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English style guidelines for authors of papers, theses, textbooks and other documents

At most official bodies in Norway, British English has been selected as the norm. However this raises a problem as there is no official English language academy, national committee or body that has the mandate to discriminate between "correct" and "incorrect" English usage in Britain. Consequently, the standards found in British English are largely those proposed in major dictionaries from publishers such as the Oxford University Press.

These guidelines have been based on the usage proposed in the latest authoritative dictionary of British English - *The New Oxford Dictionary of English*, 1998 (and other sources), selected ISO standards and standard practice in scientific writing. Many of these issues are dealt with further in my book *Getting Your English Right*, 242 p., Tapir, Trondheim, 2005; and my co-authored book, *Word for Word*, Oxford University Press, 2003.

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Abbreviations, acronyms

- An **abbreviation** may be formed from the initial letters in a phrase or name and is read letter-by-letter, like *I,B,M* or *A,S,A,P* for "as soon as possible" in BE. An **acronym** is a word formed from the initial letters of other words and is pronounced as a word such as *AIDS* and *NATO*. With familiarity, an abbreviation may change into an acronym. An example is "U.N.E.S.C.O.", written originally as initial letters with stops, and read letter-by-letter. It has now developed into the acronym *UNESCO*. Note that there may be differences between English and other languages here. For example, "VIP" is read as a three-letter abbreviation in English, not as an acronym as in Norwegian.

Abbreviations formed from the initial letters in the names of companies, organizations and states such as *IBM*, the *EU* and the *USA* are written in modern dictionaries without stops. There is no need to explain abbreviations like these but if your readers may not understand an abbreviation or acronym, it is always best introduce it in brackets after first writing the name in full.

General abbreviations

Apart from names, abbreviations are also formed by writing the first letter or a few of the letters in a word, but these are read as a whole word. Examples: "dept" (department), "assist" (assistant), "Fri." (Friday) and "Mr" (Mister), "Dr" (Doctor). In BE, abbreviations which end with the final letter of the word do not have a stop, while those that do not end like that are followed by a stop. Thus the "Reverend Doctor A. Smith" would be abbreviated "The Rev. Dr A. Smith". Stops are usual after many such abbreviations in AE, examples: "Mr." , "Ms." and "Dr." Plurals of abbreviations are often formed with an "s" as in: no., nos. (number/s); fig., figs. (figure/s); eq., eqs. (equation/s). The plural of p., is pp. (pages). The ISO standard concerning SI units states that units such as cm, h, kg, km, m, and s are to remain unaltered in the plural and are to be written without a final stop (ISO 31-0:1992), see Units, below.

- **Acronyms**

An acronym is written without stops and read as a word. Some acronyms are used so much that it is often difficult to remember that they are acronyms. Examples are *AIDS* (acquired immune deficiency syndrome) and *HIV* (human immunodeficiency virus). This may also lead to mistakes like writing "HIV-virus". Most acronyms are written in capital letters, but a few are in lower case and are scarcely recognizable as acronyms as they are treated as everyday words. Examples of these are "laser" (light amplification by stimulated emission of radiation) and "radar" (radio detection and ranging). Market researchers love to produce acronyms like *YUP* (Young Urban Professional) that occasionally survive and generate everyday words, written in lower case, like "yuppie" as in, "Blair is yuppiefying the Labour party". Some of the acronyms that are widely adopted are carefully chosen to make suitable words that buzz like *WASP* (White Anglo-Saxon Protestant). Most dictionaries on computing terms are full of acronyms like *GIGO* (garbage in, garbage out).

- **Non-English abbreviations and acronyms**

Norwegian abbreviations and acronyms like *NTNU* and *SINTEF* (Foundation for Scientific and Industrial Research at the Norwegian Institute of Technology) are used in English together with their English translations. This means that the correct form of abbreviation for the Norwegian University of Science and Technology is *NTNU*, not "NUST". This follows the practice in the UN and elsewhere where institutions often mix their English names with an abbreviation/acronym that is from French or German. An

example of this is *Système International d'Unités*, which in English is called the International System of Units, and the abbreviation *SI* is used in all languages. Other examples are *BMW* and *FIAT*.

