China Medical Board

Biomedical Writing Course

Lessons on Types of Scientific Writing Other Than Scientific Papers:

- Review Articles, Letters to the Editor, and Book Reviews
- Grant Proposals and Curricula Vitae
- Case Reports
- Theses

Source?

BIOMEDICAL WRITING COURSE

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Lesson Twenty-Three
Review Articles, Letters to the Editor, and Book Reviews

OBJECTIVES OF LESSON TWENTY-THREE

By the end of this lesson, you will know more about
1. writing review articles for English-language journals
2. writing letters to the editor for English-language journals
3. writing book reviews for English-language journals

ASSIGNMENTS FOR LESSON TWENTY-THREE

1. In Barbara Gastel's article "Journal Submissions Other Than Scientific Papers" (at the end of this lesson), read the first 3 paragraphs on page 139. Also read the sections titled "Review Articles" (page 140), "Letters to the Editor" (page 141), and "Book Reviews" (pages 141-142).
2. Read Chapter 20 ("How to Write a Review Paper") in the book by Day.
3. Read Chapter 22 ("How to Write a Book Review") in the book by Day.
4. If possible, look at a review article, a letter to the editor, and a book review in an English-language journal in your field. Consider how these items follow the guidelines presented this week.
5. List at least 4 points that you would include in a review of the book by Day. The points should include at least one strength and one limitation of the book. (This assignment is explained in further detail near the end of this lesson.)

NOTES ON ASSIGNMENTS

The following is an introduction to the reading from the article "Journal Submissions Other than Scientific Papers" (see the Appendix at the end of this lesson).

When "journal article" is mentioned, some people think only of scientific papers reporting new research. However, international journals also include other types of writing, such as review articles, letters to the editor, and book reviews. These types of writing can be very useful to readers. They also give authors additional opportunities for publication.

Review Articles

Review articles summarize knowledge on specific topics. For example, topics of recent review articles in *The New England Journal of Medicine* have included adrenal insufficiency (1996; 335:1206-1212), resistance to antimicrobial drugs (1996;335:1445-1453), and initial management of burns (1996;335:1581-1586).

Some authors of review articles use a method called meta-analysis to combine findings from various studies. An example of a review article based on meta-analysis appeared recently in *JAMA* (1996;276:811-815). The topic was the use of heparin (in addition to aspirin) to prevent myocardial infarction and death in patients with unstable angina.

Review articles are helpful in teaching. At least in the United States, they also are popular

with physicians, who find them an efficient way to keep up-to-date on results of medical research.

Faculty members at Chinese medical schools with grants from the China Medical Board already are publishing review articles in international journals. Examples have included a review article on treatment of liver cancer (Tang ZY, Fiorentini G. Hepatoma today: therapeutic experiences of multimodal approach. *Tumori* 1993;79:166-169).

Letters to the Editor

Letters to the editor are, of course, shorter than scientific papers. Thus, they usually are easier to write and publish.

When writing letters to the editor, as when writing articles, follow the journal's instructions. Sometimes instructions for letters to the editor appear in the letters section of the journal. When looking at the instructions, check whether the journal accepts letters by e-mail. If so, submitting your letter by e-mail can save time and money.

If you have a research finding or clinical case that is not important enough for an entire article but that nevertheless may interest readers, consider presenting it in a letter to the editor. Also, sometimes when a journal decides not to publish a scientific paper, it invites the author to submit a shorter report to be published as a letter to the editor. A letter can acquaint many readers with one's research, and it can be a good way to begin publishing in the international literature.

Book Reviews

Book reviews are another short form of publication. As noted in the reading, a book review should both describe and evaluate. Here, from a book review Elizabeth recently wrote (review of *Successful Scientific Writing*, *CBE Views*, in press), are some examples of description:

- The first author is a biomedical editor at The University of Georgia College of Veterinary Medicine.
- The book has 8 chapters. Two of the chapters focus on . . .
- The book contains about 25 exercises.
- The book includes as an appendix the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals."

Here, also from this review, are some examples of evaluation:

- One strength of the book is its sensible, undogmatic (flexible) approach.
- The exercises are a particular strength of the book.
- The book does have limitations. It devotes in total only about 1 page to the appropriate content and structure of the various sections of a scientific paper.
- The text is not as carefully copy edited and proofread as one might expect in a book of this type.

By including both description and evaluation, you can write a review that is most helpful to readers.

Chapter 20 in Day's Book

Day's chapter "How to Write a Review Paper" (Chapter 20) contains much good information

and advice. It generally is written in a straightforward way, and it contains little American humor. You may find it one of the easier chapters to read. (By the way, "review article" and "review paper" mean the same thing. Some authors and journals use one term; others use the other.)

