NO 1. WRITING AND PUBLISHING
Part 3: Selecting a Journal

Choosing a journal for your article is a decision that will determine whether your research manuscript will be published, what it will look like, and who will read it. It can also influence people’s impressions of your abilities. There are many different questions to be answered and variables to consider when selecting a journal. In this installment of Map & Compass, we’ll review these issues with you.

When should you choose the journal?
We recommend that you make a tentative decision as to where you’ll submit your manuscript as soon as you start writing. This is because each journal has a somewhat different format. Knowing that format will help you to avoid unnecessary work later, since from the start you’ll be able to develop the document based on the specifications of that journal.

What type of article do you want to publish?
When selecting a journal, the first question you’ll need to answer is what sort of research article you plan to write. There are three main types of papers and since not all journals publish all types, this may limit your choices. The three are types of articles are:
**Full-length research articles:** The majority of research articles published fall into this category. These articles contain a comprehensive investigation of the subject matter. As we’ll discuss in future installments of Map & Compass, such papers are almost always divided up into four major sections: Introduction, Methods, Results, and Discussion. Not only are full-length research articles the standard type of papers that journals publish, they’re usually the most important form of publication in the views of tenure and promotion committees in research-oriented environments such as universities. Therefore, if you aspire to become a tenured faculty member in neuroscience or other natural sciences at a research-oriented institution, your curriculum vitae should be composed primarily of full-length articles.

**Short communications (also called brief communications):** These are shorter research articles that are not as comprehensive in scope as full-length research articles, but nevertheless contain information that makes a significant contribution to the literature. They may be only 2–4 pages in length (usually <3500 words), may include just 1-2 tables and figures, and may mix methods, results, and discussions into a single section. Not all journals offer this option. Short communications can be useful for small but important pieces of data that can stand alone, but beware of building a curriculum vitae that has a lot of short communications.

**Rapid communications:** These articles quickly disseminate particularly “hot” findings, usually in a brief communication format. Articles that have immediate implications for public health would be appropriate for such a format, as might findings in a highly competitive and quickly moving field. Not all journals publish rapid communications. As in the case of brief communications, don’t let this type of article make up the majority of your publications.

**Look at the Instructions to Authors**
A description of the types of articles a journal publishes as well as a good deal of other useful information can be found in the “Instructions to Authors” for each journal. This important document often specifies the length of each type of article that is accepted, the length of the different sections, the maximum number of tables and figures, the abbreviations that can be used without defining them, the format for references in the text and in the bibliography, and other information on formatting your manuscript so that the journal will consider it for publication.

Where can you get a copy of the journal’s Instructions to Authors? This document is usually published in the first issue of each volume of the journal. (Often this appears in early January of a given year.) Alternately, many journals now place their Instructions to Authors on the web. For example, see the instructions for Neuron [http://www.neuron.org/misc/authors.shtml] or for the Journal of Neuroscience [http://www.jneurosci.org/misc/itoa.shtml]. Be sure you get the most recent instructions – they often change.
Consider the critical variables
There are many variables to be taken into account when you select a journal. The major ones are language, focus, availability, reputation, format, appearance, time-to-print, and charges. Each of these variables is discussed in depth below.

It’s likely that no single journal will have all of the features you are looking for, so you’ll have to determine which features are the most important to you and which you are willing to compromise on. However, having said that, there is one essential feature that you should not compromise on – manuscripts must be peer reviewed for publication if they are to be considered research articles. If the journal you’ve selected doesn’t use this process, find another journal! (See Writing and Publishing, Part 1 for a discussion of this point. [Part 1]).

1. Language: The choice of what language you publish in will have enormous consequences for whether your article is read. Research is done and discussed in many different languages, but one language has become the dominant form for international scientific communication. For better or worse, that language is English. The impact of this is that if you’re interested in communicating your results widely to the international scientific community, then selecting a journal that’s published in English is essential.

