

Principles of presentation: An instruction manual on formatting research papers to international standards

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Forward

I was an editor and university instructor for 20 years before moving to Mexico. During my 15-year tenure at CIBNOR, I edited over 1500 research papers and a few thousand other documents. One of my concerns was that most authors did not use the international (English) presentation and format style required by international journals and avoid the Latin America presentation and format style they are accustomed to. This is one problem that affects the chances of Latin American authors publishing in international journals, but it is one of the easiest to fix.

This instruction manual contains over 100 suggestions to correct this difficulty. I want students, particularly native Spanish speakers, to understand and use the international formatting and technical presentation when they submit papers to “international journals”. There are more than 20,000 journals that communicate with authors only in English, publish only in English, and require the international presentation and format style.

On average, during editing, I spent one hour converting Latin American practices to international practices. This problem is not restricted to Latin Americans. Students and researchers around the world engage in similar faulty presentation. These inconsistencies have several negative consequences.

1. Editing takes longer because there are many, usually more than 100 tedious corrections. This detracts attention from correcting English syntactic and semantic problems. Presentation problems are so common worldwide that one major publisher of scientific journals, in their *guides for authors*, allow authors to submit their initial version with “defective formatting”, but require correct formatting in the final version.
2. Journal editors and reviewers are forced to deal with these problems because most authors are not familiar with many of the international standards of presentation. While major publishers use dynamic software to correct most mistakes, reviewers resent the time they spend commenting on inconsistencies, which keeps them from giving full attention to their central concerns—understanding the research project, methodology, analysis, and conclusions.
3. After receiving several poorly presented papers from a specific region, journal editors and reviewers might develop a negative bias. I have seen examples of this. If you feel that journals have a bias against authors in your country, it probably results from receiving too many papers that were not professionally edited, including poor English expression and poor format presentation. From my experience in the United States and Mexico, I believe that authors not only overestimate their writing skills, they do not use international standards of scientific presentation. The main reasons for these deficiencies are that authors did not receive training in scientific writing at their universities, and they do not carefully follow the journal’s *guide for authors*. Most Latin American researchers are not aware that most journals have distinct and important differences in presentation.

This manual does not deal with writing problems, which together with presentation problems, account for about one-third of rejections. The remaining rejections are related to research and

analysis problems. This manual covers the field of “standard presentation”, the generally accepted way to submit a paper to a journal. This category of problems can be fixed more easily than other difficulties. Additionally, papers submitted without adhering to journal format style delay the review and publication process.

Very recently, a researcher reviewed a paper submitted to a very respectable journal. Here is the “thank you” e-mail he received from the journal editor.

Dear Dr. (*the reviewer*):

Thank you again so very, very much for taking a second look at this paper and for the stern notes to the authors on how to do things properly. It is so frustrating when authors do not listen and so important for reviewers to reinforce the rules. Usually, this is very effective for future submissions when they hear it from a reviewer.

Warmest regards,

(*the editor*)

Less than half of the principles of presentation in this manual are found in *guides for authors* or internationally recognized style manuals. Most *guides for authors* fail to explain some issues that should be addressed. This manual comes from my experience as an editor for over 25 years in a variety of organizations: a newspaper, a publisher of science journals, government agencies, companies, American universities, and CIBNOR.

In 15 years at CIBNOR, my most important tool for verifying details in a research paper was internet search engines. Internet search engines are the most important and easiest way to verify information. In the process of repeatedly verifying information, I found it convenient and essential to prepare *reference sheets*. My *reference sheets* contain lists of information that saved hundreds of hours by avoiding duplicating previous searches. The eight reference sheets I created are mostly one or two pages long. Two *reference sheets* are included in this manual. My most extensive *reference sheet* is a compilation of 99% of the companies and their headquarters city and trademarks whose products were used by researchers during my time at CIBNOR. This *reference list* is 14 pages. Every one of the more than 400 companies and their headquarters and trade names was verified by checking their websites. I may be the only editor who ever prepared such a list. Verifying facts is one of the tasks of manuscript and copy editors; it is not a responsibility of journal editors or reviewers.

Reviewers and journal editors evaluate a research paper at several levels. One is to assess the research objectives and whether the methods, results, and conclusions are justified. Another is to assess the clarity of English presentation and organization. They also look for other elements, especially novelty of the subject, how the findings contribute to future research or demonstrate something that was previously unknown or only suggested.

Verbal skills and writing skills are different abilities. Of the hundreds of Mexican students and researchers I met who speak English, only a few could write well. This would be a complicated matter to explain. In my experience as a teacher and editor, many native speakers of English are poor writers of their language. While there are many useful books on improving writing skills,

this is usually a long and dedicated commitment. In my opinion, if you cannot spend at least an hour a day over months, perhaps a year, with formal training, you will not improve writing skills. When students ask what they can do to improve their writing, my response is: “*Hire a professional manuscript editor.*” Professional editors, like doctors, lawyers, or auto mechanics, earn their living by fixing problems.

One trend I observed is that Chinese research papers have improved in English quality and presentation. Based on information from a few editors, I think most Chinese authors now use professional copy editors. Papers from China are the largest source of total submissions, as well as acceptable submissions at many journals. For Latin American researchers, unless English presentation and organization of presentation improves, they will continue to have difficulties publishing in international journals.

Lastly, I thank friends and associates, the students and researchers at CIBNOR who work so hard to communicate in English. Additionally, my understanding of the publishing process was greatly advanced by a few researchers whose communications with journal editors were shared with me. Lastly, I deeply appreciate and thank the Posgrado program at CIBNOR for supporting the only professional editing staff at any university or research institution in Mexico while I worked there. I have been very fortunate to have been part of the Posgrado program.

General advice

1. Write at the professional level and interests of your “audience”. In practice, your “audience” are two or three reviewers and the journal editor who evaluate your work. Usually, reviewers are experienced researchers in your field and have evaluated hundreds of papers. In special cases, such as when a paper by a well-known research is problematic, editors may use a selected number of reviewers who they trust will give a critical evaluation for rejecting a paper. Also, do not include information in a research paper that is common knowledge in your field. Common knowledge detracts from your message. Your “audience” are not the hundreds of students and researchers who will read your published paper. Your “audience” are the reviewers and possibly friends or associates in your line of research!
2. If you are a student and your paper is based on your thesis, avoid tedious conventions that are part of the thesis exercise. Limit your citations to the most relevant references. In a research paper, you do not show reviewers that you have read the entire literature. Also, do not include definitions. Mostly, definitions are a thesis formality that are not useful in a research paper. Most definitions, like common knowledge and too many citations, show that the student author: 1--has little experience preparing a *tightly written paper*, 2--cannot suppress the urge to lecture to their readers, and 3--has co-authors who are unable to critique the paper for presentation flaws. An exception to this advice is when the research is truly at the frontier of a field of study, where only a few researchers, worldwide, are involved. Most students do not do research at the cutting edge of research unless they are part of a cutting-edge team or has strong collaboration with other research teams.
3. Read the journal’s *guide for authors* and study a few published papers to understand how to format your paper in the style and layout of the journal. Do not use an online, early version of an accepted paper to study formatting.
4. Always use left-margin alignment. Never use justified margins (aligned on left and right sides). Justified margins are characteristic of the Latin American layout, which is not allowed in submissions to international journals. Justified margins, as seen in published papers, is prepared only by the journal, which is what you see in a published paper.
5. Within a section/subsection (heading/subheading), never separate paragraphs with a blank line. The beginning of a paragraph is indicated by indentation of the first word of the paragraph. There are two styles of indentation. In American formatting, every paragraph is indented. In British/European formatting, the first paragraph in a section/subsection is not indented. Study a published article to see the journal’s indentation style. The indented first word should be a default of about two centimeters, which is proportionately wider than the indentation seen in published papers.
6. Papers must be written in American English or British English, never mixed. The main difference between the two forms is spelling. For example, “mollusk” (American spelling) and “mollusc” (British spelling). Do not write any part of your paper in Spanish or “Spanglish”.