In the second paragraph on page 125, Day says that review articles typically are 10 to 50 printed pages long. In some journals, however, the review articles run only a few pages. (Note, for instance, the review articles mentioned as examples above.) For guidance regarding length, see the "Instructions for Authors" in your target journal, and look at review articles that the journal has published. Also, when you consult the editor about the possibility of submitting a review article, ask for advice about length.

On page 127, Day provides a good example of an outline of a review article. We suggest looking carefully at this outline, which shows how a well-organized review article can be structured. You need not, however, understand every word in the outline.

Chapter 22 in Day's Book

For part of his career, Robert Day headed a book publishing company. Thus, he knows a lot about how books are published. Some of this knowledge is included in his chapter "How to Write a Book Review" (Chapter 22).

On page 136, it might not be clear at first what "trade books" are. Trade books are books for the public. For example, a popular novel is a trade book. A science book for the public also is a trade book.

On page 137, the second paragraph and the quoted material below it are meant to be humorous. However, they may be confusing to readers who are unfamiliar with the English-language novel being discussed. They are not essential to the meaning of the chapter, and it is not necessary to understand them.

The last paragraph in the chapter is titled "imprint information." As may be clear from the paragraph, "imprint information" is basic information identifying the book. It includes the book's title, author(s) or editor(s), and publisher. The heading of a book review also sometimes includes the book's ISBN (International Standard Book Number), which is helpful in ordering the book. If, for example, you look at the copyright page and back cover of the textbook by Day, you will see that the ISBN for that book is 0-89774-865-4.

THE WRITING ASSIGNMENT

Your writing assignment this week is to list at least 4 points you would include in a review of *How to Write and Publish a Scientific Paper* by Robert A. Day (the textbook for this course). Imagine that an international journal has asked you to review this book. In keeping with the reading for this week, your review should both describe and evaluate. Thus, provide at least 2 statements describing the book. Also list at least 1 strength and at least 1 limitation of the book. (As you do this assignment, you may find it useful to look again at the part of this lesson containing sample statements from a book review.) When you are finished, give your assignment to your local instructor.

AN ENDING NOTE: Please feel free to contact your local instructor with questions about this lesson or assignment.

Lesson Twenty-Four
Other Types of Scientific Writing
Grant Proposals and Curricula Vitae

OBJECTIVES OF LESSON TWENTY-FOUR

By the end of this lesson, you will
1. understand more fully the purposes of a grant proposal
2. know more about how to write a successful grant proposal
3. know more about preparing a curriculum vitae
4. have prepared an English-language curriculum vitae for yourself

ASSIGNMENTS FOR LESSON TWENTY-FOUR

1. Read the material below about preparing a grant proposal and preparing a curriculum vitae.
2. For your information, look carefully at a proposal that was accepted by an American source of funding. (Your local instructor should have a copy of the proposal for the biomedical writing and editing program. Copies of other accepted proposals also may be available at your school.) Identify aspects of the proposal that may have contributed to its success, and think of ways that the proposal could still be improved.
3. Look carefully at the imaginary curriculum vitae at the end of this lesson (Figure 1).
4. Prepare a brief curriculum vitae for yourself (or revise your current curriculum vitae). (This assignment is explained in further detail at the end of the lesson.)

NOTES ON ASSIGNMENTS

Preparing a Grant Proposal

Purpose of a Grant Proposal

The purpose of a grant proposal is to persuade a potential funding source (for example, the China Medical Board or a government agency) to provide money for a project. To do so, it must persuade those evaluating the proposal that
1. the goal of the project is worthwhile
2. the goal of the project is relevant to the goals of the funding source
3. the proposed approach or method is sound
4. the staff is capable of doing the proposed work
5. adequate facilities will be available
6. the requested amount of funding is reasonable

Remembering these 6 items can help you write a successful proposal. So can following the advice below.

General Advice for Writing a Proposal

Writing a good proposal has much in common with writing a good scientific paper. The following are 10 of the most important principles to remember.

1. If possible, use successful proposals as models.
Just as when writing a scientific paper, using good models can be very helpful. (Thus, part of your assignment this week is to look at a successful proposal.) The proposal you use as a model should be one that was accepted by the funding source to which you are applying. Such a proposal may be available at your medical school. Also, some funding sources are willing to supply examples of good proposals

2. Start early.
Preparing a good proposal takes considerable time. And writing is only one of the steps. Be sure to leave enough time to gather the needed information, plan the project carefully, write the proposal well, and revise the proposal thoroughly. Doing so often means starting to work on the proposal several months before it must be submitted.

3. Follow all instructions.
Funding sources often provide detailed instructions for proposals. If the instructions are not followed, the proposal might not be considered. Thus, be sure to read all instructions carefully and follow them precisely. Before submitting the proposal, double-check that all instructions have been followed.