It may be difficult for non-Norwegians to understand Norwegian abbreviations/acronyms like "UFD", "NRK" and "LO/NHO". In a web site or presentation, it is best to avoid such strange combinations of letters. As abbreviations in one language often have no direct equivalent in another, it is worth checking in a large English dictionary that abbreviations exist before you confuse your readers with home-made abbreviations.

Apostrophe "s", plural "s"

- Apostrophes are one of the ways to indicate the possessive form. An apostrophe is placed before an "s" for nouns that do not end in "s" (example: Finland's) and after the "s" with nouns ending in "s" (examples: students' agreement, the Smiths' agreement).
- Possessives after abbreviations/acronyms are written as follows: "UNESCO's findings..."
- The possessive form of numbers, as in "a 1990's model", is not to be confused with the plural form of a number. Plurals have an "s" without an apostrophe (example: "in the 1990s", "research developments in the 1980s and 1990s").
- Plurals of abbreviations/acronyms are written without an apostrophe: "PCs, CDs", but single letters often have an apostrophe: "Cross your t's and dot your i's".

Capitalization

- In reports and theses, capitalize the following when they are followed by a number or letter:

Appendix
Chapter
Equation
Figure
Reaction
Section
Table

Also capitalize the following:

- trade names and product names (example: Search Server)
- the specific parts of a web site (example: FAQ)
- the names of companies, institutes, universities, associations
- proper nouns for specific institutions (Example: European Commission)
- titles that are placed before a name (Example: Professor Alan Smith)
- proper nouns for specific location (Example: North America, Central and Eastern Europe)
- In section, figure and table headings/captions, only capitalize the first word and any proper nouns

Do not capitalize:

- e-mail, unless in initial position
- elements like silicon and aluminum in mid sentence
- the names of methods (apart from the proper noun part), (examples: pattern recognition, Boolean value)
- terms that refer to a general direction or a general location (Example: northeast areas)

Contractions

In research, business and academic writing, it is always recommended to avoid contractions, unless one is reporting dialogue. Examples of contractions include: *aren't*, *don't*, *isn't*, *wasn't*, *can't*, *weren't*, *were'n't*, *wouldn't*, *doesn't*, *hasn't*, *haven't* and *couldn't*.

Informal letters to friends and even informal e-mails often use contractions to stress the lack of formality, but elsewhere they are out of place as they appear sloppy and even confusing.

• Confusing contractions and their soundalikes:

- ***it's*** (it is or it has) is often confused with the possessive ***its***
Compare: "It's time to land" (contraction), "The plane lost its rudder" (possessive)
- ***they're*** (they are) may be confused with the possessive ***their*** or even the adverb ***there*** (all of which are soundalikes)
- ***you're*** (you are) may be confused with the possessive ***your*** ("You're late; has your watch stopped again?")
- ***who's*** (who is or who has) may be confused with the possessive ***whose***
Compare: "Who's driving to town?" (Contraction), "Whose car is that?" (Possessive)

- Remember that the apostrophe in the contraction indicates that letters have been left out.

Currency units

- ISO currency codes (EUR, NOK, USD etc.) are recommended (see Appendix B). These are to be written before the numerical value (example: EUR 15 million). ISO currency codes are best in written English but in oral presentations it is more natural to refer to NOK as *krone* (never "N,O,K" or "crown"), USD as *dollar* or *US dollar* and EUR as *euro*. (Note *euro* is not capitalized and the plural is *euro*.)
- The currency code is always written first but never read first in English.

	Written English	Spoken English
CURRENCY	NOK 2 million	Two million Norwegian kroner
	EUR 55.50	Fifty-five euro fifty (cents)
	USD 25.50	Twenty-five US dollars fifty (cents)
	GBP 3.20	Three pounds (Sterling) twenty (pence)

- Do not abbreviate billion as *bill.* or million as *mill.* In the latter case there may be confusion with *milliard* or the French *mille*.
- The use of "K" for "kilo" and "M" for "million" before an ISO currency code (such as KEUR and MUSD) may be confusing. Write USD 25 billion, not KUSD 25 million; NOK 25 million, not MNOK 25.
Similarly an amount such as EUR 25 000, should not be written EUR 25k or EUR 25K.

