible and useful to

Table 5. Requirements for the success of scientific compilations.

Element	*Requirement*
Scientific concept and objective	Editorial competence
	Focussed topic
	Effective approach(es)
	Relatively consistent chapters, ensuring a cohesive product
Commitment	Overall feasibility verified
	Detailed plan for writing, editing, production, and funding
Outlet and format	Type of publication
	Format requirements (including detailed agreement with publisher)
	Financial support
Key sections	Introduction, showing purpose of the work
	Individual contributions
	Synthesis with further analysis and ideas
Choosing authors	Relevant expertise
	Reputation for reliability
Briefing authors	Overall aim of volume
	Overall format (e.g., length)
	Costs if any, and benefits
	Deadline for submissions
	Estimated date of publication
	How submissions will be evaluated
	Content standards (e.g., definitions)
	Presentation standards (e.g., format for citations)
Editing and reviewing	
Overall fit	Scientific fit with aims of volume
	Possible adjustments to take account of the content of other papers
	Adherence to essential guidelines
Manuscript quality	Peer review (can be combined with review of overall fit if feasible)
Production	Careful check of proofs to maintain consistency
	Other editorial tasks depending on the chosen outlet
Indexing	Preparation of detailed scientific index, if included

readers will be completed. Assembling something by inviting authors and seeing what materializes, without a real commitment to proceed, is unlikely to yield a first-class product.

Such a strategy might also be dishonest. For instance, twice I submitted chapters by the deadlines to credible-looking volumes edited by senior American scientists. However, those editors failed to complete the predicted volumes—although one of them chose to cite my unpublished manuscript in their own work anyway!

I learned later that "fishing expeditions" are not uncommon, and projects may falter if some chapters are not submitted, if no adequate plans for a publication exist, if the priorities of the editors change, or if the proposals are largely intended to support a grant application, for example. Indeed, authors aware of those possibilities do not necessarily take invitations seriously, waiting to see what will happen before they prepare anything—thereby reducing even further the chance that a project will be successful.

Therefore, prospective authors should be told about the plan for publication, even if it is not consolidated or still depends on commitments from some of the authors. Authors also need to know whether final acceptance might be based on factors beyond the editor's control, such as financial support from an application still being evaluated, or subsequent evaluations by others.

Outlet and format

An outlet is crucial for every volume, and so a publication agreement is essential too, including any financial support as well as required organization. The editor is normally responsible for the overall logistics of this process. A volume that has already been partly written can rarely be placed successfully in either a scientific or a commercial outlet.

Several suitable outlets can be explored during project planning. A journal's editor-in-chief, publications committee, or publisher might be consulted about the option for a special issue of their journal, for which the compilation editor would deal with the papers as a guest editor. University authorities or funding agencies might be involved in supporting a publication. A department or society might be capable of executing all aspects of a project to make production feasible in-house.

A stand-alone publication by a group of organizers, including editor and authors, is possible too. Costs can be kept to a minimum when editors are experienced in copy editing and desktop publishing, and the work is produced in an online version only. However, although the advance of software has made desktop publishing a viable option, it is extremely time consuming for any editor who might undertake it. Ancillary help for production (including copy editing) might have to be arranged.

Approaches to commercial publishers are necessarily very different. Any proposal has to recognize that these businesses undertake only projects that they believe will be sufficiently profitable.

Establishing a route of publication early on is important because the route chosen may dictate the format of the work, such as the number, length, and structure of manuscripts, whether the book is indexed, and time lines.

Detailed planning for a specific outlet also establishes a relatively strict deadline for completion, helping to focus the work of both editors and authors. Missing the deadline might cause a commercial publisher to simply cancel the project, for example.

Organizational changes (cancellation of a journal, reduced funding) are more likely to overtake a project that is unduly delayed. An agreed-to deadline therefore makes it more certain that the volume will appear.

The compilation editor's opinion that a submission is suitable does not always guarantee acceptance. "Final" versions of the papers in a special issue might have to be screened again by the journal editor to check for compliance with stipulations specific to that journal. Commercial publishers insist on conformity with the terms of the contract, particularly with respect to the number of published pages, a major basis of their cost analysis for each project.