4. Write in a way that is easy to understand.
Reviewers of proposals typically are very busy. The more quickly they can understand your proposal, the more likely they are to recognize the value of what you are proposing. Therefore, write your proposal in the same easy-to-read style recommended elsewhere in this course. For example, use simple language when possible, and try to avoid long sentences and paragraphs. Also, avoid using many abbreviations. When you do use abbreviations, be sure to define them the first time they appear. Also, consider including a list of all abbreviations used.

5. Be sure to write a good abstract.
In a proposal as in a scientific paper, the abstract tends to be read more than any other section. Therefore, be sure that the abstract is informative and clear. Also, check that the information in the abstract is consistent with the information in the body of the proposal. If the funding source specifies a maximum length for abstracts, do not exceed that length.

6. Consider including graphics as well as text.
Sometimes diagrams or other graphics can strengthen a proposal. Possibilities include tables or graphs of preliminary data, flow charts showing steps in a project, and time lines for projects. Especially if the proposals you use as models contain such graphics, consider including them in yours.

7. Word the proposal confidently, but do not make exaggerated claims.
In general, reviewers in the United States want those proposing a project to be confident, but they also want them to be realistic. Thus, word your proposal confidently but avoid excessive claims. For example, say "we will . . . " or "we plan to . . . " rather than "we would . . ." or "we hope to . . . ." However, do not exaggerate. For example, if you do not know whether a treatment will be effective, do not say that it <u>will</u> save lives; rather, say that it <u>may</u> do so.

8. Make the format readable.
Present your proposal in a format that is easy to read. In particular:
>Use large enough type (at least 10 point).

>Choose a simple, readable typeface.
>Unless the funding source asks you to do so, do not justify the right margin.
>If appropriate, include headings.

Of course, follow any instructions that the funding source provides regarding the format of the proposal.

9. If possible, have an editor review a draft of your proposal.
For proposals just as for scientific papers, editors can provide helpful suggestions for revision. Your local instructor has received training in editing proposals. If possible, show your local instructor or another qualified editor a draft of your proposal. Be sure to do so early, so you will have time to use suggestions that you receive.

10. Proofread the proposal well.
Lesson 2-5 in this course discussed proofreading a manuscript before submitting it to a journal. Proposals, like manuscripts for articles, must be carefully proofread before submission. Proofread the proposal yourself, and have other people check the manuscript for errors you may have missed. Then send in the proposal and take a well-deserved break!

Some Common Parts of a Proposal
As you may see if you look at several proposals, proposals can vary in format. Sometimes different funding sources require proposals to be in different forms. Sometimes proposals for different kinds of projects differ in format because they contain different kinds of information.

Nevertheless, most grant proposals contain certain basic components, some of which resemble parts of a scientific paper. These basic components include

>a title page
>an abstract
>background information (often including a literature review)
>a statement of goals
>a research plan or program plan (the heart of the proposal)
>a budget
>curricula vitae (in other words, lists of the main participants' qualifications; for guidance in preparing a curriculum vitae, see the latter part of this lesson)

Proposals also may contain items such as the following:

>a letter of transmittal (similar to the cover letter that accompanies a manuscript sent to a journal)
>a table of contents (especially if a proposal is long)
>a list of figures and tables
>a description of the expected impact of the project
>a plan for informing others about the results of the project
>information on the facilities available for the project
>a reference list (often an important part of a research proposal)
>appendixes (for example, recently published relevant papers by those submitting the proposal, recently submitted relevant manuscripts, and letters of support from people who will provide assistance)

How can you decide what to include? First, consult instructions from the funding source, and remember to use any application forms that are required. Second, use successful proposals

as models, as advised above. And finally, consider what would make sense for the current proposal.

If you have questions, consult staff members at the funding source. (Such individuals generally can be contacted by e-mail.) These staff members tend to be very helpful. After all, their goal is to fund the best projects possible. May one of those projects be yours!

Some Reasons That Proposals Are Rejected

People experienced in reviewing grant proposals have identified common reasons that proposals are rejected. Here are some of these reasons.

> Failure to Follow Application Instructions
As noted above, follow the application instructions precisely. Failure to do so may result in rejection of a proposal.

> Poor Presentation
Some proposals are rejected at least in part because they are poorly written. The overall goal of a funded research project is to produce results that can be published. If researchers seem unable to write a proposal well, those reviewing the proposal may worry that the researchers also cannot write a publishable scientific paper.

> Lack of Knowledge of Relevant Published Work
Those writing a proposal should show that they are familiar with earlier work in their field. This generally is done by citing relevant published work.

> Absence of a Sound Scientific Rationale
A proposal should make clear that the work will be done for a good scientific reason. The research should not be a "fishing expedition" in search of something interesting.

> Lack of New Ideas
The project being proposed should, of course, be original. It should not, for example, be only a slight variation of work that was already done.

