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Since this book is a guide to writing academic English, many of the illustrative texts contain citations. For obvious reasons, we have not included these illustrative citations in this reference list. Every publisher requires its authors to use a particular style for references. We used APA.

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3. Other Expressions

TABLE 29: Some Other Useful Latin Expressions

Anno Domini (A.D.)/A.C.E.	in the year of the Lord, or the number of years after the beginning of Christianity[3]
bona fide	in good faith (e.g., a *bona fide* effort to solve a problem)
caveat	a caution or warning (e.g., Caveat emptor: "Let the buyer beware")
ceteris paribus	other things being equal (used particularly by economists)
curriculum vitae	summary of one's education and academic accomplishments
ego	literally *I*, the consciousness or projection of oneself
locus classicus	the standard or most authoritative source of an idea or reference
quid pro quo	something for something, to give or ask for something in return for a favor or service
status quo	things as they are, the normal or standard situation
sui generis	unique
viva (voce)	an oral examination

There are further uses of Latin that Appendix Three does not cover. Most obviously, it does not deal with the technical details of Latin names in the life sciences. However, we observe, in passing, that Latin names do not take generic articles (see Appendix One). Compare the following.

> The Common Loon breeds in the northern part of Michigan.
>
> *Gavia immer* breeds in the northern part of Michigan.

Appendix Three also does not address the widespread use of Latin in British and American law, but useful resources can be found on the internet.

[3] Today it is preferable to use A.C.E. (After Common Era) and its counterpart B.C.E. (Before Common Era).

2. Latin Expressions Starting with a Preposition

TABLE 28: Latin Expressions Starting with a Preposition

a fortiori	with even stronger reason
a posteriori	reasoning based on past experience or from effects to causes
a priori	deductive reasoning or from causes to effects
ab initio	from the beginning
ad hoc	improvised, for a specific occasion, not based on regular principles (e.g., an *ad hoc* solution)
ad infinitum	to infinity, for forever, or without end
ad lib	at will, so to speak off the top of the head
ante meridiem	before noon, typically abbreviated A.M.
antebellum	before the war, usually before the American Civil War
circa (c. or ca.)	about, approximately, usually used with dates (e.g., c. 1620)
de facto	from the fact, so existing by fact, not by right (e.g., in a *de facto* government)
de jure	from the law, so existing by right
ex post facto	after the fact, so retrospectively
in memoriam	in the memory of a person
in situ	in its original or appointed place (e.g., research conducted *in situ*)
in toto	in its entirety
in vitro	in a glass (e.g., experiments conducted in vitro)
in vivo	in life, experiments conducted on living organisms
inter alia	among other things
per capita	per head, so a *per capita* income of $20,000
per diem	per day, so expenses allowed each day
post meridiem	after noon, typically abbreviated to P.M.
postmortem	after death, an examination into the cause of death
pro rata	in proportion (e.g., *pro rata* payment for working half time)
sine die	without a day, with no time fixed for the next meeting
sine qua non	without which not, hence an essential precondition for something

1. Expressions Referring to Textual Matters

TABLE 27: Common Latin Expressions Referring to Textual Matters

Expression	Full Form	Literal Meaning	Modern Use
cf.	*confer*	compare	compare
e.g.	*exempli gratia*	free example	for example
et al.	*et alii*	and others	and other authors
etc.	*et cetera*	and other things	and others
errata	*errata*	errors	list of typographical mistakes
ibid.	*ibidem*	in the same place	the same as the previous reference
i.e.	*id est*	that is	that is to say
infra	*infra*	below	see below
loc. cit.	*loco citato*	in the place cited	in the place cited
N.B.	*nota bene*	note well	take note
op. cit.	*opere citato*	in the work cited	in the work cited
passim	*passim*	here and there	the point is made in several places
P.S.	*post scriptum*	after writing	something added after the signature
sic	*sic*	thus	the error is in the original quote
supra	*supra*	above	see above
viz.	*videlicet*	obviously	namely

Appendix Three: Academic English and Latin Phrases

Nearly all academic languages make occasional use of foreign phrases and expressions, either to add technical precision or to add "color" to the text. English is no exception. Although in many fields the use of expressions or words from French or German may be declining in academic English, the tradition of incorporating bits of Latin remains surprisingly strong. For that reason, Appendix Three (*appendix* is a Latin word!) deals only with Latin. We include it primarily to help you negotiate Latin expressions in your reading. You should consider the preferences of your field when deciding whether to use such expressions in your own writing.