Therefore, during project development the editor must work closely with any journal editor or publisher. Early agreement about the content and aims of the work avoids problematic surprises, and allows authors to be told about any requirements they might not be expecting (see *Briefing authors*).

Key sections

Compilations focus on a significant subject by bringing together highly pertinent papers or chapters. However, the best ones also explain the purpose of the assemblage in an introduction, and include a paper or chapter that synthesizes key findings.

Introduction. The introduction shows the purpose of the volume and its scientific orientation, and might point out its origins. Ideally an introduction will give readers insight into the value of the work, perhaps by foreshadowing the synthesis. Simply listing the chapters, with or without authors, or just indicating the subjects they deal with, is less useful. The introduction can also explain definitions or standardizations that might have been applied by the editor to prevent different meanings in different chapters.

Individual contributions. To assist in the focus promised by the introduction, each chapter should fit into the whole. Invitations by the editor, and later comprehensive briefings (see below), help authors to prepare complementary and consistent chapters.

Synthesis. A concluding synthesis is highly desirable, because the point of a set of related chapters is not just to address the subject, but to make progress. If a volume simply assembles papers that could equally well be published separately, interested readers could find them by ordinary reference searches, just as they find relevant journal papers that are not related to others in the same issue.

A proper synthesis (in addition to the complementarity and consistency just noted) helps readers to profit from the collected knowledge of contributors. It can set facts and ideas in context, and draw out further conclusions and ideas. However, simply reiterating the topics dealt with, or condensing their abstracts without integration, is of little use.

Therefore, preparing the synthesis takes considerable effort. It is not an afterthought, but should be planned from the beginning. In most instances it would be written by the editor, as someone expert in the field and familiar with the included chapters. Moreover, during the review stages the editor would be able to write down notes to underpin a draft.

Choosing authors

Contributions must relate to the specific theme. Therefore, authors are chosen for how well they might be able to address that theme, rather than just for their expertise in the subject as a whole.

Some individuals are more likely than others to withdraw after initial agreement—often long after—and others rarely meet deadlines. If such traits are known, they may influence the choice of authors. Indeed, editing publications with large numbers of authors has been likened to herding cats: some run off in various directions, and others are hiding under the barn. As everyone knows, some cats are less responsive than others.

The authors of critical chapters in particular should have a reputation for reliability. A plan (including possible alternative authors) can also be drafted to compensate for invited authors who decline or withdraw, for chapters that are unduly delayed, and for chapters that are committed but never delivered. The back-up plan ensures that the integrity of the project will be maintained.

Briefing authors

Authors need clear guidelines about the current compilation, and not only the sorts of general instructions issued by journals. A document prepared for this purpose by the editor will be more reliable if, as outlined above, the focus and the outlet of the volume have already been determined. Scientific aims can then be specified, and authors asked what they might offer in this context. Alternatively, the editor can suggest a topic and approach.

The overall format of each chapter can also be specified, including the length (ordinarily given as the number of words), the nature and maximum number of figures and tables, and whether any ancillary data are permitted or required.

Any page charges or other fees payable by authors should be estimated. Correspondingly, benefits to authors can be identified (in addition to free publication, perhaps), such as electronic or hard-copy reprints, copies of the whole volume, and even honoraria in rare instances.

An estimate of time frames should include not only a deadline for the submission of individual manuscripts, but also an indication of when the work as a whole is expected to appear.

Authors need to know how their submissions will be evaluated, but should not receive promises that their work will be included without full review. Evaluations should always be done in the first instance by the editor, but contributions in most scientific compilations would also be subjected to external review (see *Editing and review*). Additional constraints might apply for a particular outlet, such as further screening by a journal editor, or the dictates of a commercial publisher (see *Outlet and format*).

Authors who have agreed to participate would receive more detailed information as they begin to prepare their manuscripts, emphasizing ways to ensure consistency. Additional thematic and content guidelines might be feasible once all of the authors and their topics are confirmed.