Mexican authors frequently prepare tables and figures in a mix of Spanish and English. Avoid Spanish from the very beginning. Even if a journal also publishes papers in Spanish, French, or Portuguese, they prefer English-language papers because they reach a larger audience.

7. To start a paper in English, use the menu bar to prepare the layout. Begin with <Review; Language>, then <Home; Paragraph>. The details in these two menu commands will cover almost everything you need to prepare the layout.

8. “Honorifics” are titles of persons (such as Dr., Prof., Sr., Sra.). Never use honorifics in research papers, neither on the *title page*, in the *acknowledgements*, or in the *text*.

9. Authors’ names on the *title page* **must take** the hyphenated form if both last names are used. Middle names are always initialized. First names should be spelled out. For example, María L. González-Jiménez. Some British journals use initials instead of first names on the *title page*. If the journal style avoids first names on the *title page*, they will initialize your first name. For authors who prefer to use a single last name, do not switch to your compound last name in future publications. Keep the single last name as your professional name. This will avoid being listed as multiple persons in the search engines. For authors with complicated first and last names, I recommend using a simple professional name. Hyphenated last names are only used on the *title page* and in the *references*. When listing persons in *acknowledgements*, do not use the hyphen. The student first author or the corresponding author should verify their co-authors names, preferably by e-mail. Never include an author without their consent. Do not assume you know how co-authors want their names written.

10. In cover letters accompanying the original or revised paper, only the person to whom the letter is sent receives an honorific, which always take the form: “Dr. Smith or Dr. García”. Do not use the honorific “Prof.” On a journal’s website, observe how editors’ names are listed. Use this name when writing to them. Some British researchers dislike having their first names known to the public. In correspondence to a journal, the corresponding author should not add honorifics or degrees to their own name. For example, use “Roberto J. García”, not “Dr. Roberto J. García, D.Sc.”. When submitting the cover letter, include the title and all the authors in the opening paragraph. Please be aware that everyone receiving a doctorate in the natural sciences or engineering in Mexico receives a D.Sc. (Doctor in science), never a Ph.D. Below is an example of a simple cover letter for a first-time submission, followed by a cover letter for submitting the revised paper.

19 March 2017

International Journal of Science Editing
Editorial Office

Dear Editor (or Dr. Smith):

For consideration in the *International Journal of Science Editing*, attached is the manuscript: **Preparing a manual on presentation style for international journals** by José García and Ira Fogel.

Our work contributes to an understanding of standards and practices for graduate students in Latin America who did not receive formal training in preparing manuscripts for scientific journals.

This paper has been edited to meet the formatting style of the IJSE. It has not been submitted to another journal. We hope that you will consider this paper for publication.

Best regards,
Ira Fogel

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19 June 2017

International Journal of Science Editing
Editorial Office

RE: IJSE 2017-234

Dear Editor (or Dr. Smith):

We are submitting our revised paper, **Preparing a manual on presentation style for international journals** by José García and Ira Fogel.

We have followed the recommendations of the editor and the two reviewers. Our responses to the reviewers' comments are attached to this email. Additions and changes suggested by the reviewers are highlighted in yellow. Deletions are not shown.

We hope these changes are satisfactory and our paper will be considered for publication.

Best regards,
Ira Fogel

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11. Avoid abbreviations of your own creation. For example, if studying fish diets, "Diet 1" and "Diet 2" are acceptable. Do not use "FMD" (fish meal diet) or "GFD" (grain feed diet). Abbreviations created by young research will confuse readers. Creating abbreviations is usually an unacceptable practice if you want clarity. Never use abbreviations for place names. Many abbreviations of chemicals are internationally known, such as DNA. These never need a definition. Some terms have two or three abbreviations in the literature. In your field, you should know what the variations are and use the most common form. If there are two or three abbreviations for a chemical or a term, check this in Google and Wikipedia to see if there is a preferred abbreviation. For example: "The protein, cytochrome c oxidase I (COX1), is encoded

by the MT-CO1 gene.” This protein is also abbreviated CO1 and COI, but these two are less common. Best to use the most common abbreviation, in this example, COX1.

12. Never use the <enter/return> key to reach the bottom of a page. Always use the <page break> in the menu bar to reach the end of a page and start the new page. A <page break> must be used to separate the *title page* from the *abstract page*, *abstract page* from the *introduction*, *references* from the *figure legend page(s)*, and each table and each figure from each other.

13. Add one blank line between the end of the last paragraph in a section/subsection and the next section/subsection heading. Avoid “orphans” (a title on the last line of a page). Add one blank line between a section heading and its first subheading. Add one blank line between each section/subsection heading and the first paragraph of that section/subsection. The heading or subheading font should be the style used by the journal. Study a published paper to learn the heading style of the journal. A few journals use “small caps” for headings, for example, “INTRODUCTION”. For this font, use <home, font, small caps> in the menu bar.

Title page

14. Consider your initial title a temporary convenience; prepare your final title after the paper is completed. The title should reflect only the paper's contents and results and preferably have an element of interest. Do not include taxonomic information, other than species names, unless the journal requires it or your paper is about taxonomy. Do not include the authority unless it is a stated requirement in the *guide for authors*. Keep the title at two lines or less.

15. The standard approach to listing authors' names is to include accent marks. A few authors who seek or already have international prominence may not include accent marks in their names. If you decide to remove accent marks from your name, stay with the professional name throughout your career. In most situations in Latin America, the accented name is required. However, if you use accents for some papers and no accents in other papers, be aware that search engines, such as *Scopus*, will read the names as the same person. If an author's name is in a script that is not a form of the Roman alphabet, the author will have an English spelling of their name. If a journal requests authors to include their honorific on the title page, I recommend looking for a different journal.

16. Names of institutions are usually in their national language, but researchers in several countries use the English translation. For languages that are not written in the Roman alphabet, there is always an official English translation. These languages include Greek, Chinese, Hindu, and many others. You will find the official English translation on the institution's website. Journals use superscript letters or numbers after the authors' names to indicate the institution where the research was done. Check a published paper to determine if the superscript are letters, numbers, or a set of symbols. If you use the wrong superscript, the journal or reviewer may suspect that your paper was previously rejected and you did not change the superscript.

17. The street address and city of research institutions remain in the native language(s), if the language is written in Roman script. The institute and address is the location where authors did their part of the study. Cities that are well known for hundreds of years have a standard English spelling and this must be used. However, for China, the capital city is Beijing (formerly Peking). In India, many cities have new official spellings. The best known is Mumbai (formerly Bombay). This rule also applies to cities in the *references*. For example, publishers located in famous cities (such as New York, Mexico City, Madrid, Berlin, London, and many more), do not need the country name after the city. However, country names are required on the *title page*. For addresses in Mexico, the "colonia" can be deleted. No one will send a letter by postal service to authors. All communications are by e-mail. Many journals do not want the street address of institutions on the title page, only the city. The one exception is the corresponding author. Information is provided in the *guide for authors*. Country names must be in English. Some examples: Mexico, Brazil, Colombia, Peru.

