.innovation in corpus linguistics

#LancsBox

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What's new in #LancsBox v. 6?

Version 6.0

- Create corpora from the web feature.
- Faster data loading and searches.
- Using space bar to shift between graph views in GraphColl.

Version 5.1

- Much more powerful searches throughout the tool.
- Uploading wordlists both in .txt and .csv.

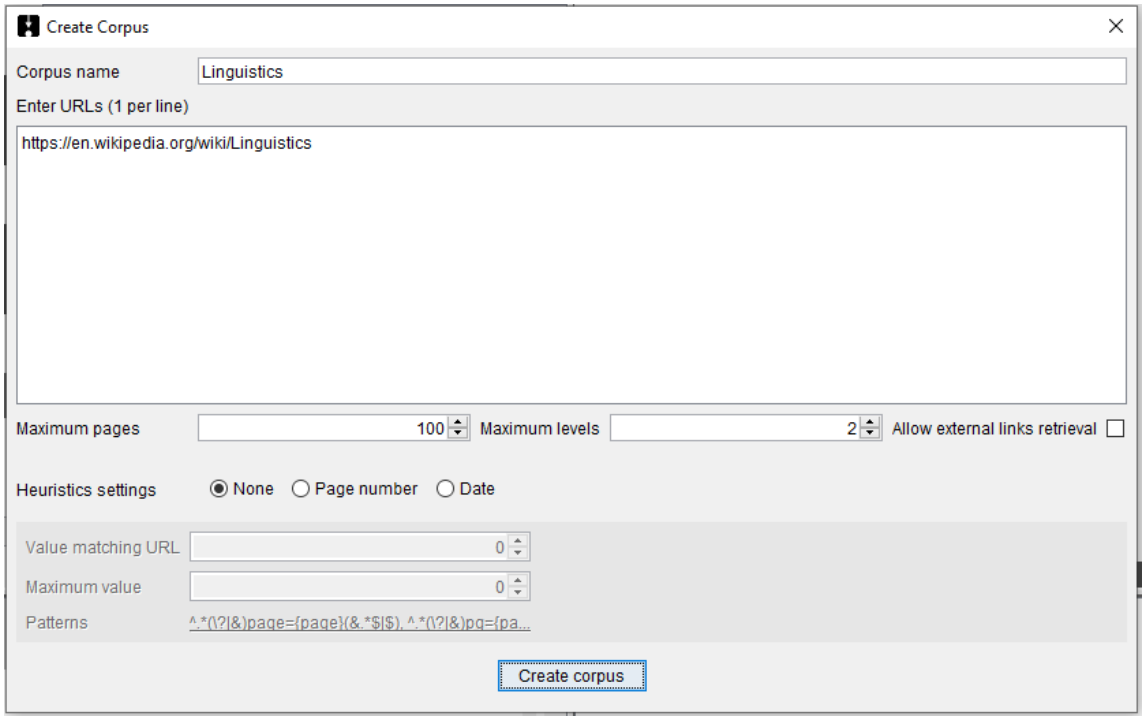
Version 5.0

- Wizard: a new tool for automatic creation of research reports
- Shared collocates table (GraphColl)
- Clearer progress indication throughout the tool
- Faster searches

1 Create corpora

#LancsBox allows you to create a new corpus based on URLs provided. It downloads multiple webpages and extracts text from them.

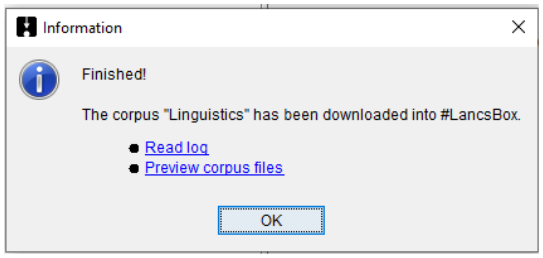
1. In the corpora tab, left-click on 'Corpus' under 'Create'.
2. This will open a window where you can enter the corpus name and URLs, and specify extraction criteria.



3. By default, #LancsBox extracts 100 webpages at two levels of embedding.

4. Left-click on 'Create corpus' to start the extraction process.

5. When the process is finished, #LancsBox will notify you. You can then open the log with details about the websites identified and extracted and view the folder with the data (txt).



6. Click 'Ok' and then 'Import' to load data into #LancsBox directly.

Note: #LancsBox allows heuristic searches for websites that include multiple pages or dates e.g. https://www.mumsnet.com/Talk/am_i_being_unreasonable/4170918-to-even-consider-giving-husband-second-chance?pg=1

