Introduction

English is a very difficult language:
• Its origins include many language families: French, German, Latin, Greek, and others.
• English has borrowed words from most languages in the world, including Chinese.
• I cannot teach you everything in one lecture, so I will focus on some common problems faced by writers from all countries.

Notes: Today is the most difficult of the three lectures because English is considered by many experts to be the most difficult language to learn. Most of the problem is that English is an old language that has evolved from many other languages, including German, French, Latin, and Greek. In addition, English has adopted (borrowed, inherited) words from most languages in the world, including Chinese. This has created the largest vocabulary of any language in the world. Because of these complexities, it is not possible for me to teach you everything you need to learn about English. Instead, I will focus on some of the common problems encountered by writers from all around the world.

Overview

Today, I'll talk about:
• Verbs: tenses and accord.
• Adjectives (which describe nouns).
• Articles (words that describe specific or general situations).
• Abbreviations.

Notes: Verbs are words that describe an action. English verbs are very different from Chinese verbs because English uses grammatical differences called "tenses" that communicate whether an action occurred in the past, is occurring in the present, or will occur in the future. Verbs must also accord (agree) with the number of the subject (the person, place, or thing) that is performing the action. I will also discuss adjectives later in this reference; these are words that describe the characteristics of a noun. Articles are short words that do not exist in Chinese but that are used in English to indicate whether you mean a specific example, or any example from a large group of examples. (In Appendix II, I have provided some examples of Chinese phrases that would require an article when translated into English.) In English, the word "abbreviate" means "to shorten" something, and I will discuss some of the rules for using abbreviations in English. Abbreviations are shortcuts that replace a long word or a series of words with a single short word, but because they force readers to memorize the meanings of the abbreviation, I will provide some guidance for minimizing the difficulty this creates for the reader.

Verb tenses

English has many complicated verb forms, but they together represent only three main groups:
1. Past: things that are now finished.
Example: We measured the tree's growth rate.

2. Present: things that are still happening, or statements that were and still are valid.
Example: Figure 4 shows the results of this analysis.

3. Future: things that you plan to do but have not yet started, or that you predict will happen.
Example: We will use these results to revise our forest management strategies.

Notes: English has many complicated verb forms, particularly because the Chinese language does not change the verb to reflect the past, present, or future. English verb forms can be categorized into three main groups: The past tense is used for things that are finished. You use the past to describe things that happened before the present moment, which is the time when you are speaking to an audience or writing to the reader. I am currently giving this speech in the present tense because it is happening now. Finally, you use the future tense to describe things that have not yet occurred because they will happen some time after the present moment. For example, in the future, when this speech is finished, I will stay here to answer your questions.

**Verb tenses**

Useful definitions:
- **Conjugation** = changing the verb's spelling to communicate the tense (past, present, or future) or the number (singular or plural).
- A good list of verb conjugations, particularly for irregular verbs (ones that don't follow the standard pattern): <www.conjugation.com>.
- Appendix I provides some complex details about verb tenses, including the grammatical names you can use when you study verbs.
- For writers, it's most helpful to discuss how these tenses are used in the parts of a manuscript.

Notes: In English grammar, changing the form of a verb to communicate the tense (the past, present, or future) or the number of the noun (singular or plural) that is performing some action using the verb is called "conjugation". An unabridged (not shortened, therefore large and comprehensive) English dictionary will contain the verb conjugations for common verbs, but you may find the Conjugation.com Web site a very helpful resource for understanding how to conjugate verbs. However, to use this site, you need to know the names of the many types of past, present, and future tenses. I have provided an Appendix at the end of this presentation that provides the names and descriptions of these more complex tenses. I designed this appendix to serve as a reference: you can use it to identify which situation you are trying to describe, and for that situation, learn the name of the correct verb tense. You can then research the correct conjugation for that verb tense at Conjugation.com. I won't discuss these grammatical details today. Instead, I will focus on how they are most important to you as a writer: how to use the three main verb tenses when you are writing a journal manuscript.

**Verb tenses**

In the Abstract or Executive Summary:
- Past: Most of this section summarizes actions that are now finished, so most of the verbs are in the past tense.
- Present: Switch to the present to describe things that you are doing to fill gaps in your research.
• Future: Use the future to tell readers what will happen next and the implications of your research.

Notes: Most of the Abstract or Executive Summary summarizes actions that are now finished, and as a result, most of the verbs are in the past tense. You should switch to the present tense when it is necessary to describe things that you are doing now, based on the results of your study, to fill in any gaps (omissions, unanswered questions) in your research. You should use the future tense to tell readers what will happen next, such as your plans for your next study, or the implications of your research, which involve how people will use your results in the future. For example, they may use your results to improve the implementation of their management activities or to define their own future research.