At a more mundane level, general standards for each presentation (such as the format of cited references) should be included in the detailed instructions, as a way to reduce

revisions. Typically, they would echo the sort of guidance to authors prepared by journals, although some stand-alone publications are formatted differently.

In summary, briefing authors with general information and content guidelines as part of initial invitations, and later with detailed guidelines, helps to make the volume more useful to readers, assists authors and editors, avoids misunderstandings, saves unnecessary work, and reduces the likelihood that manuscripts will be unsuitable, or will be withdrawn.

Editing and reviewing

The editor of a compilation evaluates papers in two ways, only one of which parallels the work of a journal editor.

Overall fit

The editor reviews the version first submitted to assess whether adjustments might be required to better meet the scientific aims of the work, maximize the value for readers, and make the volume as a whole easier to use. Of course, general advice about content would already have been sent to authors. Assessments of this sort are not required for independent papers in a journal, because they are not coordinated.

As noted above, potential ambiguities in the subject area would be known to the editor. They are best dealt with by providing relevant directions (e.g., fixed definitions for certain types of species ranges). Even so, drafts of chapters might later reveal that other definitions have been applied in different ways. The initial phase of editing and reviewing gives the editor an opportunity to standardize additional terms or groupings.

Unfortunately, some authors pay limited attention to the editor's carefully crafted guidelines! For instance, I once edited a work in which the length of chapters had to be restricted to make it feasible to publish the whole volume—but one submission was more than eight times longer than the maximum length suggested. Tactful correspondence was required to remedy this state of affairs...

Corrections in the interest of consistency, then, are critical for compilations, even though this requirement adds another time-consuming step to the development of chapters. Unfortunately, a project deadline is hard to meet for these works anyway because the date of completion is governed chiefly by the slowest contributor.

An obvious way to save time is to handle all manuscripts as rapidly as possible. Time can often be saved too if the editor shows an author directly what to do by changing the text (or part of it), rather than simply outlining or restating overall requirements. Indeed, editorial rewriting, to condense the submission referred to above to the length originally requested, helped the author to return a revised version promptly, and that chapter did not delay production. Such as outcome was important, because funds were in place for printing but would lapse if the book was delayed.

Manuscript quality

Whether or not they are destined for a journal, all submissions should also be reviewed in the manner of journal papers, as discussed under *Editing scientific journals*. In some instances, the editor might be qualified to do this at the same time as checking for consistency with the aims of the compilation. In other instances, a second stage of

external review might be necessary or desirable after initial revisions. Inviting some of those reviews from authors of other chapters, when appropriate, would be expected to foster cohesion in the volume.

Production and indexing

Depending on the publication outlet, the editor may have to deal with only a few aspects of production, or with many of them. Even when the volume is produced by others, however, the editor must inspect all proofs carefully.

A check of the proofs by authors should always be required too, but the editor's examinations are essential because many authors do not check their proofs meticulously. In my experience, typical authors miss at least half the errors in their proofs. Errors commonly overlooked include changes of meaning[10], not just minor matters of typography, spacing, or spelling.

Problems with the way the publication is laid out would also reduce the hard-won consistency of the submissions. The editor is familiar with every component, and thus is well placed to detect production deficiencies in the proofs.

An index may or may not assist readers, depending on the nature and aims of the book. The editor (again!) is best placed to prepare an index if necessary.

Editing newsletters

Editing scientific newsletters and bulletins is very different from editing scientific papers for journals or other formal publications. The content and style are less constrained; most newsletter editors actively seek content of various kinds; and some of them are responsible for producing the final document.

News sheets and similar short documents that update members about professional society activities are relatively easy to produce. However, the success of more extensive publications, especially new ones, depends on intensive planning and a great deal of continuing work.

Newsletters with wide coverage that attempt to engage general scientific audiences often resemble magazines, and journalists rather than scientists take the lead in producing them, even if the content is furnished primarily by scientists. The following treatment deals instead mainly with newsletters prepared by scientists to foster the interest of colleagues in defined subjects.

Elements of the operation are shown in Table 6.

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[10] Most such errors are introduced into digital text as copy editors modify English without subject knowledge or as they follow journal standards, and as printers reformat tables and captions to accord with page layouts.