We realize that there may be good reasons for publishing in a language other than English. For example, a record of publishing in the dominant language of your country may be important to your career. But it may also hurt – so seek advice from knowledgeable people at your institution. Also, if you’re working on a disease that primarily affects individuals in a particular region of the world, you might want to publish in a language read by people working in that region so that the information will be readily accessible to them. But again, beware because you may later wish to apply to another part of the world for a postdoctoral position, a job, or a grant. In that case, your application will be evaluated in part by looking at your papers and/or based on advice from senior researchers from around the world. If so, a curriculum vitae composed primarily of articles written in languages other than English may be an impediment. Finally, keep in mind that an article published in one language then translated and published in a different language is considered a duplicate publication. Unless done with permission of the editors of both journals and clearly indicated in the second journal, such a practice would be considered unethical (see Part 1 [part 1]). So think through the implications of the languages you could publish in, and then choose very carefully.
2. **Focus:** What type of research does the journal focus on? Is it broad or narrow? Which disciplines are represented? What’s the journal’s orientation – for example, is it clinical or basic, theoretical or applied? This issue is somewhat less important than it used to be since so many of us determine what we will read by doing computer searches based on key words. Nevertheless, there are certain journals that most people in a field automatically browse every time a new issue comes out.

Do you always have to publish in the journal that matches the topic of your article most closely? No. Publishing your paper in a different journal may help to signal the relevance of your work to the fields normally covered by that journal even though it might not be obvious from the title. For example, you might wish to publish a basic science article in a more clinically oriented journal in order to emphasize the clinical (or “translational”) relevance of your work. But be careful: Publishing your paper in an unusual place can also bury it!

3. **Availability:** For people to **read** your article, they have to be able to **find** it. In judging a journal’s availability, you’ll want to ask yourself several questions:

   - **Is the journal accessible?** How many libraries subscribe to the journal? How many individuals? These numbers can vary widely. For example, some journals may have a library subscription base of less than 500, and no personal subscriptions at all; other journals are present in virtually all libraries and have well over 250,000 personal subscriptions.
   - **Is it included in electronic databases?** Is the journal indexed in the relevant electronic databases (e.g. Medline for biomedical sciences)? Electronic searching of the literature is now the norm. Individuals should be wary of publishing in journals that are not indexed.
   - **Is it also available on-line?** Does the journal have an on-line version? This provides individuals (at least those with personal or institutional subscriptions) with quick access to the publication and may also offer hypertext links to other articles of relevance. They, too, are becoming the norm. But beware of publishing your work in a journal that is only available on-line and not in print (see below).

4. **Reputation:** You’ll want to publish your article in the most prestigious place it will get accepted. How do you determine a journal’s reputation? Here are some ways:

   - **Who reads it?** Ask established colleagues in your field which journals they regularly read and respect. Most will have a short list of top (“high profile”) journals, a somewhat longer list of acceptable journals, and then journals they feel are below acceptable standards for them.

   - **What’s the journal’s acceptance rate?** Is the journal very selective, or do they publish most of the manuscripts that are submitted? On the other hand, are the standards so high, and thus the rate of acceptance so low, that you’ll be wasting time submitting it to that journal? You can sometimes determine acceptance rate by contacting the editors; in other cases you’ll have to ask more experienced researchers for the general impressions.
**Who’s on the Editorial Board?** The better the journal the more easily the publishers can attract top-notch scientists to serve on their editorial boards. Do you recognize the names of the people on the board? Are they well thought of?

**What’s the journal’s “impact factor”?** A journal’s “impact factor” is an annual measure of the extent to which articles in that journal are cited. It’s a rating that’s calculated by the Institute for Scientific Information [http://www.jcrweb.com/](http://www.jcrweb.com/) and published in an annual volume of the Science Citation Index or on their website (see above). It can be used – with caution – as a rough measure of the reputation of a journal. The rationale behind the system is that the higher the impact factor, the more important the journal. But the ratings are not entirely accurate. For example, review articles get cited a lot, and so a journal that publishes a lot of review articles will have a very high impact factor. This can be clearly seen in the 1999 ratings for journals in the neurosciences: *Annual Reviews of Neuroscience*, which publishes only review articles, has the highest impact factor (see table).

Likewise, papers that describe a new method may get cited a lot. As an extreme example, take Oliver Lowry’s paper on “Protein measurement with the Folin phenol reagent.” Since its publication in 1951, it has been cited more than 250,000 times! One other issue that complicates the interpretation of impact factors is that they’re a measure of the impact of a journal’s articles on all publishing scientists in the world. Journals that serve a relatively small readership, for example those focusing on issues of concern to a relatively small geographic region or a small sub-field of research, will by definition have a small number of readers. Consequently those journals will have low impact factors, even if all the articles in them are of exceptional quality and of great value to their audience. Thus, we use impact factor as one indicator of reputation, but wouldn’t advise relying solely on it. On the other hand, even if you don’t use impact factors as a way of selecting your journal, don’t be surprised if people do when evaluating you!