Verb tenses

In the Introduction:
• Past: Describe what previous researchers found and the implications (e.g., knowledge gaps, best research methods) for your research.
• Present: Report current concerns or problems that are the reason for your research.
• Future: Describe what you plan to do (in the rest of the manuscript or in future research) to solve the research problems that you have discussed in the Introduction.

Notes: In the Introduction, one of your first goals is to describe what previous researchers have found in their own research and the implications for the research you will be describing in the present paper. This description may include knowledge gaps (things that we do not understand) or research methods that have been used in the past to study a particular type of problem. Because this information occurred in the past, you use the past tense. The problem you are trying to solve based on this historical information is described in the present tense. For example, desertification is a problem right now in China. You would use the future tense to describe what you plan to do to solve the research problems that you have discussed in the Introduction. The future may refer to the words what you will write after the Introduction section (in the rest of the manuscript), or it may refer to your future research if the current manuscript does not completely answer your research questions.

Verb tenses

In the Methods:
• Past: Most of this section describes actions that are now finished, so most should be in the past tense.
• Present: Rarely used, except to indicate when the current study is part of a larger series of studies that you or someone else is now doing (now = present).
  Example: We are also studying...
• Future: Rarely used, unless the current study is one step in a longer series of studies to develop a new methodology.
  Example: Next year, we will study...

Notes: Most of the Methods section describes actions that are now finished (because you have completed your research), so most should be written in the past tense. For this reason, the present tense is rarely used, except to indicate when the current study is part of a larger series of studies that you or someone else is now doing (now = present, while
the reader is reading your paper). The future tense is rarely used, unless the current study is one step in a longer effort to develop a new methodology. Then, you can say that the present paper is step 1, and in the future, you will perform step 2.

**Verb tenses**

In the Results, Discussion, and Conclusions:

- **Past**: Used when you report the results from the present study and when you compare your results with previous (past) research.
- **Present**: Used for statements that are true now and that will remain true (i.e., hypotheses, conclusions).
- **Future**: Used to describe areas for which knowledge is incomplete (i.e., areas that require future research).

**Notes:** In the Results, Discussion, and Conclusions, use the past tense when you report results from the present study and when you compare your results with previous research; since the previous research occurred before the current research, it occurred in the past. Use the present tense for statements that are true now and that will remain true, such as your hypotheses and any conclusions that you based on your results. Use the future tense to describe areas for which your knowledge is incomplete and that will therefore require more research in the future.

**Verb accord**

"Accord" means agreement. In addition to the tenses (past, present, and future), English verbs must agree with the number of subjects:

- If you can replace the subject with the words "this one thing" (e.g., a parameter name), the subject is singular:
  
  Example: Tree diameter [this one thing] is one growth parameter.

- If you can replace the subject with the words "more than one" (e.g., values of a parameter), the subject is plural:
  
  Example: The diameters of the trees [more than one] were all <20 cm.

The words and or are clues to the correct accord:

- **And** means two or more things; thus, it requires a plural verb form (A and B are).
- **Or** means only one of two options; thus, it requires a singular verb (A or B is).

Avoid using and/or, because the meaning is not defined in English. Use one of the following alternatives:

- "A and B" when you mean both.
- "A or B" when you mean only one.
- "A, B, or both" when you mean all three possibilities.

**Notes:** "Accord" means agreement. Unlike languages such as French and Spanish, English has no gender (male/female) accord, but verbs must accord (must agree with) the timing of events; that is, the verb must agree with whether the events you are describing took place (occurred) in the past, are taking place (are occurring) in the present, or will take place (will occur) in the future. English verbs must also agree with the number of subjects. This is called "subject–verb accord": the subject is the person, place, or thing that performs an action using the verb. Accord can be described using two simple rules:

- First, if you can replace the subject with the words "this one thing", the subject is singular. Parameter names are singular. For example, if you write that "tree diameter is an important growth parameter", the parameter is "tree diameter", and this is one
thing. As a result, the verb (is) is singular.

- Second, if you can replace the subject with the words "more than one", this means that the subject is plural. The values of a parameter are plural. For example, if you write "the diameters of the trees were <20 cm", you are discussing more than one diameter, so the subject must be plural.