Table 6. Features and requirements of scientific newsletters.

Aspect	*Components*
Orientation and title	Explicit objectives
	Receptive audience
	Informative title
Obtaining content	Written by editor
	Official contributions from sponsoring organization
	Volunteered by readers
	Actively solicited, based especially on familiarity with the interests of colleagues
Quality	Scientific validity of content
	Freedom from errors
	Editorial diligence and attention to detail
Consistency	Appropriate general layout
	Established production standards
	Editorial guidance to authors
Timeliness	Meaningful deadlines
	Punctual publication of issues with adequate content
Continuity	Long-term planning to prevent ever-diminishing content
Appearance	Attractive design, clearly laid out
	All issues neatly produced
Numbering	Sequential numbering for ease of reference (volumes, issues, and pages)
Images	Numerous
	Relevant
	Adequate quality
	In colour
Content	Sufficient variety (see Table 7)
	Recurrent features, including ongoing series

Orientation and title

A typical scientific newsletter aims to increase communication about a field of study, and thereby support it. The purpose and orientation are more or less specific and should be stated explicitly. However, a newsletter must deliver what the reader wants, because it will be successful only if recipients believe that it has value for them. Therefore, a newsletter must engage readers, not simply urge engagement!

Success also relies on a large enough pool of interested individuals. That pool may include not only people who are already committed to the subject, but also people who might develop an interest. Therefore, every vehicle has to be closely tailored to its expected audience.

A newsletter's audience does not necessarily have to be large. A special-interest publication reaches relatively few people, but the recipients are more likely than readers of a general publication to be active and engaged. If they find a newsletter to be useful, they will probably contribute to it.

For the same reason, a new newsletter should be given an appropriate name, because the title tells potential readers whether they are likely to find items of interest to them. A descriptive title (e.g., *Ant Notes; Arctic Insect News*; *Ontario Forest Pest Report*; *Bulletin of the [organization]*) is much better than an unfamiliar acronym (e.g., *NSANT*[11]) or a label not obvious to everyone (e.g., *Tibia*[12]).

Obtaining content

Most manuscripts are submitted to journals without prompting, so that journal editors are not forced to pursue authors. Newsletter editors, on the other hand, may have to seek much of the subject matter themselves.

Content can be assembled in four main ways. First, many newsletter editors prepare a substantial fraction of the material, especially when a new newsletter is launched. Invariable or occasional general items, as well as most listings of news and other current information, belong to this category. However, the editor will usually prepare articles too, some of which can serve to establish ongoing series that give the newsletter continuity and help to recruit other articles (see *Potential content* below).

Official summaries of professional society business, as well as a few general items, will come from society officers or others with allied responsibilities.

A third set of contributions comes from volunteers who send in material unbidden. Their interest in doing so is likely to be encouraged by a general but carefully crafted invitation in each issue. Establishing ongoing series is a good way to stimulate input of this sort too.

Fourth are contributions invited or actively encouraged by the editor. Again, it is easier to suggest topics and frame invitations when the newsletter includes continuing series or sections.

Readers have various motivations to prepare articles, and those triggers suggest how to seek their help. Most scientists are keenly interested in what they do, and want to share knowledge about their field. If someone shows interest, they might easily be encouraged to write about it. Others would be happy to give their project more publicity. Publishing newsletter articles that describe active fields of enquiry, or that give information about

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[11] This title does not refer to the ants of Nova Scotia, but to the fictitious *Newsletter of the Society for Advice about Newsletter Titles.*

[12] Many people seeing this title would know that it is something to do with insects (rather than orthopedic medicine), but would not know its actual purpose.

local projects and facilities, might help to recruit interested students or cooperators. Some of the resulting contacts favour the exchange of valuable samples or specimens. Graduate students may welcome a chance to expose their work to a relevant audience as they look for future employment opportunities.

Therefore, an editor's role in enlisting contributions from individuals relies partly on knowing the interests and personalities of other people in the field. These interconnections arise from contacts with colleagues, and more generally by attending conferences, for example. The value to journal editors of similar contacts—to identify and evaluate suitable referees—was noted in an earlier section.

