This quick reference gives a concise overview of the most commonly needed features of <u>Simple Query Syntax</u>. Query expressions that you can enter in CQPweb's search box are printed in typewriter font, followed by an arrow and the matching words or word sequences in italics (e.g. st?ing \rightarrow sting, stung).

Basic word form searches

- To search for word forms, simply type them into the query field and click [Start query]: glitterati → glitterati
- Use wildcards for unspecified letters, and prefix or suffix searches:

? for a single arbitrary character
 s?ng → sing, sang, song, ...
* for zero or more characters
 *able → able, table, capable, suitable, available, ...
+ for one or more characters
 +able → table, capable, suitable, ... but not able
??+ for three or more characters, etc.
 ??+able → capable, ... but not able, table, unable, stable

- Combine multiple wildcards: $* \circ \circ + \circ \circ * \Rightarrow$ Voodoo, schoolroom, ...
- Protect wildcards and other metacharacters with backslash \ to match the literal character (called "escaping" the metacharacter):

Simple Query Syntax uses the following metacharacters:

? * + , : @ / () [] { } _ - < >

• List comma-separated alternatives (optionally including wildcards) in square brackets:

- Searches are case-insensitive by default: the queries bath, Bath and BATH find the same matches (i.e. all instances of the three word forms *bath*, *Bath* and *BATH*). Set the "Query mode" drop-down menu to "Simple query (case-sensitive)" to distinguish between *AIDS* and *aids*, for example.
- Use :d modifier to ignore accents: fiancee :d → fiancée, fiancee

Matching parts-of-speech (POS)

• Search for a word form with a <u>specific POS tag</u> by linking them with an underscore _. Wildcards can be used both for word form and POS tag:

```
lights_NN2 → plural noun lights, but not the verb form lights
*ly_RR → adjectives ending in -ly (e.g. daily)
super+_V* → verb forms starting with super-
```

- You can also search by POS tag only: $_NN1 \rightarrow$ any singular noun
- <u>Warnings</u>: (1) Different corpora use different tagsets; the examples here use the **C6 tagset**. (2) Some corpora may not be tagged at all. (3) Some corpora may use the _ symbol for a different kind of tag (not POS but something else)
- You will find links to descriptions of the tagsets in use in a particular corpus in the main menu under the heading "*Corpus Info*".
- Some commonly-used POS tagsets are listed at the end of this document.
- Keep in mind that part-of-speech tags are likely to have been assigned by an automatic software tool and are not always correct (try e.g. can_NN1).

Matching simplified POS tags

- Use <u>simplified POS tags</u> enclosed in curly braces: super+_{VERB} for verb forms starting with *super-* (no wildcards allowed in simplified tags).
- List of simplified POS tags:

- <u>Warnings</u>: as with normal tags, the tagset may vary (the simple tags above are the **Oxford Simplified Tagset**), or not be available at all, or the _{} symbol may be used for a different kind of tag
- Simplified POS tags are prone to the same errors as normal POS tags.

Lemma queries

- Search by lemma (i.e. dictionary headword), enclosed in curly braces: {light} finds the forms *light*, *lights*, *lit*, *lighted*, *lighting*, *lighter* and *lightest* (but not the nouns *lighting* and *lighter*).
- The lemmatization scheme may vary depending on the language and the corpus. Look at the frequency list for lemma if in doubt.
- You can combine lemma and simple tag queries using a slash:

{light/V} → light, lights, lit, lighted, lighting (tagged as verb)
{light/N} → light, lights (tagged as noun)
{light/A} → light, lighter, lightest (tagged as adjective)

- <u>Warning</u>: in some corpora, the {} may be used for an annotation other than lemma.
- Lemma errors can arise in the same way as POS tag errors.

Word sequences

- Queries can consist of multiple words, e.g. talk of the town
- All words and punctuation symbols ("tokens") are separated by blanks; possessives (*Peter's*) and contracted forms (*they've*, *gonna*) are usually split (in most corpora):

```
he will \setminus, wo n't he \setminus? \rightarrow he will, won't he?
```

• Each query item in a sequence can make full use of wildcards, part-of-speech constraints, and headword or lemma searches:

{number/N} of _{A} _NN2 → numbers of younger men, ...

• Use + to skip an arbitrary token, or * for an optional token. Combine + and * for larger gaps, e.g. +++** to skip between 3 and 5 tokens.