18. The title will always be in **bold** type and either in 12-point or 14-point font, usually in Times New Roman font. The entire paper, other than the title, is usually in 12-point font, although it can be as small as 10-point font. I recommend using 12-point font. Consider this option: At the

very top of the *title page*, center the phrase: “Submitted to: (followed by the name of the journal)”. If you are submitting a technical note, short communication, or review, this information should also be included at the top center of the title page. If you are submitting a revised paper, center the phrase: “Revised for: (followed by the name of the journal)”.

19. The layout of the *upper title page* (title, authors, institutions) can be in the layout style of a published paper, which may include bold and italic font and set at the left margin or centered. I think this degree of placement accuracy is unnecessary, but some journals want the *upper title page* to have their style. If this is the case, it will be stated in the *guide for authors*. By default, all elements can be left-aligned and in 12-point font. Most journals have dynamic software and a staff to transform your *title page* into their *title page* style. Journals published by some scientific societies or university departments (excluding university presses) have limited resources. For journals with limited resources, carefully follow the *guide for authors*.

20. The layout of the *lower title page* (corresponding author and full address and e-mail, and telephone number; a co-author’s new address if the author moved since the research was done) is always left alignment.

21. A short running title may be included in the *upper title page* or the *lower title page*. The *guide for authors* often specifies where the journal wants this information. There may be other information on the title page in the lower section, such as how many figures and tables, kind of supplementary materials, and a brief statement: “The paper was edited by a native English speaker who is a professional manuscript editor.” Be careful who you use to improve English expression. Many native English speakers are not qualified to do this. Editing requires writing skills at a high level. Also, it is becoming more common that journals want to know the specific contribution of every co-author to avoid academic corruption. The *guide for authors* will tell you where this information is placed. It may be in the submission letter or in a small section either before or after the *Acknowledgements*. For example: “Juan J. Valdez acquired samples and made all analyses. Ira Fogel wrote the paper, including the final version.”

22. The end of the title page is followed by a <page break>.

Here is an example of a title page.

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Submitted to: International Journal of Science Editing [1] [6]

Running title: Presentation principles

Principles of presentation for submitting a research paper

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Notes:

[1] The top line (centered) is not a requirement, but a suggestion. If the paper is a revision based on reviewers' comments, then the top line can read: "Revised for: International Journal of Science Editing".

[2] Superscripts after authors' names may be numbers, letters, or symbols, depending on the style of the journal. Check a published paper for the correct style. Using the wrong superscript style shows carelessness or suggests that the author is submitting a paper that was rejected by another journal and did not make the necessary changes.

[3] The corresponding author in the biological sciences is usually placed in the last position. If a paper is written by a student and publishing the paper is a requirement for the degree, the student's name must be in the first position. The order of names is usually decided before the research is completed and the order of names depends on the relative contribution of each author. On rare occasion, the order of names is changed or an author is deleted. This is a major complication for the journal and the corresponding author. Hopefully, changes are made before submitting the paper to the journal.

[4] Authors at CIBNOR in La Paz should use the shortened address, not the official address. This is a problem caused by a flaw in one of the major science search engines. When writing the name of an institution in Mexico, do not add its legal designation, such as S.C., S.A., S.A de C.V. This is never part of an institution's name on the *title page* nor any other place in a research paper. All universities and research institutions, worldwide, are known by their "public names", such as "Harvard University" or the "University of Cambridge". For example, the legal name of Harvard University is "President and Fellows of Harvard College", and the legal name of the University of Cambridge is "Chancellor, Fellows, and Masters of the University of Cambridge". The legal name is never used in public communications.

[5] Some journals may request full addresses of all authors. Others require only the institution name and the city. The information for the corresponding author requires a complete address, but not the "colonia". Telephone numbers should include the national telephone code (+52 for Mexico). Check a published paper for the style of this information.

[6] Note that all lines (except the top line) have left alignment. This works for most journals. If the journal wants a different presentation of the *title page*, the information will be in the *guide for authors*. The layout of the submission is not the same as the layout of the published paper; the final layout is done by the printing department of the journal.

[7] Note that there is no comma or period after each author's address in the list of institutions.

Abstract page

23. The *abstract page* is a separate page. Do not merge it with the *title page* or *introduction*.
24. Carefully read the *guide for authors* for information to be included in the abstract. Avoid extended or overly broad statements that justify why you are doing this work. Abstracts are not intended to state general problems. A short statement of the problem is sufficient. For example, do not say: “Fish meal diets are very expensive and new diets must be tested and formulated.” Say: “A diet containing platyhelminths was tested against a fish meal diet to determine if juvenile fish have higher survival and nutritional content.” Note that this statement goes to the core of the study, including its novelty. Background is presented in the *introduction*. Do not cite references in the abstract.
25. Some journals use a different format for the *abstract*. A published paper will show you if there is a unique style of presentation of an abstract.
26. Keep details of *methods* and *results* out of the abstract. Keep the abstract short. Most journals have a word limit. Follow the instructions and after the last sentence add “(--- words)” to show the length of the abstract. Try writing the *abstract* on one page.
27. The *abstract* ends with a blank line, followed by *key words*. Read the *guide for authors* and study a published paper to see how the journal formats *key words* and the maximum number of *key words*. Many journals do not want words in the title to be *key words*. They will state this in the *guide for authors*.
28. Some journals request a list of abbreviations; most commonly, these terms are chemicals. The list of abbreviations may follow the *abstract page* or *title page*. Follow the instructions in the *guide for authors*.
29. The *abstract page* ends with a <page break>.
30. Elsevier journals require a separate **Highlights Page** containing three to five bulleted statements. Each statement is limited in the number of characters it can contain. One or two published paper will show you how statements are phrased. Nothing else is placed on this page. The *highlights page* ends with a <page break>.

Introduction

31. Do not start with a broad statement of a problem or condition that is already a universally known situation in your field; it will be a trivial statement. An example of a trivial statement is: “Aquaculture is the fastest growing segment of the food industry.” An example of a focused start: “With increasing demand for microorganisms to feed larvae and juvenile fish, we measured storage life and nutritional contribution of a platyhelminth as a substitute for brine shrimp.”

32. Never abbreviate place names. For example, if your area of study is the Gulf of California, use the place name in the *Title*, *Abstract* (only once), *Introduction* (only once), *Materials and methods* (only once). All other mentions should take the form: “the gulf”. Never use abbreviations, such as GC or GOC.

33. If your study focuses on methods or testing, do not include the location of the experiments in the title of the paper. For example: “A new method to measure lipid content to determine survival of juvenile bivalves receiving processed feed”. Do not add an unnecessary phrase: “... in Mexico.” Locations of experiments done in indoor laboratories is irrelevant to the outcome of the study, and the names of laboratories should not be mentioned. Locations of experiments done outdoors with direct sun exposure or in a greenhouse or shade house requires mention of location in *Materials and methods*.

34. Avoid excessive citations. Usually, the most recent two or three citations, the most relevant in this line of research are sufficient. A research paper is not a thesis. Do not mention the entire literature on a topic. If you have not read the paper you are citing, it is irresponsible to list the reference. If you did not cite an important reference, reviewers will bring this to your attention.