Did you know that *per* in *percent* or *kilometers per hour* is a Latin preposition that originally meant "through" or "by"? *Per* is also used in the Latin expression *per se* meaning "through" or "of itself," and hence "intrinsically."

> Although education conveys important economic benefits, it is also valuable *per se.*

As this example shows, Latin expressions are often set apart from the English language text by italics.

Did you know that all the following abbreviations derive from Latin? How many do you know? How many can you give the full form for?

1. e.g.
2. i.e.
3. N.B.
4. A.M.
5. P.M.
6. P.S.
7. etc.
8. A.D.
9. C.V.
10. ad lib

We have divided the expressions into three groups.

TASK THREE

Read this passage and fill in the blanks with either *a, an, the,* or Ø.

Much has been learned about _____ brain in _____ last 150 years. _____ brain, _____ most complicated organ of _____ body, contains _____ ten billion nerve cells and is divided into _____ two cerebral hemispheres, one on _____ right and one on _____ left. Interestingly, _____ left hemisphere controls _____ movements on _____ right side of _____ body, while _____ right hemisphere controls _____ movements on _____ left.

_____ researchers also know that _____ specific abilities and behaviors are localized; in _____ other words, they are controlled by _____ specific areas of _____ brain. _____ language, it seems, is highly localized in _____ left hemisphere. In _____ 1860s, Dr. Paul Broca discovered that _____ damage to _____ front left part of _____ brain resulted in _____ telegraphic speech similar to that of young children. Soon thereafter, Karl Wernicke found that _____ damage to _____ back left part of _____ brain resulted in _____ speech with _____ little semantic meaning. These two regions in _____ brain are now referred to as _____ Broca's area and _____ Wernicke's area.

Although there is some debate surrounding _____ specialization of _____ brain, _____ researchers generally agree that _____ speech is controlled by _____ left side. There is no debate that in _____ great majority of cases, _____ injuries to _____ left side nearly always have _____ impact on _____ speech.

Compare the specific and general noun phrases in Table 26.

TABLE 26. Specific versus General Noun Phrases

	Specific	General
1.	*The disinfectant* caused an allergic reaction.	*A disinfectant* is an agent capable of destroying disease-causing microorganisms.
2.	*The solar car built at the University of Michigan* won the race.	*Solar cars* that could travel long distances would certainly result in a cleaner environment.
3.	*The computer* crashed while running the program.	*The computer* has replaced the typewriter.
4.	*The water added to the feedstock* is given as a percentage.	*Water* is necessary for all living organisms.

Of the four generalizations in Table 26, Numbers 1 and 3 are generic. As you can see, with generics, a singular formulation represents the whole.

Abstract versus Concrete Generics

Generics can generally be divided into two different types: the abstract generic and the concrete generic. An abstract generic refers to an *entire class* of objects, while the concrete generic refers to *a representative* of a class. Look at the examples in Table 26. Abstract generics, such as Number 3, require *the*, while concrete generics (1 and 4) use either *a* (with a singular count noun) or Ø (for non-count nouns). On this last point, here are two further examples.

Abstract: *The wasp* can detect unique volatile compounds over great distances.

Concrete: *A wasp* can be trained to detect odors.

Abstract: *The computer* has been invaluable in scientific advancement.

Concrete: *A computer* has become standard office equipment in most parts of the world.

Because generics are used to make generalized statements, they are typically used only with the simple tenses, particularly the present. Nevertheless, they can sometimes be used with the present perfect (as can be seen in the *computer* examples) or the continuous.

The elephant *has come* dangerously close to extinction.

Synthetic skin and computer modeling *are replacing* animal skin in the testing of cosmetic products.

TASK TWO

Fill in the blanks with either *a, an, the,* or Ø.