Quality

Although newsletters are not subject to external review, scientific validity is necessary to keep the publication credible. Therefore, submissions still have to be vetted. Indeed, some authors give much less care to a newsletter article than they would to a paper, and do not necessarily take the time to verify everything. Editors should be on the lookout for careless errors.

That being said, the newsletter editor's role is not to revise or correct manuscripts in the way customary for journals. Nevertheless, submissions should be checked for grammatical and typographical errors, as well as internal inconsistencies. In addition, text will have to be adjusted to meet general newsletter standards (see *Consistency*).

Consistency

Tidy newsletters have an attractive and consistent layout (see *Appearance*) as well as error-free text in which abbreviations, citations, alternative spellings, numbers, and so on have been diligently standardized.

For most books and journals, standardizing text is the domain of copy editors, but typical newsletters rely on the editor to do this. The task is helped by including in every issue (or linking) clear guidelines for authors.

Timeliness

Deadlines for submission and publication should be strict. However, they will be meaningful—and taken seriously by authors— only if the newsletter appears regularly. Newsletters that arrive erratically, or that vary considerably from one issue to the next in number of pages or quality of articles, lose attention and credibility. Making sure that timely issues with adequate content will be feasible is part of the initial evaluation of any newsletter.

Continuity

Many new editors of newsletters and bulletins start with a blaze of ideas, but sustaining that level of content after the first year or two proves very difficult. Newsletters remain viable only if they have enough content and enough interested readers.

Sometimes the die-off is rapid. One institutional newsletter known to me began with an interesting first issue that was introduced with great fanfare. The second issue was limited and mundane. The third was so brief and pointless that no others were produced. Other

newsletters last longer, but their gradual and inevitable demise—as the editors run out of ideas—becomes evident to readers long before they stop.

Such declines make it hard to build readership. They damage the reputation of sponsoring organizations. Readers who have spent time preparing contributions for an issue that never appears are also harmed.

Therefore, a plan for at least several years should be in place. If that is not possible, a few stand-alone information sheets or booklets might be called for instead, avoiding a commitment that might later prove embarrassing.

When considering the launch of a new newsletter under my editorship—to reinforce the function of the Biological Survey of Canada—I decided to adopt the rule that unless adequate content could be identified for at least five years, the project would not proceed. That decision was based on whether a long and reliable list of potential articles could be generated by developing ideas in some of the categories shown below under *Potential content*.

Appearance

Modern newsletters need an attractive, professional-looking design. Nowadays, they must be illustrated (see *Images*). One dominant theme for layout and typography is that items have room to breathe, rather than being crowded in a monotonous array. Equally, however, a publication should not become too busy in an attempt to avoid monotony. Using a large number of different templates, fonts, and colours is distracting, even though digital tools now make that easy.

Numbering

Newsletters should be numbered serially for ease of reference. The best procedure is to number each annual volume, each issue within a volume, and each page within an issue.

If there is more than one issue per volume, pagination should be continuous throughout the volume, and not start again with each issue. Numbering every issue from the first page may be more convenient for editors, but readers—and librarians—are disadvantaged. Indeed, journals and some other publications routinely delete issue numbers from citations, which are then ambiguous if more than one issue in a volume has the same pagination.

Images

Images make the newsletter attractive, provide context for articles, and impart information efficiently. Therefore, editors should think constantly about how to add illustrations of high quality. Ideally, authors would be persuaded that including images is the normal expectation except for brief or routine items. Online newsletters can make extensive use of colour, because they do not require expensive colour printing.

For each article, appropriate habitats, people, species, equipment, etc., can be illustrated. In addition, thematic illustrations, thumbnails, silhouettes, and icons serve to highlight sections or to draw readers towards a subject before they read its title. Small subject-related images can be used as fillers to help in laying out pages.

Potential content

Potential content items for newsletters are listed in Table 7. Not all are feasible or appropriate for any given newsletter, because the orientation of the newsletter and the interests of the editor determine which ones are worthwhile. In all instances, however, compiling a list of this sort helps the editor to identify items that are both feasible and certain to appeal to readers.