Dates

- A date that is not in all-digital format is to be written with the month in letters e.g. 2 December 2004 (this is the normal British English form, which is the standard at NTNU and SINTEF).
- For all-digit dates, the ISO complete representation for dates (ISO 8601) is the only format to use. The model is 2004-12-02 (CCYY-MM-DD), note the hyphenation and that (CCYY) represents a calendar year, (MM) is a month, and (DD) a day within a calendar month.
- Serious misunderstandings may result from not using this ISO format for digital dates. Dates written such as 2/12/04 or 2.12.2004 are ambiguous: Americans will understand this as February 12, 2004 while many Europeans will read 2.12.04 as 2 December 2004.

Equations

In many major journals, the guidelines to authors suggest that:

- Equation numbers are placed in round brackets.
- References to specific equations are to be capitalized. Many prefer the format "Equation (3.2)". Alternatives are: "Eq. (3.2)" or "(3.2)". Do not mix the formats.

Exclamation mark

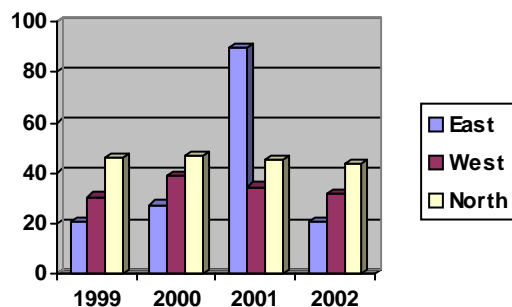
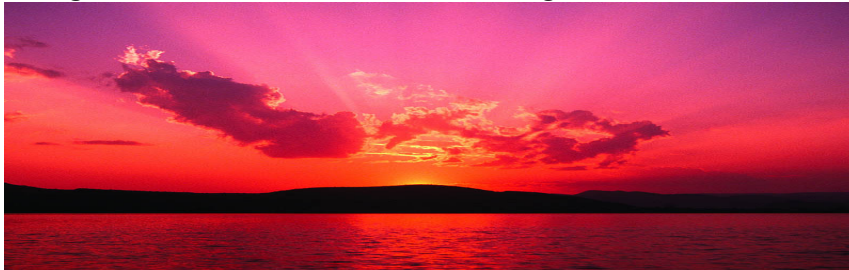
Norwegians tend to use the **exclamation mark !** (*exclamation point* in AE) too much

in English. When correctly used, an exclamation mark is there to stress a forceful utterance that gives a warning or indicates astonishment and surprise: "Note that cyanide gas can cause severe poisoning. Always avoid inhaling the gas!"

All style guides in English agree that exclamation marks should be avoided in formal English. A typical comment about exclamation marks is that "These should not be used in scholarly writing" (Modern Humanities Research Association Style Book, 1995). E-mails starting with "Hi!" are likely to cause irritation in business life.

Figures

As figures are visual, use the term *figure* for all non-tabular visual illustrations.



In many major journals, the guidelines to authors suggest that:

- The captions are placed under/on the side of figures.
- In a figure caption, the following model is recommended, note the punctuation: "Figure 2 Schematic representation..."
- References to specific figures are to be capitalized. Many prefer the format "Figure 2.1". Alternatives are: "Fig. 2.1. Do not mix the formats.

Verbs that are frequently combined with figure include: *show*, *present*, *illustrate*, *demonstrate*.

Hyphenation

- Use hyphenation in constructions like:
 - one-dimensional model
 - three-phase alternating current
 - decision-making environments.

There is pattern here. The first two words function as an adjective together and are thus hyphenated. If these adjectives were used at the end of the phrase, like "this system is three dimensional", "environments for decision making", these same words function as a noun phrase and are not hyphenated.