_____ writing is _____ complex sociocognitive process involving _____ construction of _____ recorded messages on _____ paper or some other material and, more recently, on _____ computer screen. _____ skills needed to write range from making_____ appropriate graphic marks, through utilizing _____ resources of _____ chosen language, to anticipating _____ reactions of _____ intended readers. _____ writing as composing needs to be distinguished from _____ simpler task of _____ copying. _____ writing is slower than _____ other skills of _____ listening, _____ reading, and _____ speaking. It is further slowed by _____ processes of _____ thinking, _____ re-reading what has been written, and _____ revising. _____ writing is not _____ natural ability like _____ speaking but has to be acquired through _____ years of _____ training or _____ schooling. Although _____ writing systems have been in existence for about 5,000 years, even today, only _____ minority of _____ world's population knows how to write.

4. Generics, Specifics, and Generalizations

Generalizations of various kinds—and often qualified—are obviously important in academic writing. They are more likely to occur in the Introduction and Discussion/Conclusions sections, often as initial (and topic) sentences in paragraphs.

A generic noun or noun phrase can represent an entire class or can be one representative of a class of objects, people, quantities, or ideas. A generic noun is like an archetype in that it manifests what is typical for the class. For this reason, generics are used in formal definitions (see Appendix One).

- Shared knowledge or unique reference
  a. *The sun* rises in the east and sets in the west.
  b. *The oxygen balance* in the atmosphere is maintained by photosynthesis.
  c. *The stars* are fueled by fusion reactions.
- *Of* phrases or other forms of postmodification (but not with first mention of partitive[2] *of* phrases such as *a molecule of oxygen, a layer of silicon,* or *a piece of information*)
  a. *The behavior of this species* varies.
  b. *The price of gold* fluctuates.
  c. *The results of the investigation* were inconclusive.
- Partitive *of* phrases with plurals
  a. *None of the projects* was satisfactory.
  b. *Some of the subjects* had adverse reactions.
  c. *All of the questionnaires* were returned.
- Names of theories, effects, devices, scales, and so on modified by a proper name used as an *adjective*
  a. *the Doppler* effect
  b. *the Heisenberg* uncertainty principle
  c. *the Hubble* telescope
  d. *the Kelvin* scale

Note, however, that when a proper name is used in the *possessive form,* no article is used.

a. Coulomb's law
b. Einstein's theory of relativity
c. Broca's area
d. Wegener's hypothesis

[2] A partitive phrase is a construction that denotes part of a whole.

2. The Indefinite Article and Ø

Once you have determined what type of noun you are using, you can then make some further decisions regarding your choice (or omission) of an article. As you know, *a(n)* indicates that the noun is any single countable item, rather than a specific one. *A* is used before consonant sounds, while *an* is used before vowel sounds. Note that sound, not spelling, is the criterion. This explains why we write *an uprising* but *a university* and *a lead battery* but *an LED display.*

A(n) is typically used with the first mention of a singular countable noun, but not always. There are a number of linguistic contexts that require the use of *the.* (See Section 3, The Definite Article.)

Usually, no article (Ø) is necessary for the first mention of a plural or a non-count noun where none of the special conditions for definite article use apply. (See Section 3.)

3. The Definite Article

The use of the definite article is far more problematic than the use of the indefinite because the definite article is used in a number of different ways. The most important of these, however, is to specify a particular noun, to make clear that reference is being made to a particular singular or plural noun. The definite article should be used in the following contexts.

- Second mention (either explicit or implicit)
  a. The surface is covered by *a thin oxide film. The film* protects the surface from corrosion.
  b. A very lightweight car was developed, but *the vehicle* performed poorly in crash tests.
  c. A new computer was purchased to complete the process, but *the hard drive* was damaged.
- Superlatives or ordinals
  a. *The most-controlled therapy* yielded the best results.
  b. *The first studies* were conducted in early 1993.
  c. *The last security conference* was termed a success.
- Specifiers (e.g., *same, sole, only, chief, principal . . .*)
  a. *The same subjects* were retested at two-week intervals.
  b. *The only research* previously done in this area yielded mixed results.
  c. *The principal causes* of the disaster have yet to be discovered.

An important group of nouns in this category refers to concepts that can be measured or quantified. Examples of these are *temperature, pressure, voltage, growth, density,* and *velocity.* Can you describe the difference between *temperature* and *a temperature?*

A thermometer measures temperature.

Temperature is expressed in degrees.

A temperature of over 120°C was recorded.

The patient ran a high temperature for several days.

Fourth, some nouns that are non-count nouns in everyday English may be count nouns in technical English. Can you explain the difference in usage between the italicized nouns in the following sentences?