A diversity of content increases the audience, because readers with different interests, experiences, and perspectives are likely to find something that engages them. Coverage should be relatively wide as well because the narrower the scope, the harder it is to secure enough articles.

Features that appear routinely provide context. The table of contents should be clear and easy to follow, preferably with internal links for an online format, so that readers can move easily to the items of most interest to them. Stating the intent of the newsletter also orientates readers, and can be echoed in an item soliciting contributions, together with suggestions for specific articles likely to interest both potential authors and readers. Outlining newsletter standards in detail prevents unnecessary work by authors and editors. Providing relevant addresses allows interested readers to contact the editor or the organization.

An editorial can be included. It might briefly highlight topics in the current issue, outline recent news from the sponsoring society or other group, and perhaps note developments with broader implications, for example. Longer editorials should offer something that readers (and not just the editor!) will deem worthwhile. Details about each contributor provide context too. They can be offered alongside each article—or in a list—with or without biographies, current interests, or other characterizations.

Other items serve to give general information. Some of them encourage response or action from recipients in the form of data, specimens, cooperation, resources, and so on.

A newsletter's distribution list would support communication among readers. However, personal details are very rarely included these days because of concerns with privacy and the harvesting of contact information for unwanted or harmful purposes.

Most general items should not be unduly long or elaborate, because the reader is likely to regard scientific articles and news as more interesting. This stricture applies with particular force to questionnaires.

Short specific news items are an indispensable component of every newsletter because they widen the range of content of interest to readers. They also allow each issue to have a less severe appearance, because pieces suited to rapid reading can be interspersed among longer articles. Candidate items include news about the subject area, the people involved, matters that are receiving public attention, and recent publications, including books and theses. Compiling lists of forthcoming conferences, workshops, courses, and exhibitions also draws attention to activities in the subject area.

Specific guidelines are advisable for book reviews, which otherwise tend to be unduly variable. In particular, it is wise to provide maximum and minimum length limits, forestalling potentially awkward correspondence with some authors!

Opportunities for study or employment were once commonly published in newsletters. However, these notices are worthwhile only if they are timely, a need that cannot be met when newsletters appear infrequently. Moreover, most opportunities can now be found

Table 7. Potential content of scientific newsletters.

Essential items

- Table of contents
- Intent of newsletter
- Invitation for contributions
- Standards for contributions
- Deadline for submissions for the next issue
- Contact for contributors (editor)
- Information about organization producing the newsletter
- Contact for that organization if relevant

Other context items

- Editorial
- Details about contributors

General items

- Resources available
- Requests for material or information
- Cooperation offered
- Official notices from relevant regulatory authorities
- Membership appeals
- Content or key content of previous issues
- Questionnaires
- [Distribution list]

Current news and compilations

- Recent news/ News briefs/ Notes
- People in the news/ Personalia/ Visiting scientists
- News from different regions
- Biographies
- Species in the news
- Selected recent publications (list)

Current news and compilations *(continued)*

- Book notices (titles, with or without brief content details)
- Book reviews
- Selected web links
- Social media news
- Relevant political developments (e.g., government policy statements)
- Recent theses
- Selected future conferences
- Workshops, courses, and other events
- Public exhibitions
- Opportunities for study, research, or employment
- Grants available
- Obituaries

In-house items

- Society officers
- Membership information
- Committee reports
- Governance reports (e.g., Treasurer)
- Minutes of board meetings
- Announcements
- Candidates for election
- Awards available; awards given; recipient biographies
- Conferences being organized in-house
- Reports about in-house conferences
- Database updates
- Communication avenues (e.g., social media)
- Donations

Series

- Specific articles with a continuing scientific theme (by subject, region, taxon, etc.)
- Research projects
- Techniques
- Noteworthy institutional facilities (e.g., collections, laboratories, field stations)
- Teaching insights
- Student news and information
- Interesting or unusual images with detailed explanations
- Submitted photographs
- Opinion page

Individual articles

- Regular articles
- Feature articles

Ancillary content

- Quizzes
- Challenge photographs (*Identify this image*)
- Selected quotations
- Cartoons
- Crosswords
- Tips and tricks
- Items for sale
- Thematic images and icons
- Infographics
- Fillers (e.g., images)

online. Nevertheless, an occasional listing of links to selected websites, such as job aggregators that facilitate keyword searches for specific openings (e.g., Government of Canada 2025), and contact information for potential study opportunities, are appreciated by some readers.