- Do not hyphenate adverbs ending in -ly when they are in this adjective position:
 - environmentally friendly solutions

- Note that you can often distinguish between two meanings of a word by a hyphen.
Examples:
re-cover = cover again, *recover* = get well
re-sort = sort again, *resort* = holiday destination
- Note that American English uses less hyphenation than British English.
- Hyphenation should be used if the second element is capitalized as in:
anti-American, *non-DOS*, *non-European*, *mid-West*.
Use hyphenation with prefixes like:
all- (all-star, all-time), *ex-* (ex-marine, ex-works) and *self-* (self-suggestion).

Proper names

• Norwegian proper names in English

Although some Norwegian proper names like *Haltenbanken* and *Trondheimsfjord* may be understandable to most English speakers in this form, *Halten Bank* and *Trondheim Fjord* are the recommended forms (with both words capitalized according to models in the *The New Oxford Dictionary of English*). Problems arise when the generic part of the Norwegian proper name means nothing to most non-Norwegian speakers as in *Nidelva*, *Gudbrandsdalen* and *Briksdalsbreen*. The solution is to use *River Nidelva*, *Gudbrandsdalen Valley* and the *Briksdalsbreen Glacier* in English, even though they say the same thing twice to Norwegians. In running text, such redundancies can be avoided by rephrasing, such as: "the valley is called Gudbrandsdalen" and "the glacier to the left is Briksdalsbreen".

• Other foreign proper names in English

With world languages like Spanish it is recommended to write just *Rio Grande* in English (not the *Rio Grande River* as *rio* means river) and the *Sierra Nevada* (not the *Sierra Nevada Mountains* as *sierra* means mountains. The same is true in French, write *Mont Blanc* not *Mont Blanc Mountain*. Arabic is less widely known in the English-speaking world and although *Sahara* comes from the Arabic *sahara* which means desert, *Sahara Desert* is the main entry in most dictionaries with *Sahara* as an alternative.

Punctuation (stops and colons)

- ISO 31-0 recommends that commas are not used as thousand markers in large numbers, use a space. Examples: 15 670 and 34 005 600 (this is also the recommendation from the Norwegian Standard).
- Do not use stops at the end of the line in section headings. Example:
"Additional elements in the Swedish model"
- The decimal marker in English is the decimal point, example: 31.313

[1]

(The only exception is in texts that are to be included in an ISO standard).

- Use stops as follows in section/figure/table numbers:

1. 1.2 1.2.1

- In lists with keywords, use a colon to introduce a list and no stops after keywords in the list or at the end of the list of keywords.

"...the factors are:

- age
- education level "

- In lists with sentences, use a colon to introduce a list and stops after each sentence in a list.

Quotation marks

Quotation marks are a set of punctuation marks that are either single

(' ') or double

(" ") enclosing a quotation, a word or a jargon-type expression. There are various typographical variations such as the jagged version often used in Norwegian « » and various curly variations " " in English. An alternative BE term for quotation marks is inverted commas.

References

There are numerous ways of writing references in a text. One of the most common ways is the "Name and year system".

- In this system the reference is placed in round brackets. Example (Olsen 1994). Make sure the same format is used consistently. Not (Olsen, 1994) or (Olsen '94).
- A page is referred to as (Olsen 1994, p. 12). Pages are (Olsen 1994, pp. 12-34).

Place references at the end of a document in a section called "References". The term "Bibliography" is used for a list of selected literature. This section is not numbered.

- The English names of the institutions in your reference list are found easiest by a search on the Internet. (Google's search alternative called "I'm feeling lucky" often picks out the home page of institutions.)

Referencing electronic documents in English

As more publications and other documents become available in electronic form, often without a paper version, this has created a need to reference these electronic resources so that we can document our sources. ISO 690-2 has addressed this issue (ISO 690-2: *Information and documentation -- Bibliographic references – Part 2: Electronic documents or parts thereof*).