35. The last paragraph of the *Introduction* is a statement of your hypothesis—what you intend to do and how you will test the hypothesis.

36. Some journals do not use the section heading “*Introduction*”. In such cases, either use no heading or use the heading “[*Introduction*]” in square brackets.

37. The *Introduction* ends with one blank line separating the last line of the introduction from the *Materials and methods* heading. Never use a <page break> to separate a section from the following section of the *text*. [“*Text*” is the portion of the paper from the beginning of the *Introduction* to the end of the *Discussion*. However, there is no <page break> separating the *Discussion* from the *References*.]

Materials and methods

38. Units of measure, such as meters and liters, must follow the international system of metrics (SI). This always requires a space between the number and the unit. For example: 12 cm. There are several websites that list official abbreviations, including whether the unit symbol must be a lower case or capital letter. One exception to the SI is that most journals use capital “L” for liter because the lower case “l” resembles the number “1”. Latin American formatting does not include a space between the number and the unit; this must be avoided.

39. For very large numbers, most but not all journals use commas to separate every three digits. For example: 123,000,000. Most journals do not use the comma when the number of digits is only 4 digits: 1234. Check with the *guide for authors* or a published paper to see if the journal uses the traditional form or the space-separation form (123 000 000). International journals do not use the period for separating every three digits (123.000.000).

40. For very large or very small numbers with superscript notation, the superscript number must be a multiple of three. For example: 12×10^3 , 34×10^6 , 56×10^9 . The same holds for very small numbers: 12×10^{-3} , 34×10^{-6} . If your result is 7.8×10^5 , convert it to 0.78×10^6 .

41. Multiplication uses the “times” sign (\times) that is found in the menu under <symbols>. Do not use the asterisk (*) or the letter “x”. Subtraction is the “negative” sign ($-$) in the <symbols> menu. Do not use the hyphen (-). The division symbol is the forward slash sign (/) on your keyboard. Addition is the “plus” sign (+) on your keyboard. You can add the \times symbol and many other symbols to your keyboard if they are not already there. Most authors do not know how to add symbols and special marks to their keyboard. Find someone who can help you. It saves a lot of time to configure symbols on your keyboard. For example, a poorly written expression is: $W_1=(3A^2+4B^3-5C)*6D\div 7E$. The expression should read: $W_1 = [(3A^2 + 4B^3 - 5C) \times 6D] / 7E$. Note the important differences: Letters are in *italic* and all operations are separated by a space on each side of the operation. There are many websites that can help you design formulas. If possible, keep your formulas as simple as possible and on one line.

42. There are other symbols that are very common and should be added to your keyboard. One of the most important is the “degree” sign ($^\circ$), used for temperature, angles, and geographic coordinates. There is only one symbol for the degree sign in the <symbols> menu. All other symbols that look similar are accent (diacritical) marks. Two other important symbols are the “single prime” (') and “double prime” ("), used in geographic coordinates. Single prime is also used in amino acid start/stop sequences. Many authors are unaware of their mistakes in the use of symbols or how to program their keyboard with the <shortcut key> in the <symbols> menu. While most publishers automatically correct most of these mistakes with their dynamic software, authors do not leave a favorable impression with editors or reviewers for using the wrong symbols and metric expressions. Another symbol that must be used is the gravity force “g” (*italic*) when describing centrifugal force. The “rpm” abbreviation is not acceptable for centrifugal force. The “rpm” is used when describing stirring of flasks containing microorganisms in media under incubation conditions.

43. When describing methods, authors often include details that are not necessary. In most cases, for methods that are widely used, an author need only cite a paper that described the method in detail. For example, “We used the Corbish method, as described in Liencon (2011).” Authors need to carefully consider how they describe methods. Authors only learn how to reduce description of methods with experience.

44. When a new method or modification of a standard method is used, authors must add statements describing the new or modified procedure. If reviewers consider the description of methods insufficient, they will ask for more details. In the case of standard methods, a common approach is: “Briefly, we added solution A to solution B and let stand for 20 min before analysis.” PCR analysis in thermocyclers requires a very brief set of descriptive phrases for the steps in the process. There are at least 13 types of PCR analysis, so the type you used should be mentioned. Never define PCR. Also, review several published papers in respected journals to see how the thermocycler process is described. Repeating descriptions written by your associates can lead to awkward descriptions.

45. When stating statistical methods used to analyze results, common techniques do not require a reference for how and why the analysis was used. For example, ANOVA and chi-square are so common, readers already know these methods; therefore, citations are irrelevant. However, be sure to list all the techniques that were applied. It is the responsibility of reviewers to ask for clarification if they feel you have not said enough.

46. *Materials and methods* often contain several subheadings/subsections. Avoid subsections that contain only one paragraph. If possible, group short topics under a subsection with a more general heading.

47. Chemical names must use IUPAC (International Union of Pure and Applied Chemistry) standards. This applies to names of elements as well as compounds and organic chemicals. For example, element 13 (Al) must be spelled “aluminium” (not the American “aluminum”) and element 16 (S) must be spelled “sulfur, sulfate” (not the British “sulphur, sulphate”). Some authors do not write chemical formulas in the standard format. One case is the subscript number and another is the symbol for hydrates of ionic compounds, for example: $\text{Mg}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$. The large center dot, (“bullet”; character code 2022) is the standard symbol for hydration. If writing chemical formulas is unfamiliar to you, find a website that explains the procedure.

48. An important element in *Materials and methods* is citing sources of chemicals, software, equipment, and organisms. Below is a set of guidelines on how to cite the manufacturer of commercial products. If you purchase material from an intermediary supplier, you must still use the manufacturer as your citation, not the supplier. Sometimes, a product can only be obtained from a supplier, rather than the manufacturer. In this rare situation, citing the supplier works. For some kinds of common equipment, it is trivial to mention the source. The rules for citation are listed here.

HOW TO CITE SOURCES OF EQUIPMENT, MATERIAL, SOFTWARE, AND ORGANISMS

When using commercial products, there are rules for providing information about the source. In general, the only items that need citation are: complex equipment that need calibration, organic chemicals and analytical kits, statistical and image analysis software, and organisms. Equipment that does not need citation of manufacturers include cold storage units, chemicals mixed in the laboratory to make standard solutions, meat grinders, kitchen blenders, simple microscopes, scales, pH meters, GPS units, and other very common meters and equipment. For weight scales, the accuracy/sensitivity should be mentioned, but not the manufacturer. For mesh screens and plankton nets, the mesh size should be mentioned, but not the manufacturer.

The rationale for citing equipment and chemicals is to demonstrate that: (1) appropriate materials for the experiment were used; (2) the equipment is appropriate for the study; and (3) interested readers can duplicate your experiment. Many chemicals have several formulations, so readers who want to duplicate or do similar experiments need to know the catalog number; this must be part of the citation. This is equivalent to listing the model number of equipment or the version of software. These citation principles are based on my experience verifying thousands of product names, models, catalog numbers, and determining appropriate citations for scientific integrity. *Guides for authors* do not explain these principles. In my experience, reviewers usually ignore these details. In my work, I compiled a list of manufacturers whose products were used by researchers at several Mexican research institutions over the past 15 years. I recommend that researchers make a master list of all the items they use, and, using Google, verify each company name and headquarters location. The best way to start an inventory is listing the appropriate information from the bottle or piece of equipment, but this is not sufficient.