> Too General a Research Plan
Especially among beginning researchers, a common problem is to propose a project that is too broad. Try to make sure that your proposal is sufficiently focused and specific.

> Problems with the Experimental Approach
Problems with research methods can cause rejection of a proposal. One example of such a problem is lack of a suitable control group. By designing research carefully and presenting it in sufficient detail, you can avoid such difficulty.

> Lack of Experimental Detail
In a research proposal, the methods to be used should be described in enough detail. But how much detail is enough (and not too much)? Here, as elsewhere in writing a proposal, using accepted proposals as models can be helpful.

> Lack of Experience with Key Methods
Reviewers of grant proposals want to be sure that researchers have experience with the main methods they propose to use. If you or another member of your research team has

used a method successfully, say so in your proposal. If no one has the needed experience, make sure someone has it before the proposal is submitted.

> Too Much Work
Especially among beginning researchers, proposing an unrealistically large amount of work is a common problem. If a proposal seems too ambitious, reviewers may worry that the author does not really understand what will be required. They are also likely to believe that the work cannot be completed. Thus, try to propose a realistic amount of work.

> An Unrealistic Budget
A realistic budget helps show that you are competent and responsible. People who propose budgets that are much too low may seem naive. Also, if their proposals are funded, they may have to do the work without sufficient money. And people who propose budgets that are much too high may seem unknowledgeable, greedy, or both. The proposals most likely to be funded are those with realistic budgets. Preparing a realistic budget is well worth the effort.

Some Other Problems with Proposals

Other problems also can decrease the success of a proposal. Here are a few that are important to watch for as you write or revise.

> Excessive Use of Abbreviations
Too many abbreviations can make a proposal confusing. Thus, as noted before, avoid using many abbreviations, and be sure to define those that you use. In general, use only abbreviations that are well known. Beware of creating new abbreviations.

> Inconsistencies in a Proposal
As authors revise proposals, they sometimes change information one place but forget to change it in another. Thus, for example, one part of a proposal may say that 100 rats will be used but another part may say 50 rats. Before submitting a proposal, check carefully for such inconsistencies.

> Lack of Preliminary Data
In some types of proposals, reviewers want to see results of preliminary research. If in doubt, check with the funding source whether providing such results would be desirable.

> Lack of a Schedule
Presenting a schedule, or time line, for your project can help show that the project is well thought out. Lack of a schedule may make reviewers worry that a project is not carefully planned.

> Insufficient Evaluation Plan
For some types of projects, evaluation is needed to show whether the project has succeeded. Lack of a sufficient evaluation plan can be a serious problem.

> Failure to Justify Budget Items
A proposal should demonstrate that each requested item is necessary. If, for example, the budget of a proposal includes funds for travel or computers, reviewers may suspect that people just want to travel or get new computers. By explaining why items such as

travel and computers are essential to a project, you can avoid such suspicions.

Closing Comments on Preparing a Proposal

Opportunities for Chinese faculty members to have projects funded by Western sources seem to be increasing. By following suggestions above and applying the principles of good writing presented throughout this course, you can increase your chances of preparing successful proposals to Western funding sources.

Preparing a Curriculum Vitae

As indicated above, a curriculum vitae summarizes a person's professional background. The term "curriculum vitae" is Latin for "course of life." The plural of this term is "curricula vitae." Sometimes a curriculum vitae is referred to as a "CV."

Grant proposals generally include curricula vitae. In addition, a curriculum vitae has other uses. For example, if you apply to be a visiting scholar in the United States, potential hosts probably will want to see your curriculum vitae.

Please look at Figure 1 (an imaginary curriculum vitae). Although this curriculum vitae is brief and simple, it illustrates various points to remember. If you are preparing or revising an English-language curriculum vitae, here are some items to keep in mind:

> Many Westerners are unfamiliar with Chinese names. Thus, it can be useful to indicate which part is your family name. One way to do so is to put your family name in capital letters (for example, LI or WANG). Another way is to show how you can be addressed (for example, Dr. Baozhen Gan).

> Provide sufficient information so that people in other countries can easily contact you. For example, include your country in your address. Likewise, include the country code in your phone number and fax number.

> Listing personal information such as gender and date of birth is optional. If you think that such information would be useful (for example, in arranging a place for you to stay), you can include it in either your curriculum vitae or a letter.

> In your curriculum vitae, list the professional positions you have held. You can do so in either reverse chronological order (starting with the most recent) or chronological order (starting with the least recent). Whichever order you choose, use it consistently in the various parts of your curriculum vitae.

> Include information on your education. Sometimes degrees differ between countries or institutions; for example, degrees for medical doctors include MD and MB degrees and others. If you are unsure how to specify a degree in a way that will be clear to readers, you can use a general term such as "medical degree" or "master's degree." Also, if you received a bachelor's, master's, or PhD degree, remember to state the field in which you received the degree.