Electronic documents differ from printed publications in a number of ways. First, online electronic documents have no page references, volumes or edition numbers; sometimes the absence of publishers means that there has to be a system of identification. The location of the source of the document cited is also to be provided for online documents. This information should be given by the words "available from" or an equivalent phrase. Example: "Available from Internet: gopher://info.lib.uh.edu"

Second, online electronic documents can be instantly updated, which necessitates the use of "citation" in references. Citation means the date on which the electronic document was actually seen. The word "cited" or an equivalent term is written in square brackets in front of the date. Examples:

[cited 12 December 2003] [cited 2003-12-12; 21:15 GMT]

Third, the type of electronic medium has to be established in the reference list. This to be given in square brackets. The following words or their equivalent should be used:

[online] [CD-ROM] [magnetic tape] [disk]

ISO 690-2 specifies a prescribed order for bibliographic references to electronic

documents.

Reference to off-line electronic documents: PASSANO E; IGLAND R T; MIRZA S; LARSEN C M. In *Petroleum Abstract* [CD-ROM]. California: Ridder Information Inc., 1998. ISBN: 0-7918-1952-3.

Reference to online electronic documents: TALKER, PETTER. Stochastic resonance in the semiadiabatic limit. In *New Journal of Physics* [online]. Bristol, UK. Institute of Physics Publishing, March 12, 1999 [cited 2001-06-01]. Available from Internet: <<http://njp.org/>>. ISSN: 1367-2630.

Spacing

- Do not split a value and its unit over two lines. Example keep 2000 °C as one unit.
- Do not use a double space at the beginning of a sentence.
- Use a space before symbols like cm, m, km, %, °C, as in: 25 %, 300 °C.
- Use a space on each side of a dash when giving a range: 30 - 40 mm. Note that when giving a range in English, *between* and *from* should be followed by *and* or *to*, as in "between 1995 and 1997" or "from 55 °C to 85 °C", not a dash.
- Separation of groups of digits is to be in accordance with ISO (31-0: 1992):

..."the groups should be separated by a small space, and never by a comma or a point, nor by any other means." Use a space as a thousand/-million/billion marker in large groups of digits in English.

RECOMMENDED PRACTICE

	<i>English</i>	<i>other languages</i>
Decimal marker	3.871	3,871
Thousand/million marker	3 871	3.871

Note that the Norwegian Standard recommends a space for the thousand/million marker.

Some guidelines suggest that numbers less than 9999 are written without a space and the space separates numbers with 5 digits or more. Examples: 9999, 90 999, 1 900 999, 10 900 999.

Spelling

British English (BE) is to be used, note that the dictionary for BE that Word is based on is rather traditional this means some adjustments may have to be made to follow the modern BE suggested in the Oxford Dictionary:

- Use "-ize" and "-ization", not "-ise" and "isation". Thus "standardization" is the form to use. Note that this does not mean that you can just use the "Find and Replace" command, as there are several words like "advertise" and "devise" that have the "-ise" ending in BE and AE (see Appendix A).

Use "coordinate..." and "cooperate", not "co-ordinate" and "co-operate".

- Contrast some typical British English spellings with the American English counterparts:

BE	AE
analyse	analyze
centre	center

co-workers	coworkers
metre (100 cm)	meter
meter	meter
practise (verb)	practice (verb and noun)
program (software)	program
programme (research, TV)	program
sulphur	sulfur

- Some recommended BE spellings (*The New Oxford Dictionary of English*, 1998):
 - by-product
 - cooperate
 - co-workers
 - dependent (noun and adj., not dependant)
 - e.g.
 - et al. (no stop after *et* and do not use the ampersand, as in & al.)
 - etc. (do not use *etc.* after introductory words like: "such as, like, including...". Never write "and etc.")
 - i.e.
 - independent of
 - multidisciplinary, multipath, multiphase, multistage, but multi-purpose
 - no. , (plural nos.). The # sign is only used in AE.
 - per (not pr.)
 - practice (noun)
 - practise (verb)
 - tonne, or metric ton (1000 kg)

Structure

In a short report or paper:

- Section* is the highest level unit. *Section* is also used for levels 2, 3 and 4, numbered as: 1.1 1.1.1 1.1.1.1

In a long report, thesis or book:

- Chapter* is the highest level unit. *Section* is used for levels 2, 3 and 4, numbered as: 1.1 1.1.1 1.1.1.1

References to specific *sections* are capitalized. The best format is *Section 2.1*, not *Sect. 2.1* (do not use "subchapters" or "subsections"). Note that a *paragraph* is usually just a few lines.