Researchers would be surprised to know how many companies have been purchased, had name changes, or changes in location of their headquarters. If a company purchases another company and the subsidiary keeps its old name and remains at the old address, then this is the city location you use. Other parent companies move the headquarters of their subsidiaries to the city of the parent company. Check the company's website and subsidiary's website to determine the name and address you should use. If the parent company keeps its subsidiary as a separate entity, use the original or modified name. If the new owner integrates the subsidiary into its organization, the old company no longer exists and the parent company's address must be used. For example, Dell (now Dell Technologies) purchased StatSoft, the creator of Statistica software. Dell continued to use the name "Statistica" for the software, but the name of the subsidiary became "Dell Statistica", then "Statistica". Its headquarters remained in Tulsa, OK. Recently, Statistica was purchased by TIBCO Statistica, located in Palo Alto, CA. That is its new address. Another example: In 1999, Hewlett-Packard (HP) spun off all activities not related to computers, storage, and imaging to form a new company, Agilent Technologies, which manufactures scientific instruments and many other items. Therefore, if a laboratory uses old HP instruments, such as a gas chromatograph, the source company is Agilent Technologies in Santa Clara, CA. Still another example is the Puregene DNA isolation kit that was developed and sold previously by Genra Systems in Minneapolis, MN. Qiagen purchased this company and changed the name of

the kit to Gentra Puregene DNA isolation kit. Therefore, citation of this product must be Gentra Puregene DNA isolation kit (Qiagen, Minneapolis, MN).

When citing names of companies, never include the legal designation of the company, such as Inc., Corp., S.A. de C.V.

Typical citation for equipment

“We used a scanning electron microscope (model number, name of manufacturer, headquarters city, state or country).” If the company’s headquarters is in the USA, use the official two-letter abbreviation for the state, but do not include USA. If you use a second product from the same company, do not repeat the location of the headquarters.

Typical citation for chemicals

“We used bovine serum albumen (BSA) as a standard (#B4287, Sigma-Aldrich, St. Louis, MO).” Note that the catalog number is necessary. Sigma-Aldrich sells 55 formulations of BSA. Identifying the right product/formulation is important. If you use a second chemical from the same company, do not repeat the location of the headquarters. Most authors and reviewers still do not understand why catalog numbers are necessary. If you use an analytic kit, do not add the statement: “Testing was done to the manufacturer’s instructions.” This is implied because, if you do not follow the instructions, the test is invalid. However, if you modify the procedures in the instructions, this must be explained.

Typical citation for statistical software

“We used statistical software (Statistica 8.1, TIBCO Statistica, Palo Alto, CA) to determine the mean of the data.” Do not use the word or abbreviation “version, ver., v.”. Some software packages are available as downloads from a website. If you know the city of the source, use it; otherwise, use the internet address. Sometimes, you must cite a book or published paper that explains the software. For these cases, this information is provided on the website. Software names may be spelled as: “all caps”, “caps and small letters”, or “letters and numbers”. Check the software website for the correct spelling and spacing of the letters and numbers in the name. For your future convenience, make a list of all these software names, so that these names are not misspelled in future papers. Do not expect journal editors or reviewers to pay attention to this matter. A misspelling is your problem, not theirs.

Typical citation for microorganisms

“We used *Deadli bacterium* strain B37 (Advanced Research, Toronto, Canada) to challenge shrimp larvae after a single dose of the prebiotic (#12345, Microbiology Services, Vancouver, Canada). Below are examples of correct citations for two real microorganisms used in research.

Microalga: *Chlorella sorokiniana* Shih. et Krauss (UTEX 2714, University of Texas, Austin, TX, formerly *C. vulgaris*)

Bacterium: *Azospirillum brasilense* Cd (DSM 1843, Leibniz-Institut DMSZ, Braunschweig, Germany)

49. Increasingly, researchers use commercial laboratories to analyze samples. This arrangement should be mentioned briefly in *Materials and methods*, including the kind of analysis and the equipment used by the commercial laboratory. For DNA analysis (sequencing), most laboratories in Latin America use services located in another country.

50. Names of countries are written without accent marks throughout the paper. In English, no country has an accent mark.

51. Never abbreviate place names. For example, if your research is about one gulf or peninsula, use “the gulf” or “the peninsula” as the short form in most places in the paper. Readers will not be confused.

52. There are international guidelines developed by the United Nations for place names and when they must be in the native language or in translation. These official guidelines codify customs developed over centuries, create databases, maintain international courtesies, and organize the complexities of place names. Except for a few officials in government agencies and place name specialists in geography, almost no researcher in the world knows anything about these rules. Below is the list of place names in Mexico that must be in English. All other place names remain in Spanish, including accent marks (river = río, lake = lago/laguna, bay = bahía, mountain = montaña/sierra, basin = bolsón, island = isla, cities, and states).

MEXICAN PLACE NAMES WRITTEN IN ENGLISH IN ENGLISH-LANGUAGE JOURNALS

Mexico	Mexico City	
Gulf of Mexico	Gulf of California	Gulf of Tehuantepec
Atlantic Ocean	Pacific Ocean	Caribbean Sea
Yucatan Peninsula	Baja California Peninsula	Isthmus of Tehuantepec
Rio Grande (use Río Bravo <u>only</u> when paper is written in Spanish)		
Yucatan Channel (between the Yucatan Peninsula and Cuba)		
Ballenas Channel (between the Baja California Peninsula and Isla Angel de la Guarda)		
Salsipuedes Channel (between the Baja California Peninsula and Isla San Lorenzo)		
San Jose Channel (between the Baja California Peninsula and Isla San José)		
San Lorenzo Channel (between the Pichilique Peninsula and Isla Espiritu Santo)		

These guidelines for place names are based on agreements and conventions of the UNGEGN (United Nations Group of Experts on Geographical Names) concerning translation and use of “endonyms” (local names) and “exonyms” (translated names). All member states of the United Nations have agreed to these conditions.

Notes:

(1) “Canal” has different meanings in Spanish and English; hence, use the English name in papers for English-language journals, as in the five natural channels listed above. In English,

“canal” always means an artificial waterway (Panama Canal, Suez Canal) and “channel” always means a natural waterway (English Channel).

(2) “Laguna”, when referring to a water body at a coast with tidal connections to the sea, must be translated as “lagoon”; In English, the term “coastal lagoon” is semantically incorrect.

(3) Some proper place names in Mexico cannot use translations to English. For example: in the Baja California Peninsula, there is a region called Valle de Santo Domingo. Regardless of the official regional name, this area is not a valley, but an extensive rolling plain. To clarify this for readers, the author should say: “The plain, called the Valle de Santo Domingo, covers an area of 1000 km².” Misnomers of place names are common in many languages. Be careful not to confuse a place name with topographic terminology.

Results

53. *Results* in most papers are organized around statistical analyses presented in tables and figures and images created by equipment and software. *Results* should discuss the important findings or exceptions to statistical analyses. Avoid repeating data that is already in the tables and figures.

54. Frequently, authors prepare tables and figures in Spanish and then translate them into English. This is a poor practice because authors often miss a few words. Best practice requires preparing tables and figures in English.

55. Some papers require a more complicated explanation of the experimental results. When this happens, subheadings of the experimental results should take the same form as subheadings in *Materials and methods*. Avoid subsections that are only one paragraph, as described earlier.