In English, there are also two words that provide a strong clue about whether the subject is singular or plural. The word and means two or more things; thus, it requires a plural verb form (A and B are). The word or means only one of two options; thus, it requires a singular verb (A or B is). Many authors use and/or, but this wording does not have a standard meaning in English, so the meaning is not clear. For clarity, you should always use and or or (as I explained earlier in this section), or "A, B, or both" when you mean that all three alternatives are possible: A and B ("both"), A, or B.

**Verb accord**

Verb accord also means agreement with the intended meaning:

- If you are treating the subject as a single thing, the verb is singular. Ex: The data is convincing. (Here, data = one dataset.)
- If you are treating the subject as two or more independent things, the verb becomes plural. Ex: The data were collected for 2 days. (Here, data = values from day 1 and values from day 2.)
- It is never wrong to treat "data" as a plural noun (more than one datum), so the simplest solution is to always use a plural verb form with this word.

Notes: "Notional" accord means accord (agreement) with the intended meaning (the "notion"). Some subjects (nouns) can be treated as if they are a single thing. In that case, the verb is singular. For example, if you write "the data is convincing", you mean the whole set of data (one dataset) and the subject is therefore singular. In contrast, if you are treating the subject as two or more independent things, the verb becomes plural. For example, if you write "the data were collected over 2 days", the meaning is that you have data from day 1 and more data from day 2. Thus, the subject is plural because there are two datasets. Note that in English, it is never wrong to treat "data" as a plural noun because the literal meaning is "more than one datum". If you do not want to decide whether to treat data as singular or plural, the simplest solution is to always use the plural verb form (data are).

**Articles**

Articles distinguish between specific and general:

- For a specific thing, where there is only one possibility, use the definite (specific) article "the".
- For any member of a group, with no need to define which one you mean, use the indefinite (i.e., not definite) articles "a" or "an".
- There are many exceptions, so articles can be difficult even for native speakers. For
some examples, all you can do is memorize them.

• Copying patterns in published articles is helpful. Some writers find it helpful to create personal reference lists of phrases they have trouble with.
• Appendix II provides some additional examples.

Use "the" for a specific example. Clues that you should use "the":
• You could write "this" or "that" instead of "the", as if you were pointing at something when you speak.
  Example: This [zhèige] cultivar grows quickly.
  Example: That [nèige] cultivar grows slowly.
• There is only one possibility (usually indicated by an adjective).
  Example: Poplar is the only species that cannot grow in this soil.
  Example: The fastest growth rate... (only one can be fastest)

Use "a" or "an" when your words apply to any member of a group, not to one specific member:
• Use "an" before letters that are pronounced as vowels (a, e, i, o, u); use "a" before all other letters.
• Use "a" or "an" where you would say "one member of a group".
  Example: Willow is a species that grows rapidly.
• Indefinite articles never come before a plural noun or before a word that has no plural:
  Wrong: "an equipment" ("equipments" doesn't exist in English).
  Right: "an experiment" ("experiments" is valid English).

You can combine definite and indefinite articles:
• To move from general (indefinite) to specific (definite).
  Ex: We studied a tree yesterday. The tree was a pine.
• To move from specific (definite) to general (indefinite).
  Ex: We studied the Chinese loess plateau. A site in this area had experienced severe soil erosion.

When should you not use an article?
• To talk about a noun in general.
  Example: Forestry is a complex science.
• If you can replace the subject of the sentence with "all [subject] everywhere", no article is required:
  Example: "Trees [all trees everywhere] photosynthesize".
• In front of a name of a person, place, or thing that is not being used as an adjective
  Example: I am learning Chinese.
  Compare: I am learning the Chinese language.

Adjectives
Adjectives provide more details about a noun (about a person, place, or thing):
• In English, adjectives almost always come before the noun they describe.
  Example: a birch forest.
• Adjectives can follow the noun if they are part of a longer phrase.
  Example: a forest managed according to Chinese guidelines = a managed forest
• Adjectives follow a definite (the) or indefinite (a, an) article.
Example: We used a Chinese poplar cultivar from the Asian group.

- Adjectives are almost always singular.

Notes: Adjectives provide more details about a noun (about a person, place, or thing). In English, adjectives almost always come before the noun that they describe. For example, when the subject of the sentence (a noun) is a plantation, and you want to describe the species, the species name becomes the adjective that describes the type of plantation and comes before the noun, as in the phrase "a poplar forest". Adjectives can follow the noun if they are part of a longer phrase. For example, if the subject is a forest and you want to describe its management regime, you could write "a forest managed according to Chinese guidelines". Adjectives also follow a definite article ("the") when you are specifying only one member of a group or follow an indefinite article ("a" or "an") for any member of the group. For example, "we planted a Chinese poplar cultivar from the Asian group." In addition, adjectives are almost always singular.