{eat} * up	→	eat up, ate up, eat it up, eaten all up,
$\{eat\} + up$	→	eat it up, eaten all up, but not eat up, ate up
{eat} ++* up	→	up at a distance of 3 or 4 tokens after eat

Advanced lexico-grammatical patterns

• Use regular expression notation for alternatives, optional elements and repetition within a sequence:

Examples using simplified POS tags (see above):		
(_{A})?	optional adjective	
(_{A}) *	zero or more adjectives (optional)	
(_{A}) +	one or more adjectives (non-optional)	
(_{A}) {2,4}	between two and four adjectives	
()	matches one of the alternatives indicated by	
() *	alternatives with repetition (optional)	
()+	alternatives with repetition (non-optional)	
() {2,4}	between two and four repetitions of the given alternatives (may be in any order)	

• Regular expression notation can be nested to match complex patterns:

• Complex syntactic patterns can be formed, e.g. for a prepositional phrase:

{PREP} ({ART})? ((_{ADV})? _{A})* _{N}

"a preposition; followed by an optional article; followed by any number of adjectives (zero or more), each of which may optionally be preceded by an adverb; followed by a noun"

XML tags

• XML start and end tags can be inserted in query expression to match the boundaries of a region, e.g. the start (< s >) or end (</s>) of a sentence:

```
<s> but
{$} </s>
```

- sentence beginning with *but* (or *But*)
 punctuation mark at end of sentence
- To match a complete region, skip all tokens between the start and end tag:

```
<quote> (+)+ </quote> → list of all quotations
<mw> (+)+ </mw> → list of all multiword units
```

• Some commonly-used XML tags:

```
<s> ... </s> sentence
 ...  paragraph
<u> ... </u> speaker turn
<head> ... </head> heading or caption
```

• You may be able to find documentation regarding the XML available in a particular corpus in the links under "*Corpus Info*" on the main menu

Proximity queries

• Special syntax for searching one item within a specified range of another:

```
kick <<s>> bucket → kick and bucket in the same sentence
{kick/V} <<s>> bucket_NN1 (can use POS/lemma constraints)
day <<3>> night → day and night within range of 3 tokens
day <<5<< night → night ... day (within 5 tokens)
day >>5>> night → day ... night (within 5 tokens)
```

- Only the left element ("target") will be highlighted on the result page. The right element is considered as a "constraint" that must be satisfied.
- Multiple constraints can be chained:

{day} <<5>> {month} <<5>> {year}

In this case, *day* must co-occur with *month* as well as *year* in a 5-token window; only *day* will be highlighted in the concordance.

• Proximity queries can be nested with parentheses:

{waste/V} <<s>> (time <<3>> money)

Here, the verb *waste* must co-occur with *time* as well as *money* in the same sentence; but *time* and *money* must be closer together (within a 3-token window). Again, only instances of *waste* will be highlighted.

• Proximity queries cannot be combined with lexico-grammatical patterns!

Some commonly used part-of-speech tagsets

The following list of tagsets is <u>very far</u> from comprehensive, but contains a few tagsets commonly used for some major languages:

English

• <u>C6 tagset</u> (normal tagset used by the CLAWS tagger) (related: <u>C7</u>)

• Used for all the examples in this document

- <u>C5 tagset</u> (used for the BNC; has fewer tags than C6)
- <u>C8 tagset</u> (more fine-grained version of C6)
- <u>Brown Corpus tagset</u> (early and influential)
- <u>Penn Treebank tagset</u> (see also) (similar to the four above, but simpler; used by TreeTagger for English)
- <u>ICE tagset</u> (designed as basis for syntactic analysis)

Chinese

- <u>LCMC tagset</u> (used by TreeTagger for Chinese)
- Penn Chinese Treebank tags

Arabic

- Lancaster system for Arabic corpora (based on MADA tagger output)
- Buckwalter analysis (see also)

Russian

• <u>MULTEXT-East tags</u> for Russian

German

- STTS tagset
- <u>TIGER TAGSET</u>

Italian

- <u>TreeTagger</u> tagset for Italian
- <u>DMI codes</u>

But **wherever possible**, you should look for the links on the lefthand-side menu on the begin-query screen in CQPweb, as these links should be tuned to the set-up of the specific corpus!