56. Most journals do not accept papers with tables and figures imbedded in the *text*. The location of tables and figures in the paper will be explained later. Every table and figure must be numbered in presentation order and mentioned in the text, usually as a “citation”. Do not insert tables and figures in the text unless the journal’s *guide for authors* specifically requests insertion. If a journal requests insertion of tables and figures in the text, do not insert tables and figures until your manuscript editor has completed the editing process. Insertion in the *text*, if required by the journal, should be the last process before submitting the paper to the journal.

57. Avoid mentioning conclusions or implications of results or material that should be in the *Discussion*. Avoid describing aspects of methods in the *Results*; these statements must be placed in *Materials and methods*.

58. Do not use a combined section. A combined *Results and discussion* section, while acceptable to many journals, is a poor practice. Many reviewers find that either the “results” are not presented in sufficient detail or the “discussion” is not fully developed. Be safe! If you are a student first author, do not allow your advisors to demand a combined section. This usually leads to a request by reviewers for a major revision or even rejection. This advice is based on reading over 3000 sets of reviewer’s comments. One major reviewer, in over 30 years, has never seen a combined section that worked.

Discussion

59. The *Discussion* is devoted to the implications of your findings and an analysis of what you have done in comparison with what is known in the field. Have your findings led to some advancement? This is the main point of the *Discussion*. If the reviewers do not believe that the conclusions are justified by your results or methods, they will reject your paper or suggest how to analyze your data so that your conclusions are justified. The *Discussion* is the most difficult section to write. Frequently, I find that the *Discussion* is presented in a rambling or muddled manner. This must be avoided. Organize this section so that it is logical and coherent. If there is one section of a paper that fails in coherency, it is usually the *Discussion*.

60. The *Discussion* also includes comparisons with similar studies. Be very careful that comparisons with other studies meets scientifically based standards of comparison and ethics. It is not possible to describe in this manual why comparisons may be invalid. For example, comparing survival rates of related species may not be acceptable; similarities may result from factors that were not examined. Another example: Comparison of pollution in harbors must consider the size of the harbor and traffic volume. Students frequently fall into making false comparisons because they read a large literature to prepare their theses, but do not critically understand the criteria necessary for comparisons. Also, extended comparisons are not productive and often obscure the central point of the *Discussion*.

61. There are several rules that must be followed when comparing species.

(1) Always use the most recent genus name for all species. Check a website, such as ITIS.gov or WoRMS.org to find the current genus names. Never use the old and recent names for the same species in the paper—only the most recent name.

(2) If you are discussing two genera that start with the same letter, only the priority genus can use the one-letter abbreviation. The second genus can have a two-letter abbreviation or remain spelled out at each mention.

(3) It is always correct to include the full common name of the species of animals or plants, along with their scientific name. For example, "... the gray whale *Eschirichtius robustus*..." Using "...the whale" is less useful because "whale" is a "category name", not a "common name" for a species. Check ITIS.gov, WoRMS.org, or other databases that archive common names.

(4) Provide the full scientific name of a species at first mention. Later, abbreviate the genus name, unless a sentence starts with the species name.

62. Do not repeat material that is in the *Results*, including tables and figures presented in the *Results*. This is redundancy and creates a dense or confusing presentation.

63. The *Discussion* should end with a summary of your findings and its important implications. Be careful not to repeat what you said earlier in the *Discussion*. A separate conclusion section is not usually necessary.

Acknowledgements

64. Always have the courtesy to mention persons and organizations that rendered help. It is necessary to consider who is defined as an author, as required by the Vancouver protocols. In Mexico, there is a requirement to mention assistants at your institution because part of their incentive compensation is based on listing their name in the *Acknowledgements*. However, individuals or firms that provide commercial services, including editorial services, should not be listed in this section. Many journals want to know how each author contributed to the research. You must read the *guide for authors* to learn if your selected journal wants this information and where they want this information described. It could be in the submission letter or a subsidiary section at the end of the *text*.

65. There is a standard order of presentation.

(1) Persons who provide assistance. You may include the kind of assistance they provided, but not in detail. Their names should be provided as first name, middle initial, and last name(s), but without the hyphen in compound last names.

(2) Persons providing samples.

(3) Organizations providing permits, services, or equipment.

(4) Organizations providing funding for the study. The full name in the native language should be used. Do not translate names of organizations into English. After you list the organization name, in parentheses include the acronym of the organization and the grant number. For example: “Funding was provided by Consejo Nacional de Ciencia y Tecnología (CONACYT grant 123456).” If more than one organization provided funding for the project, the first-named organization is the one that provided the most support. Please note: CONACYT is composed only of capital letters. The correct spelling of an institution’s acronym is always found on their website.

(5) If there are student authors, then the next sentence is: “A.B.C. is a recipient of a doctoral fellowship (CONACYT grant 987654).” Authors mentioned in the *Acknowledgements* are listed only by their initials, which must include puntos (periods/hard stops).

(6) Finally, many authors who are researchers at IPN institutions must include: “D.E.F. is a fellow of COAA-IPN and EDI-IPN.” Do not mention SNI in the *Acknowledgements*.

66. **Please note:** Researchers receiving a master’s or doctor’s degree in science or engineering at a Mexican institution obtain a M.Sc. or a D.Sc. degree. The Ph.D. is not granted in Mexico in any natural science or field of engineering. Degrees should not be mentioned in a research paper.

67. If you received funds for open-access to your paper, there must be a statement in the *Acknowledgements* or in a separate section, if the journal requires a separate section for statements of funding. Read the *guide for authors* on this matter. An open-access published paper will also show how to present this information.

References

68. Some journals call this section *Literature cited*. Be sure to use the right term. If the author does not use the correct term, an editor or reviewer might suspect that the paper was previously rejected and the author was too careless to make the necessary style changes before sending the paper to the second journal. This is one of the first things I check. If the wrong heading is used, I contact the corresponding author for clarification on the history of the paper.

69. In 16 years, 99% of all papers had 50 to 200+ mistakes in the *References*. Even software that formats reference lists to the style of the journal does not always work. Never assume you have formatted the references correctly. Check the style of your references against a published paper.

70. The most common mistakes in *References* concern: abbreviations, punctuation marks, proper use of italic, and presentation of year, volume, and page numbers. I repeat: Always check your work against a published paper. In English international journals, issue numbers are not listed in the *References* because page numbers within a volume are continuous from the first page to the last page of the volume. In most Latin American journals, each issue in a volume starts numbering from page one. If you are citing a Latin American journal, include the issue number. Many open-access journals only have volume numbers for papers, such as 5: 6789.

71. *References* include published papers, accepted papers, book chapters, books, theses, government reports, and published abstracts/summaries of conferences. Papers that have not been accepted for publication can be mentioned in the text as a citation, such as: "(I. Fogel, unpublished data)". Add the DOI number for accepted papers because this never changes. Keep theses, government reports, and published abstracts/summaries to a minimum or avoid them because researchers in other countries often cannot find these documents. Authors should have a file copy of all the papers that are cited in the paper. The *references* should be created with the information found in the respective papers, not copied from the reference section of other papers! Avoid citing papers that are published in local journals that have very limited circulation. These are not available to researchers who want to follow your work closely.

72. Journals use the alphabet format or number format style. The number format is usually based on the order of first appearance in the *text*. Check the *guide for authors* or a published paper for the required style. If an author does not use the required style, the paper risks rejection because the paper appears to have been previously rejected and the author was too careless to make the changes. If you use the wrong format, the journal will ask you to fix the problem. Make sure your citations agree with all aspects of the reference style of the journal, including punctuation, use of italic or roman font, and presentation of year, volume, and page numbers and that all listed references are cited in the *text*.