> If you have relevant honors or awards, you can list them in your curriculum vitae. If you do not have such honors or awards, simply omit this section.

> In your curriculum vitae, list your publications. (If you have many publications, you may list only those that are most relevant. In this case, you can use a title such as "Selected Publications.") Your publications may be listed in any standard bibliographic format; one good format is presented in "Uniform Requirements for Manuscripts Submitted to Biomedical Journals" (which you received last semester as Appendix A). As discussed above, either chronological or reverse chronological order may be used. Typically, the publications list goes at the end of the curriculum vitae. It may begin on a separate page.

> If you have other relevant information to present, your curriculum vitae can include additional sections. Some examples are "Other Experience," "Courses Taught" (for instance, if you are seeking a grant for a teaching project), and "Grants Received." Such sections generally appear before the publications list.

Now that word processors are available, revising a curriculum vitae is easy. Whenever you have information to add, insert it in your curriculum vitae. That way, your curriculum vitae will be up-to-date whenever you need it for a grant proposal or for another purpose.

The Writing Assignment

Using Figure 1 as a model, prepare a brief curriculum vitae for yourself or revise your current curriculum vitae. Give your curriculum vitae to your local instructor. The instructor will then provide feedback.

AN ENDING NOTE: Please feel free to contact your local instructor with questions about this lesson or assignment.

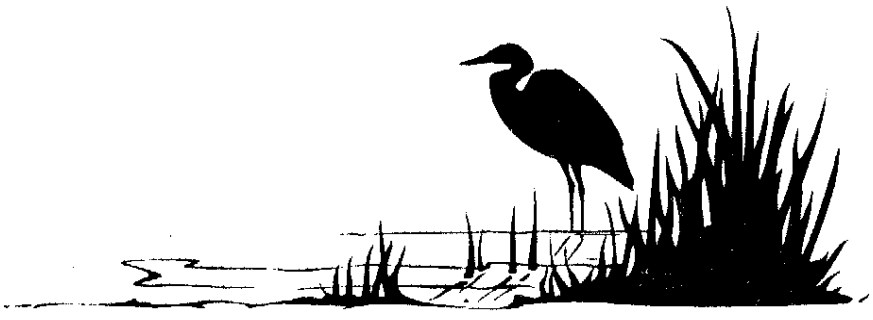

Figure 1: An Imaginary Brief Curriculum Vitae

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1990-1993:	Instructor in Pediatrics, Haojile Medical University
1987-1990:	Resident in Pediatrics, Children's Hospital, Shanghai

Education:
1987 Medical Degree, Henhao Medical University, Shanghai

Honors:
1996 Young Researcher Prize, Chinese Pediatric Society
1987 Outstanding Graduate Award, Henhao Medical University

Other Experience:
1992 Summer Research Traineeship
Department of Pediatrics, Texas Medical University, USA

Publications:

Gan BZ, Gao LL, Zhang LW. Treatment of Dong-Whalen-Gastel syndrome with supermedazol: a preliminary controlled trial. Old Engl Med J 1996;338:794-7.

Gan BZ, Zhou H, Zhang LW, Smith MJ. Immunologic and biochemical abnormalities in Dong-Whalen-Gastel syndrome. Int J Dis Child 1994;32:1188-92.

Li XS, Gan BZ. Prognosis of Dong-Whalen-Gastel syndrome: a longitudinal study. Chin J Pediatr 1992;56:135-42.

Gan BZ, Li XS, Wang D. Dong-Whalen-Gastel syndrome in a Chinese child: case report. J Haojile Med Univ 1989;20:312-5.

Lesson Twenty-Five
Other Types of Scientific Writing:
Case Reports and Theses

Part A: Writing Case Reports

OBJECTIVES OF PART A, LESSON TWENTY-FIVE

By the end of this lesson, you will know
1. some good reasons for writing case reports
2. two main structures for case reports
3. some phrases useful in case reports
4. some additional aspects of language use in case reports

ASSIGNMENTS FOR PART A, LESSON TWENTY-FIVE

1. In the article "Journal Submissions Other Than Scientific Papers," read the section "Case Reports" (see Appendix at the end of Lesson Twenty-Three).
2. Read the material presented below under "Notes on Assignments."
3. Do one or both of the following:
   (a) Identify a patient about whom you might want to write a case report. Write a paragraph briefly describing the case. Also write a paragraph explaining why this case may be worth reporting in a journal.
   (b) Using material in the sections "Some Useful Phrases" and "Some Additional Items on Language Use" below, write at least 5 sentences suitable to include in a case report.

NOTES ON ASSIGNMENTS, PART A

The Assigned Reading

The assigned reading appears at the end of Lesson Twenty-Three. As noted above, please read the section titled "Case Reports" (pages 139-140).