- Appendices* are to be numbered A, B, C.

Reference to Table 2 in Appendix B is written as "see Table B-2."

Symbols and punctuation signs on the Web and elsewhere

//	double slash, a single one is a forward slash
\	back slash (this is not used in Internet addresses)
11.5	(decimal) point in mathematics
stewart.clark	dot (in e-mails and web addresses)
34.12	dot
@	at
" "	quotation marks
%	per cent (percent AE)
‰	per thousand
R&D	and (the sign is called ampersand)
*	asterisk
13 - 45	dash

–	en dash
—	em dash
re-cover	hyphen
~	tilde
<u>s</u>	underscore

Tables

Use the term *table* for all tabular material.

In many major journals, the guidelines to authors suggest that:

- Captions are placed over tables
- The following model is recommended, note the punctuation:

Table 1 Common terms for punctuation

!	exclamation mark
?	question mark
#	number (only used in AE, use No. in BE)
()	brackets (parentheses AE)
[]	square brackets
{ }	curly brackets

- References to specific tables are to be capitalized. Many prefer the format "Table 2-1". "Tab. 2-1" is substandard.

Verbs that are often combined with table include: *list, state, give, present*.

Tone and sexist writing

- If you are writing alone, avoid "the author says", use either "I consider", or the passive "it is clear that".
- If there are two or more authors there is no problem using "we".
- "We" also means "the author and the reader" and is a good device to get reader involvement.
- Do not use "he" and "his" in a generic sense. Example: "Is there a colleague who can present his input?" (Use "his/her" or change to the plural).

Units

SI units are to be used as these are the most widely accepted international symbols.

ISO 31-0:1992 includes the rules for writing the international symbols (SI) for units:

- International symbols for units are to be written in normal text (not italics)
- They are to remain unaltered in the plural (**cm** not **cms**)
- They are to be written without a final stop (except for normal punctuation)
- The unit symbols are to be written in lower case letters except when the first letter is written in upper case if the name of the unit is derived from a proper name:
ampere A

degree Celsius	⁰ C
kelvin	K
kilogram	kg
hertz	Hz
metre	m
newton	N
second	s

The same ISO standard also includes the rules for writing expressions for quantities:

- The symbol for the unit is to be placed after the numerical value in the expression for a quantity, leaving a space between the numerical value and the unit symbol (35 %)
- In accordance with this rule, the symbol ⁰C for degree Celsius is to be preceded by a space when expressing a Celsius temperature.
- The only exceptions to this rule are for the units degree, minute and second for angles, where there is to be no space between the numerical value and the unit symbol.
(ISO 31-0:1992, Section 3.4)

Web terminology

- **World Wide Web** (Norw. web, web'en) is a widely used information system on the Internet which enables information to be accessed. Documents are marked by hypertext and can be found by these links. The World Wide Web was developed by CERN in Switzerland in 1991 to enable physicists all over Europe to share information. *Web*, *WWW* and *W3* are all abbreviations for the World Wide Web. This is best reads as "double u, double u, double u".
- **Home page** (Norw. hjemmeside) means the introductory starting page for a web site on the Internet where an individual or organization gives the structure and links to other web pages and web sites.
- **Web page** (Norw. webside) means a document, which may contain many pages, connected to the World Wide Web that may be accessed by others connected to the Internet: "Put a bookmark on this web page".
- **Web site** (Norw. webadresse, ansvarlig) means a location on the Internet where one or more web pages are collected by theme or provider.
- **Webmaster** (Norw. webmaster) means a person responsible for a particular web site on the Internet. The female version *webmistress* is not to be used in this particular context.