**Adjectives**

"Compound" adjectives combine two or more words so that they function like a single word:

- Join the words with a hyphen (-) if they come before the noun and you could replace them with a single word.
  
  Example: a 50-year study = a long study

- When the adjectives follow the noun, they are not hyphenated.
  
  Example: a study that was 50 years long

- Avoid using three or more words to form a compound adjective (more difficult to understand):
  
  Example: high-spatial-resolution image data → image data with high spatial resolution

Notes: When you want to describe two or more properties of a noun simultaneously, you can combine two or more words so that they function as if they are a single word. This is called a "compound" adjective; here, the word "compound" means to combine two or more things, like in the case of a chemical compound. If you can replace the two or more words with a single word and they come before the noun, this means that you should join them with a hyphen (-). For example, writing "a 50-year study" is the same as writing "a long study". When the adjectives follow the noun, they are not hyphenated. In general, you should avoid using three or more words to form a compound adjective because this is more difficult to understand: the reader must hold all those adjectives in their memory until they reach the noun; only when they reach the noun can they understand what purpose the adjectives serve. For example, "high-spatial-resolution image data" is less clear than "image data with high spatial resolution".

**Abbreviations**

Abbreviations reduce repetition of long or complicated words and phrases, but make writing hard to understand:

- Only use abbreviations when they are familiar to readers (e.g., DBH) or helpful:
  
  - for complex or long phrases (rarely for single words)
  - for parameter (variable) names
  - where space is limited, like in a graph
  - only if used at least 3 times.
• Always define abbreviations the first time you use them: "a three-letter abbreviation (TLA)".
• Abbreviations must be defined in the Abstract, the main text, and any figures or tables that use the abbreviation.

Notes: In English, the word "abbreviate" means to shorten something. Abbreviations are commonly used to reduce the repetition of long or complicated words and phrases, both to reduce the length of a paper and to reduce the amount of typing authors must do. Unfortunately, the more abbreviations you use, the harder your writing is to understand because you require readers to memorize the meanings of all your abbreviations. Thus, you should mostly use abbreviations when they are familiar to the readers, and thus do not require additional memorization. For example, DBH (diameter at breast height) is familiar to all foresters, so using it does not create a burden for the reader. You can also use abbreviations when they really help both you and the reader. Abbreviations are helpful when you must replace complex or long phrases, such as "geographical information system" (GIS) or "two-way indicator-species analysis" (TWINSPAN). You can also use them for parameter (variable) names because this makes equations easier to read than if you used the full names of each parameter. Abbreviations are also useful where there is insufficient space for the full name, like in a graph; then, you have no room to use the full words. Because single short words are easy to understand, you should rarely abbreviate single words. Also remember that if an abbreviation will be used fewer than (less than) three times, there is little benefit from using an abbreviation: you don't save enough space to make it worthwhile. Unless you are certain that your audience will understand the abbreviation, always define abbreviations the first time you use them. The definitions must appear in the Abstract, the first time a word appears in the main text of your manuscript, and in any figures or tables that use the abbreviation. The reason for this repetition is that readers may read the Abstract before they read the text, or may read the text before they read the Abstract, and they could miss your definition if it only occurred once. Similarly, defining abbreviations again in figures and tables helps readers to remember the meaning of the abbreviations without having to search through the text to find them.

Appendix I: Complexities of English verb tenses

Notes: Because I will not discuss this information during the lecture, this section is provided purely as a reference. Use it to find the type of situation you want to describe and identify what verb tense is associated with that situation. You can then consult a dictionary or Conjugation.com to learn the correct spelling for the verb in that tense.

A few useful definitions you may need when you read a grammar book or use Conjugation.com:
• Phrasal verbs combine a verb with a preposition (underlined).
  Example: settle down, stand up
• Transitive verbs require an object (underlined).
  Example: I measured the specimen and recorded the data.
• Intransitive verbs do not require an object.
  Example: We succeeded.
• In the dictionary, the two forms will typically be identified with "tr.v." and "intr.v." or similar abbreviations. Some verbs have both transitive and intransitive forms.
• Principal (primary, main) verbs can stand alone, or can be combined with auxiliary
verbs (e.g., be, can, do, have, may, must, ought, shall, will).
Example: I already ate, but I can eat later too.