As you will see, the 1st part of this reading discusses reasons to publish case reports in journals. Sometimes young doctors are too eager to submit case reports. Ideally, case reports in journals should contain important new knowledge. In general, they should at least be useful to readers. Rarely should they be merely interesting.

The following are some examples of case reports in journals:
> "Metastatic Renal Cell Carcinoma: Response to Treatment with Human Recombinant Erythropoietin" (Annals of Internal Medicine 1995;122:676-677)
> "Cord-Blood Transplantation from an Unrelated Donor in an Adult with Chronic Myelogenous Leukemia" (New England Journal of Medicine 1996;335:167-170)
> "Hepatitis C Transmission by Cosmetic Tattooing in Women" (Letter) (The Lancet 1996;347:541)

> "Development of Donor-Derived Prostate Cancer in a Recipient Following Orthotopic Heart Transplantation" (JAMA 1997;277:133-137)

Please think about why these case reports may have been worth publishing. If you have time, you may find it useful to look at one or more of these case reports.

The other main part of this week's reading discusses the structure of case reports. Most case reports have 1 of 2 basic structures. Traditionally, a case report consists of the following main sections: Introduction, Case Description, Discussion, and References. Some case reports, however, are structured much like scientific papers, in essentially the IMRAD format. In this latter structure, the Introduction may be followed by a Case Description; then Methods, Results, Discussion, and References may follow. The latter structure may be especially suitable if extensive laboratory studies were done. In deciding which structure to use, it can be helpful to look at other case reports in the journal where you hope to publish yours.

Some Useful Phrases

Knowing some stock phrases can aid in writing case reports, just as it can aid in writing scientific papers. The following are examples of phrases useful in preparing case descriptions. You might recognize these phrases from reading you have done. If some of the phrases are unclear,.you can check a dictionary or consult your local instructor.

>a ___-year history of

>admitted because of
>admitted for evaluation of
>admitted for [name of procedure]

>symptoms consistent with
>associated with

>sudden onset of
>insidious onset of

>precipitated by
>exacerbated by
>relieved by

>There was no history of
>There was no evidence of

>The postoperative course was uneventful
>has been alive and well for ___ years

When you find other phrases that may be useful, you can add them to this list. Then you can more easily write case reports in English. The list also may prove helpful if, for example, you write letters about patients to American colleagues.

Some Additional Items on Language Use

The following are some additional items of language use that pertain to case reports and

other communication about patients.

The words "patient" and "case" often are confused, even by native speakers of English. A patient is a person receiving medical care. A case is an instance (for example, of disease). Thus, you can say that in 3 cases (that is, 3 instances), a side effect developed. However, you should say that 3 patients (not cases, as you are referring to people) had the side effect.

When discussing patients, the terms "man" and "woman" generally are preferable to "male" and "female." The former terms are considered less dehumanizing and thus more respectful. They also are simpler and more readable. Thus, for example, one should say "A 39-year-old man was admitted . . . ," not "A 39-year-old male was admitted."

In writing about diseases, a distinction sometimes is made between "signs" and "symptoms." Signs are indications of disease that can be objectively observed. Symptoms are indications that the patient experiences but that others cannot observe. For example, fever, swelling, and redness are signs. Pain, itching, and fatigue are symptoms.

One final distinction: Perhaps you have noticed that "follow up" sometimes has a hyphen and sometimes does not. "Follow up" (without a hyphen) is a verb. "Follow-up" (with a hyphen) is a noun or an adjective. Thus, for example, you may correctly write: "We will follow up on these findings." "Follow-up is important." "We will conduct follow-up studies."

THE WRITING ASSIGNMENT FOR PART A

Do one or both of the following:

(1) Identify a patient about whom you might want to write a case report. Write a paragraph briefly describing the case. Also write a paragraph explaining why this case may be worth reporting in a journal.

(2) Using material in the sections "Some Useful Phrases" and "Some Additional Items on Language Use" above, write at least 5 sentences suitable to include in a case report.

Please give the assignment to your local instructor.

AN ENDING NOTE: Please feel free to contact your local instructor with questions about this lesson or assignment.

Part B. Writing a Thesis

OBJECTIVES OF PART B, LESSON TWENTY-FIVE

By the end of this lesson, you will
1. Be more familiar with how to write a good thesis
2. Be able to help others write a good thesis

ASSIGNMENTS FOR PART B, LESSON TWENTY-FIVE

1. Read Chapter 23 ("How to Write a Thesis") in the text by Day.
2. Review Chapter 20 ("How to Write a Review Paper") in the text by Day.
3. Add at least 4 items to the brief checklist provided in the section THE WRITING ASSIGNMENT FOR PART B. This checklist could be used to ensure that the content of the 1st draft of a thesis is complete and thorough. The items you list should address the content (not the format) of a thesis.