Preparing news items should not be undertaken casually. Most sections that purport to alert people to current events (such as conferences) are not much use unless they are reasonably complete and up-to-date for the subject area of the newsletter. Although the sections may include information invited from readers, those contributions will not be sufficient on their own, and the editor will certainly have to work diligently to find other relevant news.

News about "in-house" developments—policy decisions, committee reports, minutes from the governing body of a professional society, and so on—are normally contributed by others, delivering content with little action by the editor. Many of these documents are lengthy but contain details of narrow interest. Therefore, a summary of important points is often appropriate instead, particularly if (as is common nowadays) the full documents are accessible online.

In-house efforts that increase the profile of the organization are likely to be of wider interest and deserve greater exposure. This category includes conferences operated by the organization, awards it sponsors to recognize merit or support study, and web platforms and other means to enhance communication.

Although brief and routine items bring a diversity of interesting content, in-depth scientific articles are essential too. In particular, recurrent series that address topics of interest to recipients add to the quality and value of the newsletter. Their content can be volunteered, invited, or written by the editor. Depending on the newsletter, distinctive faunas, physiological adaptations characteristic of an area or habitat, research expeditions, striking species, feature locations, summaries of relevant history, unusual or noteworthy events or findings, and many other topics can serve as continuing themes of interest.

Less extensive subjects (e.g., techniques, facilities, and notes about teaching) can also be addressed. Devoting space regularly to the interests of students is especially worthwhile. A section seeking controversial opinions is worth considering, but only if it will attract a number of contributions.

Although ongoing series are a good way to stimulate contributions, most editors also try to secure individual articles. Long or striking "feature articles" can be highlighted on the cover, in an editorial, or elsewhere, serving to alert readers—and perhaps encourage further articles of that type.

Some readers find ancillary subject-related items interesting, depending on the nature of the newsletter and the personality of the reader. Quizzes, selected quotations, poems, cartoons, or crosswords can be included. However, these creations are worthwhile only if they are of high quality: some of them require considerable skill as well as application. People with recognized literary or artistic skills might be enlisted.

Products for sale (publications, as well as calendars, t-shirts, etc.) can be advertised, although more to promote the organization supporting the newsletter, perhaps, than to generate revenue.

Last but not least, ancillary illustrations (beyond those associated with articles) draw interest, add appeal, and help in layout (see *Images*).

A newsletter editor should attempt to maintain, and even extend, a list of possible contents (such as those shown in Table 7). More specific ideas for each category can be added. Keeping an active list reminds the editor how new material might be found, and how potential authors might be approached for additional articles. An editor who is keenly interested in the subject and communicates constantly about it with a variety of colleagues is best placed to become aware of promising topics and identify possible authors.

Conclusions

The editors of scientific publications support the transmission of scientific findings and ideas. Their work helps science by maintaining the quality of published work, and by stimulating and strengthening interest in various subjects.

Editors of scientific journals determine which papers will be accepted. They work with both the journal and the author to ensure that journal guidelines are appropriate and clear, and that published papers are scientifically rigorous and meet the goals of the journal. Detailed organization (often including journal management software to accomplish routine tasks) allows editors to keep accurate records and handle submissions promptly.

Editors are responsible for assuring the quality of papers through peer review. Treating authors fairly, evaluating their work objectively, and working with them to improve submissions requires thoughtful and positive communication, especially about changes deemed beneficial by referees.

Choosing competent and unbiased referees depends on knowing other experts in the scientific community. Information about individuals, including particular expertise but also other characteristics, helps the editor to judge their suitability for a given assignment.