• Verb "moods":
  – indicative: questions, statements of fact.
  – imperative: commands or instructions.
  – subjunctive: a wish, desire, or possibility rather than an expression of reality.

As I noted earlier, English verbs can be complex:
• In the following slides, I have attempted to simplify this complexity using a common simplified taxonomy of verb tenses.
• Use this list, in combination with a resource such as Conjugation.com or an unabridged dictionary, to identify what verb tense you need to use, then research the correct form of the verb for that tense.
• Synonyms for the names of tenses:
  – indicative = simple
  – progressive = continuous

More about the present tense:
• Indicative: indicates habitual actions or statements of current truth.
  Example: I read many books.
• Progressive: indicates things that are continuing (progressing) now.
  Example: We are reading this slide.
• Perfect: indicates something nearly completed that has continuing effects.
  Example: It has been a long day.
• Perfect progressive: an ongoing action that has continuing effects.
  Example: I have been presenting these slides for 3 hours.

More about the past tense:
• Indicative: indicates things that ended at a specific time and are not directly connected to the present.
  Example: I studied genetics in university.
• Perfect: adding had to the main verb indicates you completed the action before starting a new action.
  Example: I had believed [belief], but changed my mind.
• Progressive: indicates an ongoing past event, often simultaneous with other events.
  Example: While I was writing this lecture, I edited 5 papers.
• Perfect progressive: indicates an ongoing action that continues to the present.
  Example: I have been writing a book on editing.

More about the future tense:
• Indicative: simple predictions of the future.
  Example: I will continue to study genetics.
• Perfect: Add will have to the main verb to indicate something that will be complete before something new begins or something that continues in the future.
  Example: When I am 50 years old, I will have worked for 25 years.
• Progressive: indicates a future activity that continues.
  Example: We will be studying grammar from 9:00 to 12:00 AM.
• Perfect progressive: describes an action that will have been continuing for some duration at some point in the future.
Example: By lunch, we will have been studying for 3 hours.

Appendix II: Articles

Here are more examples of useful clues you can use to determine which article (the, a, or an) you should use in a given situation, as well as when you should not use articles at all. The list of references at the end of this document will help you find many more examples.

Use "the" for a specific example. Clues that you should use "the":

- You refer to something previously mentioned.
  Example: The species at site 1... (no other species)
- Words after the noun clarify which example you mean.
  Example: The species that we studied... (no other species)

The Chinese language does not use articles. Here are some examples of Chinese phrases in which the noun requires a definite article in English:

- Words that relate to something specific and that appear at the start of a sentence: shū zài nà
- Nouns preceded by a number, especially when dōu is present: sìge xuéshēng dōu hěn cōngmíng
- When zhè or nà appears when a noun follows a verb: wǒ yào mǎi nà zhāng huà

Here are some Chinese phrases that show the kinds of patterns that require an indefinite article in English:

- Words at the end of a sentence: nàr yǒu huà
- Nouns at the start of a sentence that are intended to be general and that include shì: xióngmāo shì dòngwù
- Nouns followed by an adjective: pútáo hěn tián
- Nouns with an auxiliary verb: xiǎo māo huì zhuā lǎoshū
- Verbs that mean a habitual action: niú chī cǎo
- Phrases where yǒu comes before a noun and a verb: yǒu shū zài zhūōzhìshàng

Notes: I will not discuss these Chinese examples in more detail because my knowledge of Chinese grammar is inadequate.

The previous slides (in the main presentation and in this appendix) tell us which article to use, but not when it is necessary to use an article. Use one:

- To describe one specific item (the) or any member of a group of items (a or an).
- Before an adjective or similar specifier: "the/a Chinese forest"
- For a property of something: "we measured the height of the trees".
- For part of the whole: "we studied a subset of the plants", "we studied the subset of the plants that grow in sandy soils"
- Before a superlative (only one can possess this property): the first, the biggest

Other examples when you should not use an article:

- For something that is not counted and not specific.
  Compare: Growth decreases when water is not available.
- Exception: When a proper noun (the name of a person, place, or thing) is used as an adjective, use an article.
Example: the Yangtze River = the Yangtze
• Exception: Before a plural, where the first word functions as an adjective.
  Example: the United States

Useful references
Purdue University Online Writing Lab:
• Miscellaneous useful writing advice: <http://owl.english.purdue.edu/owl/>
• Advice on articles: <http://owl.english.purdue.edu/owl/resource/540/01/>
University of Oregon. [no date] Online grammar guide. <http://grammar.uoregon.edu/toc.html>