73. Alphabet format always requires hanging indentation of each item. Do not include a blank line between items. For journals that use the number format, always check a published paper for the style of number citation in the *text* and the *References*.

74. When listing the city and country where a book, book chapter, or thesis was published, the country is always spelled in English. The city name, as mentioned earlier, is more complicated. If the city has a well-known English spelling (used for hundreds of years), use the English name. For small or lesser-known cities, use the local spelling. A few examples of English names that must be used are: Mexico City, Vienna, Rome, Moscow, Tokyo, New York, and capitals of countries. China has changed the spelling of its capital to Beijing. India has changed the spelling of many cities. Use these new spellings. Check a search engine to verify names in India.

75. *References* always ends with a <page break>.

Figure legends page and Figures

76. *Figure legends* (captions) are placed on a separate page following *References*. Captions must be 12-point, Times New Roman font. Never place a figure caption on the same page as its figure. Of course, this does not apply to journals that require inserting figures into the *text* of the paper. Each figure legend must be self-explanatory, with sufficient description to be understood.

77. Place one blank line between each figure legend.

78. *Figure legends* follow standard formatting. Start at the left margin; never indent or center legends. Study a published paper to see other aspects of the style of legends. For example, some journals do not use a period at the end of the last sentence of the legend.

79. Never abbreviate a genus name in a *figure legend*.

80. Never include a statement in the legend that refers to the text. Figure legends are considered a separate part of the paper.

81. The end of *Figure legends* is followed by a <page break>.

82. The default font for writing within figures should be Arial, which is a “sans serif” font. Some sans serif fonts are not acceptable because the letters merge when figures are reduced for publication.

83. Label each figure page as “Figure 1, Figure 2”, and so on, so the publisher can link the legend with its figure. Try to place two blank lines between the bottom of the figure and its page label.

84. Most journals require that figures be submitted as a separate file. The *guide for authors* will explain how to submit figures, the format, and quality of the image. Only a few journals allow figures to be placed within the paper. If figures are allowed at the bottom of the paper, each figure is separated by a <page break>. If figures are requested within the *text*, perform this operation only after your manuscript editor has edited the paper; then place the figure at the end of the paragraph where first cited. This is the last operation before the paper is submitted. When accepted, the journal will copy the figures; it is impossible to ask for a later correction in a figure without complete replacement of the figure.

Tables

85. Tables have a separate set of rules. Tables contain only three horizontal lines and no vertical lines. The first line separates the title from the table. Like the figures, tables must be self-explanatory. The second line separates the table headings from the body of the table. These two lines are called “header lines”. The third line is at the bottom of the table. This is the “footer line”. This line separates the body of the table from footnotes.

86. Never separate the title of a table from the body of the table. The font in tables should be 12-point, usually Times New Roman. A few journals request Arial, but this is not common. Times New Roman is a “serif” font. (This manual is written in this serif font.)

87. Never abbreviate genus names in the title of a table or in the body of the table if the name is not in the title. Alternatively, genus names in the body of the table may be placed in the footnotes and abbreviations used in the body of the table. Abbreviations of genus names are not allowed in the title.

88. Most journals require footnotes at the bottom of the table. Some journals accept footnotes in the title, but this is awkward. To be certain, read the instructions in the *guide for authors* and study one or two published papers for the format style of the journal.

89. To indicate footnotes, some journals use superscript letters and other journals use superscript numbers in the body of the table. Study a published paper to determine which style is used. Also, study the table section in the *guide for authors* for special symbols used in tables in your selected journal. For example, some journals request authors use asterisks (*, **, ***) to indicate degree of statistical accuracy.

90. Tables are placed at the end of the paper, after the *Figure legends* page. Separate each table with a <page break>.

Supplementary material

91. The major scientific publishing companies support a section that contains “supplementary” figures, tables, videos, recordings, large sets of data, and other electronic media. This is an important issue for the review process. *Supplementary material* is only available to readers in the online version of the journal if they are subscribers or pay for a copy of the paper. Study the *guide for authors* and a published paper that has *supplementary material* to understand how to prepare this. Journals want authors to use *supplementary material* because it reduces the length of a published paper. This is an advantage to publishers because it allows journals to publish more papers (and make more money). This is an advantage to authors because it provides additional data to highly interested readers without adding length to the paper. Publishers appreciate this. Publishers and reviewers recommend that long tables and extensive use of figures be submitted as *supplementary material*.

92. Some journals allow an *Appendix* section. If this is the case, it is always placed at the end of the paper. It is different than an online *supplementary material* section.

93. If you are submitting a paper to an online-only journal, then supplementary materials are not an issue.

Additional considerations

94. Journals with a high impact factor or improving their impact factor are not tolerant of papers that lack: (1) novelty, (2) high-quality English presentation, (3) good format presentation, (4) importance in advancing research, and (5) other considerations. Your time and their time is wasted by submitting routine research papers to these journals. For high-impact journals, do not submit your paper unless it really is a fantastic paper.

95. Competition to publish continues to increase. High-impact journals receive far more papers than they can publish, with 90–95% rejection of submissions. Incidentally, the same rate of rejection applies to funding applications to the National Science Foundation of the US. Journals have a set budget and a set number of pages they can print each year. Usually, if you write a short paper, one that contains only essential material, you improve your chances of acceptance. Avoid papers that are too complicated or contain too many topics. It is difficult to define what “complicated” means; confer with colleagues who publish in high-impact or highly respected journals.

96. Carefully select a journal. There are journals that only want theoretical papers. Other journals only want studies that have worldwide application. Others want papers that have regional usefulness or interest. Authors often choose the wrong journal. This can be disastrous for student authors. Student authors should consult their advisors. One way to decide if a journal is right for you is to review your references. Journals that are cited five or more times should be considered at first options. However, I warn researchers against submitting a paper to the “big-name” journals, such as *Nature*, *Science*, or the *Proceeding of the National Academy of Science, USA* (PNAS). It would be too complicated to explain here; chances of publication are extremely low, close to zero.

97. Like item 96, there is another overriding concern when choosing a journal. Prestigious topical journals, as well as the three eclectic journals mentioned above, select papers that enhance their reputation. Let me explain this point with an e-mail I sent to a researcher who has been a reviewer for over 200 journals, 27 funding agencies, and a member of 15 editorial boards.

“Thanks for sending this information. I have seen several examples of manuscripts transferred to another journal. It is becoming a more common practice and is a good strategy for the big publishers. I think that ‘Reviewer 1’ treated the paper in less than a fully critical manner, stating that the experiments were well done, but the research was simple and not at the level of the standards of the journal. As ‘Reviewer 2’, you said that the information was useful, but the analysis was flawed. You also told the editor that the problem could be fixed and the authors given another chance. Between the two reviewers, this is a perfect setup for sending the paper to an associated journal. When a journal’s editorial office transfers a paper to another journal, the new journal will also contact the authors. In my opinion, the fact that the experiment used a raw material that is too

expensive for commercial production, should have been enough to reject the paper for a journal that deals with practical solutions.

What I see in this “rejected paper” is that the authors chose the wrong journal. Authors need to carefully assess whether their research truly falls within the scope and status of the journal. Consider this: even if a paper is salvageable, does the journal benefit from the paper’s subject matter and sophistication of the methodology? From the perspective of the journal, not only must an article be novel, it should enhance the journal’s reputation. Clearly, the paper did not.”