Appendix A IS THE SPELLING ORGANIZE OR ORGANISE?

It is incorrect to consider the **-ize/ -ization** spellings as American English (AE) and the **-ise/ -isation** spellings as British English (BE). The original spelling of words like *criticize* in Britain used **-ize** (reflecting their Greek or Latin spellings) from 16th century and it was the influence of French that later brought **-ise/ -isation** spellings into BE. Although AE has always used the **-ize/ -ization** spellings, it is interesting that modern BE dictionaries and many publishers in the UK are now only using the **-ize/ -ization** spelling. The latest input in this area is from Penguin in their value-for-money *The New Penguin English Dictionary* (2000). They point out that both the **-ize/ -ization** and the **ise/ -isation** spellings are correct in British English and that many British people, British newspapers and BE spellcheckers favour **-ise/ -isation** spellings. However, this Penguin dictionary makes an important comment about the **-ize** form "...it has come to be regarded as the world English norm, and, as such, has been adopted by most modern dictionaries and many British publishers".

British publishers that use "-ize" include the Oxford University Press, in all its dictionaries as well as those the International Organization for Standardization stipulate as reference works for writing ISO standards: *The Shorter Oxford Dictionary*, *The Concise Oxford Dictionary*; Collins, *Cobuild* dictionary from 1996; Longman and Penguin; and even the oldest publisher in the world, the Cambridge University Press, *Cambridge International Dictionary of English* (1995).

But before you throw the **-ise** baby out with the bathwater, note the following points: **-ize** can now be said to be the standard spelling outside Britain (and in European Commission publications) for verbs with endings pronounced "eyes" such as: *organize*, *symbolize*, *recognize*. Adding **-ize** to create new verbs is standard and stresses action: *characterize*, *finalize*, *hospitalize*, *prioritize* and *randomize*. Some such verbs are struggling to become accepted, and *tailored solutions* are better than *customized* ones in formal English. It is best to use such new verbs with care, as **slim** is better than **slenderize** and **burgle** is better than **burglarize**. Some authors have produced home-made horrors such as *trialize*, *costwize*, *piecewise* and *elementwize* that have no place in formal English, scientific reports or any serious writing.

-ise is always the correct spelling in both BE and AE when the ending is pronounced "ice" or "ease" as in *precise* and *expertise*. Some verbs that are formed from nouns with **-is-** spelling, like *advertising* and *television*, also only have **-ise** spelling in both BE and AE. Examples: *advertise*, *advise*, *arise*, *compromise*, *despise*, *devise*, *disguise*, *enterprise*, *excise*, *exercise*, *improvise*, *revise*, *supervise*, *surprise*, *televise*.

-ization, -isation

The rules for **-ization/ isation** follow the **-ize/ -ise** pattern (see above).

Both **-ization** and **-isation** are used in BE. Only the **-ization** spelling is used in AE. As a result, all UN organizations, ISO - *the International Organization for Standardization* and most of the international business community use the **-ization** spelling. However, much of British industry and European Commission publications use the **-isation** spelling.

-yse, -yze

-yse is always the BE spelling, as in *analyse*.

-yze is always the AE spelling, as in *analyze*.

Appendix B SELECTED ISO CURRENCY CODES

Some currencies and their three-character ISO 4217 currency code. The ISO

Online home page (<http://www.iso.ch/>) refers to sources of complete, updated versions of this list.