INTRODUCTION TO CHAPTER 23 IN DAY'S BOOK

Day states that the purpose of the thesis is 2-fold: to present your research and to demonstrate your literacy. You need to show that you are capable of both doing and writing science. We agree with Day that a 200-page thesis is unnecessary. Presenting only material that is relevant and important to your project may be the best way to show that you have attained maturity and scholarship.

Day states there are few rules for writing a thesis. However, if your university has formal requirements for writing a thesis (it may have a thesis manual), you must know those requirements. Failure to meet requirements for the format of your thesis may result in failure to graduate at the appointed time.

We asked you to review Chapter 20 because writing a thesis is similar to writing a review paper. You need to review the work of others that relates to your project. You should prepare an outline before writing a 1st draft of your thesis. On page 142 (paragraph 3), the sentence beginning "Further, there is no bar in a thesis, as there may ..." may be a little confusing. What Day means is there are no restrictions (for example, page length, subject matter) on writing a thesis, so you can be thorough and include a historical perspective on your project. Taking Dr. Rebecca Bartow's personal experience for example: "My own research for my PhD focused on the immune response to tuberculosis. I had a medical historian on my committee, so I thought it would be appropriate to include a thorough history of the epidemiology of tuberculosis. I had fun with this section of my thesis and learned about finding tuberculosis in Egyptian mummies. "

You must start to write your thesis before you complete your research. Day states that you would need 3 months of writing on a full-time basis to complete your thesis and 6 months of writing on a part-time basis. However, you should keep in mind that writing 8 hours a day is not an effective method for clear writing. We would suggest that at least 6 months is necessary to write a successful thesis. You should have already written a proposal for your research and can use that as a basis for starting your thesis.

Day closes his chapter by reminding you that you are the sole author of your thesis. The quality of your thesis may affect your job possibilities and your early reputation as a scientist. If a thesis is well written, you should be able to make some easy changes and publish 1 or 2 manuscripts from it.

MORE INFORMATION ABOUT WRITING A THESIS

There may be some confusion about the difference between a thesis and a dissertation since the words are sometimes used inter-changeably. In the United States, dissertation is often used to describe the document that is written to earn a PhD, and thesis is used to describe the document written to earn a master's degree. However, this rule of usage is not strictly followed.

Because there are no strict rules for writing a thesis, the format can vary. Generally, however, 3 methods for structuring the thesis are used: (1) the IMRAD method, (2) a modified IMRAD method, and (3) a collection of self-contained manuscripts. In the 1st method, the format follows that of a typical scientific paper, the IMRAD method you are studying in this class. The biggest difference between a thesis and an IMRAD paper is that in a thesis, the results section may be divided into chapters because of the amount of data generated during your study. The 2nd method of writing a thesis (modified IMRAD) may be used when you have used a wide variety of methods to obtain results. The modified IMRAD structure comprises a common Introduction for your project; separate chapters consisting of Materials and Methods, Results, and Discussion for each set of experiments; and a general Discussion at the end to tie all the experiments and findings together. The third method, which is probably the least used in the United States, involves writing several complete manuscripts and binding them together as one large document. The manuscripts (usually 2 to 4) may be written in the IMRAD style, and each would be ready for submission to a journal. This method is becoming more common at some institutions in the United States.

Regardless of the format you choose, most theses will contain some or all of the following sections.

1. **Title page.**

2. **Abstract.** This section usually has a word limit (for example, 250 words). If there is no word limit stated, you should still make the abstract a concise summary of your objectives, methods, results, and conclusions.

3. **Table of contents.** Because of the length and the number of chapters involved, you may want to give a summary statement for each section. Try to include page numbers for subheadings within each chapter. Be sure the titles on the Table of Contents match those in the text.

4. **List of figures and tables.** The list should include the title of the figure or table and the page number. Within each chapter, tables and figures may be numbered as a unit, such as Table 3.1, Table 3.2, and Table 3.3. Listing the titles and the page numbers of figures and tables separately is helpful for future use and may avoid confusion.

5. **List of abbreviations.** Standard abbreviations are acceptable; however, the use of nonstandard abbreviations should be avoided. All abbreviations should be defined.

6. **Acknowledgments.** In the United States, it is customary to acknowledge department heads, all committee members, technicians, and other colleagues.

7. The text should include **Introduction, Materials and Methods, Results, and Discussion.** The content of these sections should follow the same guidelines for writing a scientific paper; however, as stated above, each section may be considerably longer and more thorough than in a typical paper. The basics of effective biomedical writing apply to writing a thesis.

8. **Appendixes.** Materials that might disrupt the flow of the text are included in this section. For example, questionnaires, statistical details, or patient information may be included in the appendixes.