98. If English is your second language, there will usually be a problem with written English. Even Mexican authors who receive their doctorates in English-speaking countries are usually not sufficiently skilled in written English. Many journals clearly state that authors should use professional editing services, especially authors in Asian countries. Frequently, after reviewers and editors review a paper, they ask authors to use a “native English speaker” to improve the writing. This is not usually a satisfactory solution. Most authors need “professional editing” services. Such a service usually produces a “highly readable” paper that engages the reader without leading to: (1) questions of meaning or “mental topes” (interruptions or slow-downs of the reading process), and (2) it has a well-organized presentation of interesting implications of well-organized research. From my experience in the USA and Mexico, many native English-speaking researchers cannot provide this level of editing to their Mexican friends. Just as “writing” is a different set of skills than “speaking”, “editing” is a different set of skills than “writing”. An example was a paper by five Mexican authors who sent their paper to an American researcher, then to a Canadian researcher, then to a second American for “polishing”. Then they sent their paper to the journal, where the two reviewers (both native English speakers) made many changes in the English presentation and required “further improvements of English”. Finally, the authors sent the paper to me. I made over 200 changes, including errors that the reviewers should not have missed.

99. With the increasing volume of papers received by journals, most journals have a “pre-review process” to eliminate poor or inappropriate papers. Referees spend a lot of time reviewing papers and often resent spending time on poor papers. For high-impact and prestigious journals, rejections at the pre-review stage are very high, often 90%. For journals, in general, rejections range from 50% to 95%. Many journals have increased the number of main or section editors and use their editorial board to take on pre-review and review responsibilities. Journals have a set of criteria that they use in the pre-review process.

100. Poor writing has plagued science journals for 100 years. From my experience in the USA and Mexico, one of the sources of this problem stems from the lack in training of young researchers in written communications. Regardless of country, science students focus on learning science, not on how to communicate in writing. By neglecting writing and literature, researchers disadvantage their future potential.

101. Journals come in many forms. (1) **Eclectic journals** are those that publish on many subjects. There are famous international journals that are mainly interested in novel and

fascinating discoveries, rejecting over 90% of all enquiries and submissions. There are **regional eclectic journals** that publish on any subject within their region, such as Latin America. And there are **on-line eclectic journals** that range in quality from very respectable to awful. Many online journals fall in this last category. Please check online journals carefully. (2) **Topical journals** are those that are restricted to specific subjects, such as aquaculture, environmental science, or soil chemistry. These journals usually have a respectable international reputation or they may be regional and have limited to very limited distribution. Again, there are printed journals and online journals, but most are printed journals. (3) **Review journals** are those that are restricted to specific topics, such as cancer research, geology, or fisheries. Many of them publish only one issue each year. The author of a potential review paper for any journal must consult the editor before preparing the review paper. Student authors or very young researchers should not volunteer to write a review paper because it takes much time to prepare and the analytical skills of the author require years of experience and maturity in the field. Many review papers are by invitation only. Review journals, especially in the medical sciences, usually have an extremely high impact factor because researchers or professionals look to review journals to stay up-to-date on developments in their field. Like items 96 and 97, the range of publishing possibilities and the chances of getting published depend on critical evaluation of your work. Every researcher should know what is the most appropriate forum for their work. Your choices affect success and future opportunities.

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 Lastly, what may a “professional technical manuscript editor” do to improve a paper?

(1) Provide a high-quality English presentation, especially syntactic and semantic correctness, along with the standard elements of grammar, spelling, and punctuation.

(2) Check composition, including: arranging text in logical order, deleting irrelevant material, removing unnecessary words and phrases, and replacing vague terms with acceptable international technical terminology.

(3) Change technical material to meet international standards. This includes: proper citing of references and sources of materials and products; most current names of species; verifying spelling of chemicals; using local place names if the English name does not meet UNGEGN criteria; using SI metric notations; and preparing the paper in the accepted layout for submission. Most of the guidelines in this manual are in this category. Internet commercial firms that provide editing services do not deal with some of the items listed in this manual. This is one of the reasons I prepared this instruction manual.

Since I do not communicate with other editors, I cannot say how their work differs from mine. This manual covers the presentation “rules” that are part of my editing process and mostly accepted by style manuals, journal guidelines, and journal style manuals. By using these guidelines to improve your presentation, the work of journal editors and reviewers remain focused on assessing the quality of your investigation. Hopefully, it reduces the risk of rejection.

Appendix 1

Why papers are rejected

Overall, submissions are rejected at rates between 55% and 95%. The higher the status of the journal, the higher the rejection rate. International journals continue to take measures to increase their ISI rating, including rejecting more submissions. My list is based on remarks by journal editors, internal reports of publishers, and over 3000 sets of reviews I have read in the past 16 years, as well as other personal experiences. The list is not a ranking of problems—a rejected paper has its own combination of flaws from the perspective of the journal.

- Paper is not written in acceptable English.
- Paper is not formatted in the style of the journal.
- Paper is not within the scope of the journal's subject matter.
- Results are no longer of interest to the readers of the journal.
- Methodology is not scientifically acceptable or current.
- Topic is local or regional and not of interest to international journals.
- Topic, results, or methodology is not novel.
- Hypothesis or data is missing.
- Statistical analysis is not adequate.
- Insufficient replications of experiment.
- Experimental design is poor.
- Discussion is inadequate.
- Too many papers on the topic have already been published in the journal.
- Too many papers from one country have already been published in the past year.
- Negative reputation of author (based on journal's internal records and editor's assessment).

Rates of rejection for a typical journal are about 50% at the pre-review stage and 55% to 85% after the review. Compare this with famous journals, such as *Nature*, *Science*, and the *Proceedings of the National Academy of Sciences of the USA*, which have rejection rates of 95%, mostly at the pre-review stage.

Appendix 2

Technical and composition errors encountered in 1500 manuscripts

In my annual reports to administrators, I included a list of types of technical and composition errors I found in research manuscripts I edited, including estimates of the frequency of each problem. Technical and composition errors are distinctly different than English errors. These errors affect the image of authors in the eyes of reviewers and journal editors and can influence their decision. For a manuscript editor, it takes more time to fix these problems than ordinary English problems (grammar and punctuation). Over the years, the frequency of these errors varied slightly. I thought you would be interested in my findings, based on over 1500 manuscripts. In the case of the first item, 99% is true!

- Not following reference style of journal--from 50 to 200+ errors [99%]
- Mistakes on the title page [95%]
- Redundant statements and superfluous words and content [95%]
- Errors in formatting manuscripts, including headings, spacing, margins [85%]**
- Misspelling of names of software [85%]
- Errors and missing information in citation of sources of equipment and chemicals [80%]
- Errors in construction, layout, labeling, and content of tables and figures [80%]
- Errors in presentation of units of measurement [75%]**
- Errors in spelling of chemical names, anatomical parts, and place names [50%]
- Errors in scientific or common names of species or authorities [30%]
- Incorrect or inappropriate technical terminology [25%]
- Poor structure (syntax), requiring re-arranging or rephrasing the order of the contents of a sentence or paragraph [20%]
- Title does not reflect contents or is semantically or grammatically wrong [10%]
- Poor knowledge of or inappropriate English names of landscape, topographic, aquatic, or habitat terms [10%]

**Most of these two problems result from using Latin American formatting.