AUD Australian dollar	BRL Brazilian real
CAD Canadian dollar	CHF Swiss franc
CNY Chinese Yuan	DKK Danish krone
DZD Algerian dinar	EUR euro
GBP British pound	IDR Indonesian rupiah
INR Indian rupee	IQD Iraqi dinar
IRR Iranian rial	JPY Japanese yen
KRW Korea won	KWD Kuwaiti dinar
MXP Mexican peso	NGN Nigerian naira
NOK Norwegian krone	NZD New Zealand dollar
PHP Philippine peso	PKR Pakistan rupee
RUB Russian rouble	USD American dollar
VEB Venezualan bolivar	

Appendix C: PREFIXES

Prefixes are extremely important in helping you extend your technical vocabulary. Prefixes alter the meaning of the words or roots to which they are attached. Here is a list of the most common prefixes in technical English.

ante- before, pre- before, post- after

to ante-date a sample - to determine the age by using carbon-14 dating, for example.

pre-heated air - air which has been heated before being used

a post-mortem - an examination of a dead body

Other examples:

antediluvian

ante meridian

pre-Cambrian

pre-form

prehistoric

post-glacial

post-orbital

postpone

anti- against, opposed to

an antiseptic - an agent which destroys bacteria or stops their growth

antibiotic

antibody

anticyclone

counter- against

to counteract - to act against

counterbalance

counterpoise

countersink

counterweight

de- the opposite of, the reverse of

dis- the opposite of, the reverse of

im-/in-/irr-/un- not

to decontaminate - to remove contamination from

to disconnect - to cut off from

an impermeable - not permitting passage of liquids or gases

an insoluble - cannot be dissolved

an unconnected terminal - a terminal which is not connected

Other examples:

decompose

dehydrate

demagnetise

discharge

disinfect

disintegrate

imperfect

impracticable

impure

infinite

inorganic

irreducible

irremovable

undetected

unstable

inter- between, mutually

intercontinental transport - transport between continents

interact

interdependent

intermediate

intermittent

macro- very large, micro- very small

macrocosm

macrometer

microphone

microscope

over- above**under- below**

an overhead cable -- a cable laid at least 2 metres above the ground

an underground cable - a cable laid below the ground

overflow

overpass

undercarriage

undercoat

over- too much, under- too little

to overload - to load beyond capacity

to undercompensate - to compensate inadequately

over-estimate

overwork

under-estimate

undersized

photo- concerning light

a photometer - an instrument for measuring the intensity of light

photolysis

photo-sensitive

re- again, back

to re-connect - connect again

re-align

re-cover (cover again), contrast recover (get better)

re-heat

semi - partly**semi - half (mathematics)**

a semi-permeable membrane - a membrane which permits the passage of specific solvents

semi-automatic

semicircle

semiconductor

semisubmersible rig

sub- under, less than**super- over, more than**

a subsea vehicle - a vessel which can operate under water

in supersonic flight - something flying faster than the speed of sound

sub-atomic

sub-bandwidth

subsonic

supercharge

supercool

superimpose

tele- at a distance

a telemeter - an instrument which makes measurements at a distance

telecommunications

telefax (note this is usually fax in BE and often facsimile in AE)

therm/thermo- concerning heat

a thermocouple - a device with two dissimilar metallic conductors at different temperatures that induces an electromagnetic force

thermodynamic

thermoplastic

trans- across, from one to another

transformer - an apparatus for converting electrical current from one voltage to another

transfer

transistor

translate

transmit

Numbers formed with prefixes:

uni-/mono- one

bi-/duo- two

tri-/trio- three

quad-/tetra- four

quin-/penta- five

sex-/hexa- six

sept-/septa- seven

octo-/octa- eight

nono-/nona- nine

deci-/deca- ten

unilateral - one-sided

bilateral negotiations - two parties

to bisect - cut into two equal parts

a triangle - a three-sided plane figure

a quadruped - a four-footed animal

pentagon - five-sided figure

unicellular

unidirectional

binary

trisect

quadripolar

quintriplets

hexagon

septagon

octagon

nonagon

decimal

decade

mono- single**poly- many**

carbon monoxide - a compound of carbon and oxygen whose molecules have one oxygen atom each

a polygon - a plane figure of more than four sides

monochrome

monolayer

multilingual

multiplex

polycentric

polymer

[1]

Note that if you are preparing documentation for ISO, ISO 31-0: 1992 states that the decimal sign is a comma on the line (as in Norwegian). As this ISO standard mentions, otherwise in English it is usual to use a stop on the line as the

decimal point in other contexts.

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