Rice is a staple food around the world.

A rice that can resist certain types of diseases should be introduced to the farmers of the region.

Steel is critical for the construction of skyscrapers.

The use of *a* light-weight *steel* would improve fuel efficiency.

There are at least two possible explanations for the difference. One is that the second sentence of each set involves a highly specialized use of the term that would most likely only be used by experts in the field. For example, while most non-experts would make a distinction between *rice* and *wheat* or between *steel* and *aluminum,* they would not necessarily distinguish between different types of rice or steel. Experts, however, can and do. Another reason may be for purposes of conciseness. It is simply more efficient for experts to talk of *steels* rather than *different types of steel.* (However, we recommend that you do not shift non-count nouns to count nouns unless you have seen examples from your field of study.)

Determining whether a noun is countable may not be as easy as it seems. First, you cannot tell whether a noun is countable simply by looking at it. Some nouns that you intuitively think can be counted may not be countable. Money, for example, can be counted; however, the word *money* is a non-count noun. Second, a noun that is countable in one language may not be countable in another and vice versa. *Information,* for example, is a non-count noun in English but a count noun in most of its European equivalents. The following are usually non-count nouns in English.

Names for languages—*Chinese, Korean, French, Arabic . . .*

Names for areas of study—*physics, biology, economics . . .*

Names for solids—*coal, steel, marble . . .*

Names for liquids—*water, nitric acid, oil . . .*

Names for gases—*oxygen, hydrogen, methane . . .*

Names for powders—*salt, sugar, sand . . .*

Third, although you may have learned that nouns are either count or non-count, this is not the whole story. There are quite a number of nouns that can be either. These can be referred to as *double nouns.* There may even be considerable differences in meaning between a count noun and its non-count counterpart. Table 25 lists some double nouns.

TABLE 25. Double Nouns

Non-Count	Count
analysis (in general)	an analysis (a particular one)
calculation (in general)	a calculation (a particular one)
diamond (the hard substance)	a diamond (a precious stone)
grain (in general), i.e., cereal	a grain (a particular one), i.e., a grain of salt
science (in general)	a science (a particular one)
sound (in general)	a sound (a particular one)

Appendix Two: Articles in Academic Writing

Three of the most common words in the English language are also three of the most difficult to use. We are referring to the articles *a, an,* and *the.* We will not attempt here to give you every rule of article use in English, but we will provide you with a quick review of some basic rules to guide you in your choice of *a, an, the,* or Ø (no article needed).

1. Countability

Before deciding if you should use an article, you should determine whether the noun in question is countable (count) or uncountable (non-count) and whether it is generic (representative or symbolic). Count nouns can take the plural; non-count nouns cannot, or can only do so under special circumstances. Let us first take a look at specific nouns and countability. We will take a look at generic use later.

TASK ONE

Mark the following nouns as either count (C) or non-count (NC).

behavior	___	money	___
complication	___	problem	___
crisis	___	progress	___
device	___	proposal	___
discrepancy	___	research	___
energy	___	reception	___
equipment	___	research project	___

TASK TWO

Reduce the relative clauses where possible.

1. Aluminum is a lightweight metal that is often used for high-tension power transmission.
2. Phonetics is a branch of linguistics in which speech sounds are studied.
3. A brake is a device that is capable of slowing the motion of a mechanism.
4. A dome is generally a hemispherical roof which is on top of a circular, square, or other-shaped space.
5. Snow is a form of precipitation which results from the sublimation of water vapor into solid crystals at temperatures below 0°C.
6. An antigen is a substance which causes the formation of antibodies, the body's natural response to foreign substances.
7. A piccolo is a small flute that is pitched an octave higher than a standard flute.
8. Membrane permeation is a separation process that involves the selective transport of gas molecules through a permeable polymeric film.
9. A catalyst is a substance that can speed up the rate of a chemical reaction without changing its own structure.
10. A black hole is a celestial body which has approximately the same mass as the sun and a gravitational radius of about 3 km.

A moon is a natural satellite *which orbits* a planet. →

A moon is a natural satellite *orbiting* a planet.

Russian is a language *that belongs* to the East Slavic subgroup of the Indo-European language family. →

Russian is a language *belonging* to the East Slavic subgroup of the Indo-European language family.