Input from referees is most beneficial when they have been reminded about general obligations, and properly briefed about the journal's expectations and about the format they should use to return evaluations to the editor. However, referees should never be sent substandard manuscripts that should already have been rejected by the editor.

Last but not least, scientific editors check that ethical standards are met by authors, reviewers, and publishers—as well as themselves—with respect to objectivity, originality, quality, honesty, and confidentiality. Plagiarism detection systems can serve to check manuscripts, but are effective only when fully understood and carefully used.

Editors of scientific compilations evaluate the quality and acceptability of individual submissions in the same way as journal editors, but there are many additional requirements.

Two elements are critical. First is a clearly defined scientific aim that focusses on an interesting topic, because the subject will be advanced most effectively by a coherent volume that integrates complementary individual contributions. A mere collection of

disconnected chapters is of little use. Second, a comprehensive plan to assemble, edit, and produce the work from start to finish ensures that the project will be completed.

Early requirements reflect these key elements: a worthwhile topic; reliable authors who can address it; a guaranteed outlet (journal issue, proceedings, book, desktop publication, etc., with necessary funding from authors, publishers, or other sources); an agreement with the publisher about the nature of the work; and firm but reasonable time lines.

Potential authors should be advised about all such logistics, and also fully informed about overall scientific aims. Later briefings should include more detailed manuscript requirements. Subsequently, careful editing and review improves the quality of the volume by ensuring that each chapter accords with the specific scientific aims as well as meeting general scientific and format requirements.

A compilation is more valuable when its purpose and structure are outlined in an introduction, and when a closing synthesis integrates and expands on the individual treatments. These additions are usually prepared by the editor. The editor would normally prepare an index too if one is required.

Finally, whether the editor is heavily involved in production or merely checks proofs, continued diligence in the closing stages prevents avoidable errors in the finished publication.

Editors of scientific newsletters seek diverse, relevant, interesting, and illustrated content that communicates effectively with the target audience. Readers appreciate newsletters that include a range of features: short news items with current information; longer scientific articles in the subject area; and content of a more general nature. Assembling news items involves particular initiative by the editor, because only a few fragments of that sort are likely to be submitted by readers. Indeed, a typical editor spends considerable time compiling, inviting, and writing content.

The burden of finding and preparing material for each issue can be eased by maintaining a detailed list of content ideas. Among them would be items that are repeated more or less unchanged in each issue. Continuing series are also an asset because they allow future articles to be developed or invited without having to think of totally new topics each time. Moreover, readers might be stimulated to contribute to one of the series, with or without prompting. Editors are especially likely to discover additional topics and potential authors when they are actively involved in the subject, communicate regularly with members of the scientific community, and know the specific interests of colleagues.

Many other characteristics of newsletters matter in addition to the content. A newsletter should have an attractive appearance and balanced layout, and be well illustrated. It should be published regularly and on time, with adequate content in every issue, and text that is error-free and carefully standardized. The title should clearly indicate the nature of the content.

Therefore, the decision to start a newsletter should not be taken lightly. Substantial ongoing work will be required to maintain it. Newsletters that exist only briefly, or are limited, boring, or sloppily produced may diminish rather than augment not only the credibility of the parent organization, but even interest in the subject itself! If the feasibility of a continuing newsletter is in doubt, producing a small number of independent information booklets might be a better alternative.

In summary, scientific editing of journals, compilations, and newsletters takes diligence and concentration. Projects completed on time and with good quality come from simultaneous focus on five main objectives: to add to knowledge and advance science; to ensure scientific rigour and integrity; to organize thoroughly so that no essential step is overlooked; to interact with colleagues in a respectful and cooperative manner; and to pay attention to details, even minor ones, to ensure faultless production. Any one of these tasks that is not done adequately detracts from the quality of all the others.

Indeed, all complex tasks succeed only as a result of methodical attention to every one of their components. That conclusion is universally understood for highly publicized endeavours like launching a spacecraft, making a feature film, or constructing a bridge. Constant detailed attention is equally necessary for writing a scientific paper and—as explained here—for editing a scientific publication.

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[All web links were verified on 24 April 2025]

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