**How long has the journal existed?** New journals get launched every year, and the survival rate is low. Even if they are successful it will take a few years before they are listed in most electronic databases. So, if you’re just starting your career, be wary of publishing in a new journal. Let more senior researchers be the pioneers.

**5. Format:** Make sure that the journal you select has a policy of accepting articles of the form (e.g. *brief communication, rapid communication, or full communication*) that you will be writing. On a related note, a few journals are now emerging that are produced only on-line, and no printed copy is available. Those journals – as well as the concept – may be so new that tenure and promotion committees will view them as less valuable than print journals. Until the community decides how it feels about this sort of publication, it’s probably best for junior individuals in most fields (with a few notable exceptions, such as physics) to let more senior colleagues do the experimenting here, as well.
6. **Appearance:** What format and style does the journal use for its text, including its style of citing references? Journals differ widely in the styles that they use: Typefaces vary, as does the way in which a journal cites references. For example, some journals cite references in the text by numbers (e.g. [37]), others by authors (e.g. [Fischer & Zigmond, 1998]). And the manner in which the references are provided also varies. There are some journals that provide full references (authors, title, journal, volume, pages, and year) in an alphabetic list, and others that provide only limited information (e.g. the first three authors, journal, first page, and year) in the order in which the reference is cited – this takes up less room but also provides less information to the reader.
Will you be including photomicrographs or other “half-tone” (continuous color) figures (e.g. Western blots)? Not all journals are capable of printing figures with a high resolution or in color. Also, consider whether your figures will be printed within the article itself or in a different section of the journal where all of the figures in that issue will appear. Finally, check the cost of such figures (more on this below). So take a look at several issues of the journals you’re considering and make sure that you’re comfortable with the way your article will appear when it is finally published.

7. Time to print: Obviously you want to get your article into print as soon as possible. How long will it take? Try to determine the time it takes for the review process and also how long it takes, once the article is accepted, for publication, before it appears in print. You can often figure this out by looking at articles the journal has already published. Frequently journals will list a “date submitted” and a “date accepted.” With these dates, and the date on the issue, you can calculate how long each part of the process typically takes. You might also want to consider whether the journal has an on-line component, and if so, whether the journal will post articles to that website as soon as they are approved for publication, even if the printed issue won’t be available for a while.

8. Charges: Unfortunately you won’t get rich by publishing research articles – at least not directly! In contrast to some types of writers, the authors of research articles are virtually never paid by the journal for their efforts. In fact, we often are required to pay charges related to the publication of our articles. There are a couple of types of charges: page charges and “plate” charges, i.e. the charges for color figures. Both types of charges are assessed by the journal to offset the cost of production.

Page charges are simply that – the journal charges a predetermined per page fee that is multiplied by the number of pages in the printed article. These fees can range widely. For example, *Nature Neuroscience* does not assess a page charge. In contrast, *The Journal of Neuroscience* charges a fee of $60US per page, and thus for an 8-page article the author would be billed $480. Plate charges are usually extra because color photographs are very costly to publish. Plate charge may be as much as $1,000 per plate.

Journals assume that authors do not pay for these charges from personal funds but instead use funds allotted to them by their institution or from research grants. If those funds are not available to you, indicate this in the cover letter to the editor that you send along with your manuscript. Many journals will waive these charges if they would represent a hardship to the researcher.
Submitting your manuscript
Later we’ll discuss the process of submitting your manuscript for publication. In the meantime, note that we’ve been talking about selecting “a journal” as opposed to a couple of journals. This is an important distinction. The convention adopted by the scientific community is that manuscripts can be submitted to only one journal at a time, and it is unethical to do otherwise. In fact, many journals require you to state in the cover letter that your manuscript is not under consideration elsewhere. Of course, if the journal rejects your manuscript, you’re free to submit it to another journal for consideration, but not before then.

Closing comments
Selecting the best journal can take some time – but it’s worth the effort. Keep in mind that it will affect whether or not your paper gets read, and often will influence how someone who is evaluating you will make an initial estimation of how good your research is. So you’ll want to give this decision considerable thought. Finally, consider the advice someone once gave to us: “If you don’t get a manuscript rejected once in a while, you’re not aiming high enough.” We heartily agree. Now, on to the actual writing!

References
2Institute for Scientific Information, Journal Citation Reports (1999), [http://jcrweb.com]

In two weeks: Part 4: Anatomy 1: The Introduction

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