It is also important to note that a relative clause containing a modal auxiliary cannot be reduced. Look at the following example. What would be the effect on the meaning of the definition if the modal *may* were omitted?

In human resource management, a shock is a sudden and unexpected event that may cause employees to think about how that event will affect their jobs.

Also note it is not possible to reduce a relative clause if it opens with a preposition.

An axis is an imaginary line about which a body is said to rotate.

In dentistry, enamel is a hard, white inorganic material *that is on* the crown of a tooth. →

In dentistry, enamel is a hard, white inorganic material *on* the crown of a tooth.

(Note how the opening phrase *In dentistry* restricts the scope of the definition.)

2. the relative clause opens with a relative word immediately followed by a passive verb

A theater is a building *that has been* specifically designed for dramatic performances. →

A theater is a building *specifically* designed for dramatic performances.

A collagen is a white, inelastic protein *that is formed* and maintained by fibroblasts. →

A collagen is a white, inelastic protein *formed* and maintained by fibroblasts.

Change in Word Form or Larger Change

You may reduce the relative clause if

1. the relative clause contains the verb *have*. In this case the relative pronoun and *have* can both be dropped and replaced by *with*.

A parliament is a national governing body *which has* the highest level of legislative power within a state. →

A parliament is a national governing body *with* the highest level of legislative power within a state.

2. the relative clause contains an active state verb (a verb that expresses a state or unchanging condition). The relative pronoun is dropped and the verb changed to the *-ing* form. Exceptions to this are *to be* and *have*.

Pollution is a form of contamination *that often results* from human activity. →

Pollution is a form of contamination *often resulting* from human activity.

3. White dwarf is star that is unusually faint given its extreme temperature.
4. Rice is cereal grain that usually requires subtropical climate and abundance of moisture for growth.
5. Transduction is technique in which genes are inserted into host cell by means of viral infection.
6. In seismology, liquefaction is phenomenon in which soil behaves much like liquid during earthquake.
7. Disability is physical or mental impairment that substantially limits one or more major life activities such as seeing, hearing, speaking, walking, breathing, performing manual tasks, learning, caring for oneself, and working.
8. Hydrothermal vent is crack in ocean floor that discharges hot (350–400°C), chemically enriched fluids and provides habitat for many creatures that are not found anywhere else in ocean.

Relative Clauses in Definitions

Now let us turn to the grammar of the second part of a sentence definition. The distinguishing information in the restrictive relative clause can be introduced by either a full or a reduced relative clause. There are two common ways of reducing a restrictive relative clause. One involves a simple deletion, while the other involves a change in word form or some larger change. Reduced relatives are often preferred because they are shorter and thus more "economic."

Deletions

You may reduce the restrictive relative cause if

1. the relative clause consists only of the relative pronoun, the verb *to be*, and one or more prepositional phrases

   A wharf is a structure *that is along* a waterfront providing a place for ships to load and unload passengers or cargo. →

   A wharf is a structure *along* a waterfront providing a place for ships to load and unload passengers and cargo.

Appendix One: The Grammar of Definitions

Articles in Definitions

In most definitions, the indefinite article (or no article in the case of non-count nouns) is used before both the term and the class. The indefinite article before the class indicates that you are classifying a term. The indefinite article before the term conveys the meaning that any representative of this term will fit the assigned class. You may ask why *the* is not used in a formal sentence definition. Take a look at the following sentences.

A. A disinfectant is an agent capable of destroying disease-causing microorganisms.

B. A disinfectant is the agent capable of destroying disease-causing microorganisms.

Sentence A classifies the term; it does not refer to a particular representative. Sentence B, however, identifies or describes the term. Further, in Sentence B, it is implied that there has been some previous mention of other agents that are not capable of destroying disease-causing microorganisms and also suggests that there is only one such agent with this capability.[1]

TASK ONE

In the following eight definitions, articles (*a, an,* or *the*) have been omitted before the nouns. Replace them as appropriate, remembering not to do so if the noun is non-count (see Appendix Two).

1. **Helium is gas with atomic number of 2.**

2. **El Niño is disruption of ocean-atmosphere system in tropical Pacific having important consequences for weather worldwide.**

[1] There is one main exception to the absence of *the* in formal definitions; this sometimes occurs in explanations of fields, as in "Phonetics is the study of speech sounds."