9. **References.** Whatever format you choose, be consistent and accurate! Some students choose a journal from their field of expertise to use as a format. We recommend using the format set forth in the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals," which you have received as Appendix A in this Course Packet.

10. **Publications.** If you have already published a paper or an abstract, you may want to include a copy of that publication in the back of your thesis.

Remember when writing the 1st draft of your thesis that you have many resources besides the literature. In the United States, students have a graduate committee consisting of several faculty members who have some type of expertise related to their project. The student's mentor or primary adviser is the committee chair-person and is an excellent source of information. Students in the United States often meet individually with each member of their committee to minimize revisions at a later stage. If you have a graduate committee or a set of advisers, you should keep in mind the expertise of each committee member and try to include, if pertinent, information that would be of particular interest to each member. Often, other graduate students, technicians, or postdoctoral fellows may also be able to provide helpful advice.

You will probably have to write several drafts of your thesis. If time permits, set your 1st draft aside for at least 1 week, then reread and edit it before giving it to committee members. It may be helpful to write a checklist for each section of your thesis to ensure that the content is accurate and complete. When your receive input from your committee members, be sure that you understand all comments before rewriting your draft.

Finally, after all changes approved by the chairperson have been made, you must thoroughly proofread the thesis. You may want to write down a final checklist of all items to be reviewed to ensure that you have caught any discrepancies or mistakes. The following items should be included in your checklist.

Abbreviations

____ Are they necessary?
____ Are they consistent?
____ Are they included in the list of abbreviations at the front?

Format

____ Are titles of tables and figures consistent in style and presentation?
____ Do the numbers of tables and figures match those in the text?
____ Are pages numbered correctly?
____ Are all scientific units consistent and correct?
____ Are reference numbers sequential?
____ Are all references cited in the text?
____ Are any references duplicated?
____ Are all reference citations complete and accurate?
____ Does each table stand on its own?
____ Is information in the table needlessly repeated in the text?
____ Are all headers consistent?

Grammar and Syntax

____ Check for correct spelling, especially plural words (for example, media/medium).
____ Check verb tense.
____ Check for misplaced modifiers and other problems of word order.
____ Eliminate excessive jargon.
____ Check for subject-verb agreement.
____ Check for correct use of articles and prepositions.

THE WRITING ASSIGNMENT FOR PART B

For this lesson's assignment, we have provided below an example of a brief checklist you could use after writing a 1st draft of your thesis. You can use this checklist to ensure that the content of your thesis is complete and thorough. Most items on this checklist also could apply to a manuscript that you are writing to submit for publication.

EXERCISE ON WRITING A THESIS, PART B
Instructions: Add at least 4 items to the checklist. Concentrate more on content than on format. Reviewing chapters from previous lessons may be helpful in completing the checklist.

Introduction

____ Is the purpose of the study clearly stated?
____ Does the beginning start with a broad general topic and narrow to a focus?

Literature Review

____ Have you related what has previously been done to what you have proposed to do?
____ Are adequate transitions provided?

Methods

____ Are methods provided for every result reported?
____ Have you provided enough detail that another investigator could repeat your study?

Results

____ Are results grouped appropriately?
____ Are tables clear and self-explanatory?

Discussion

____ Have you addressed limitations of the study?
____ Have you discussed conclusions for each hypothesis?

AN ENDING NOTE: Please feel free to contact your local instructor with questions about this lesson or assignment.

LESSON Twenty-Six
Understanding the Editorial Process

OBJECTIVE FOR LESSON TWENTY-SIX

By the end of this lesson, you will understand better
1. how a journal editorial office operates
2. why journal copyeditors edit manuscripts

ASSIGNMENTS FOR LESSON TWENTY-SIX

1. Read Chapter 17 ("The Review Process [How to Deal with Editors]") in Day's book.
2. Review pages 17-24 in Iles's book ("Journal Styles" and "Some Insights into How Journals Operate").
3. At the end of this lesson (under the heading "THE WRITING ASSIGNMENT"), you will find 3 scenarios that might occur after you have submitted an article to an American journal. Choose 1 of these, and, on the basis of this section, write a brief paragraph about what you think is the best way for you to respond to the situation. Give your answer to your local instructor for feedback.

PICTURE OF AN EDITORIAL OFFICE

Not all journal editorial offices are alike. The following description, however, is somewhat typical of the situation in a larger journal. It is based on our work at and with journal editorial offices since 1980.

At any one time in a journal editorial office, these phases of the journal are proceeding simultaneously:
- Acknowledging new manuscripts
- Assigning and sending new manuscripts to reviewers
- Making decisions about manuscripts on the basis of the reviewers' comments and the editor's own judgment
- Writing and mailing decision letters to authors
- Reviewing revisions submitted by authors
- Assigning accepted articles to future issues