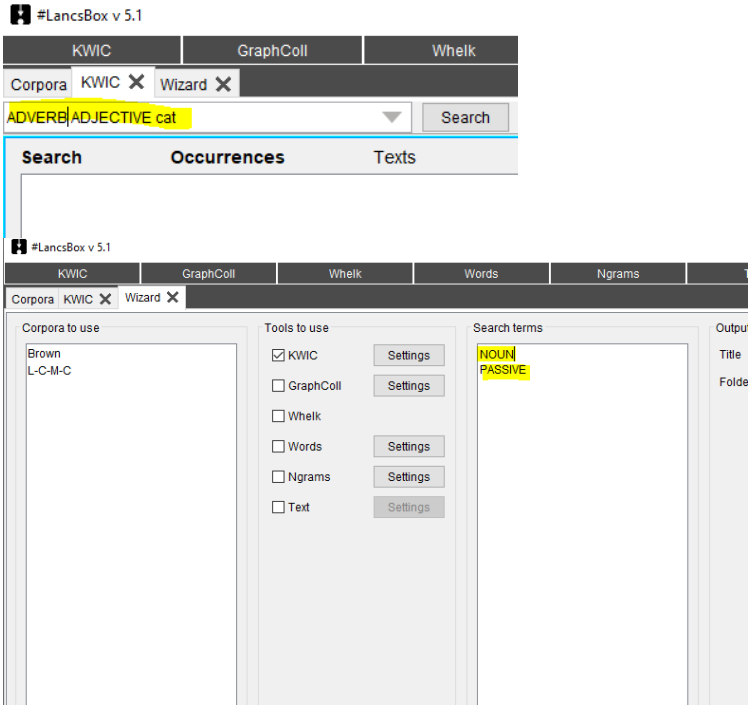
Switch on the heuristics setting and specify i) the heuristic type (page number or date) ii) the value matching the URL (1 in the example above) and iii) the maximum value. -1 Indicates unlimited number of pages until all pages are downloaded, while a date in the future indicates an unlimited number of dates until all dates are exhausted.

2 New search capabilities of #LancsBox

In #LancsBox, you can:

- ✓ search for a word or phrase
- ✓ search for number ranges, e.g. >1930&<=1945
- ✓ use * wildcards, e.g. new*
- ✓ use regular expressions, e.g. /new c.*/i
- ✓ use 'smart searches', e.g. PASSIVE, NOUN
- ✓ use CQL, e.g. [word="go" & pos="V.*"]

Complex searches. From #LancsBox v. 5.1, extended search functionality is available. #LancsBox automatically identifies different search conventions and performs the desired search automatically. The user just needs to type the pattern in the main search box (KWIC, Whelk, GraphColl) or Wizard search box.



The following conventions are available in complex searches.

a) Multiple smart searches can be used in the same query; smart searches can also be combined with simple searches.

1) ADVERB ADJECTIVE
2) PRONOUN PASSIVE
3) ADVERB ADJECTIVE NOUN was

The following smart searches are available for English:

!
,
.
?
ADJECTIVE
ADVERB
BE
BOOSTER
COLLECTIVE NOUN
COMPARATIVE
COMPLEX NOUN PHRASE
CONDITIONAL
CONNECTOR
CONTRACTION
DEGREE ADVERB
DETERMINER
DO
DOWNTONER
EXISTENTIAL THERE
GERUND
HAVE
INFINITIVE
HYPHENATED WORD
INDEFINITE PRONOUN
INFINITIVE
INTERJECTION
LINKING ADVERB
LONG WORD
MODAL
NEGATION
NOMINALIZATION
NOUN
NUMBER
PARTICLE
PASSIVE
PAST TENSE
PAST PARTICIPLE
PERFECT INFINITIVE
PHRASAL VERB
PLACE ADVERB
PREPOSITIONAL PHRASE
PRESENT TENSE
PRONOUN
PROPER NOUN
REFLEXIVE PRONOUN
REPETITION
SHORT WORD
SPLIT INFINITIVE
SUPERLATIVE
SWEARWORDS
TIME ADVERB
VERB

b) The OR operator can be used in simple searches to indicate alternatives; it can be combined with parentheses to indicate which words belong together as shown in 3) and 4)

1) cat OR dog
2) car OR dog OR mouse
3) my (cat OR dog)
4) (my cat) OR (my dog)

Note: It is not possible to use the OR operator for combining expressions of different length – with a different number of words, e.g. (my cat) OR dog

c) The NOT operator can be used in simple searches to negate a search term (meaning 'anything but X'); it can be combined with parentheses to indicate which words belong together as shown in 3), 4) and 5).

1) NOT my
2) NOT my friend
3) NOT (my friend)
4) NOT (a good) idea
5) NOT (a good or bad) idea NOT me

d) #LancsBox also supports CQL (Corpus Query Language). It can be used for defining complex searches at different levels of annotation (1-4) or their combinations. All queries in CQL inside double quotes are interpreted as case insensitive regular expressions; for case sensitivity double equals sign (==) is required, e.g. 5).

CQL allows searching at the following levels of annotation: i) word, ii) headword (hw, lemma), iii) pos and iv) tag. While i)-iii) are supplied automatically for languages with full grammatical support, iv) represents an optional level of a user-defined tag. For example, a single item can be defined in CQL as

```
[word="goes" & headword="go" & pos="V.* "]
```

This is interpreted as a form of the word *goes* with the headword *go* and part-of speech tag *V.** (verb). Note that the ampersand (&) is used to separate different levels of annotation inside square brackets. If a level of annotation is not specified, no restriction is applied at that level.

In CQL, square brackets [] separate slots in a phrase. Thus, for instance, the following CQL expression

```
[pos="VB.*"] []{0,3} [pos="V.N"]
```

is interpreted as a verb to be (*VB.**) followed by between 0 and 3 words without any restriction (*[]{0,3}*) and followed by the past participle (*V.N*).

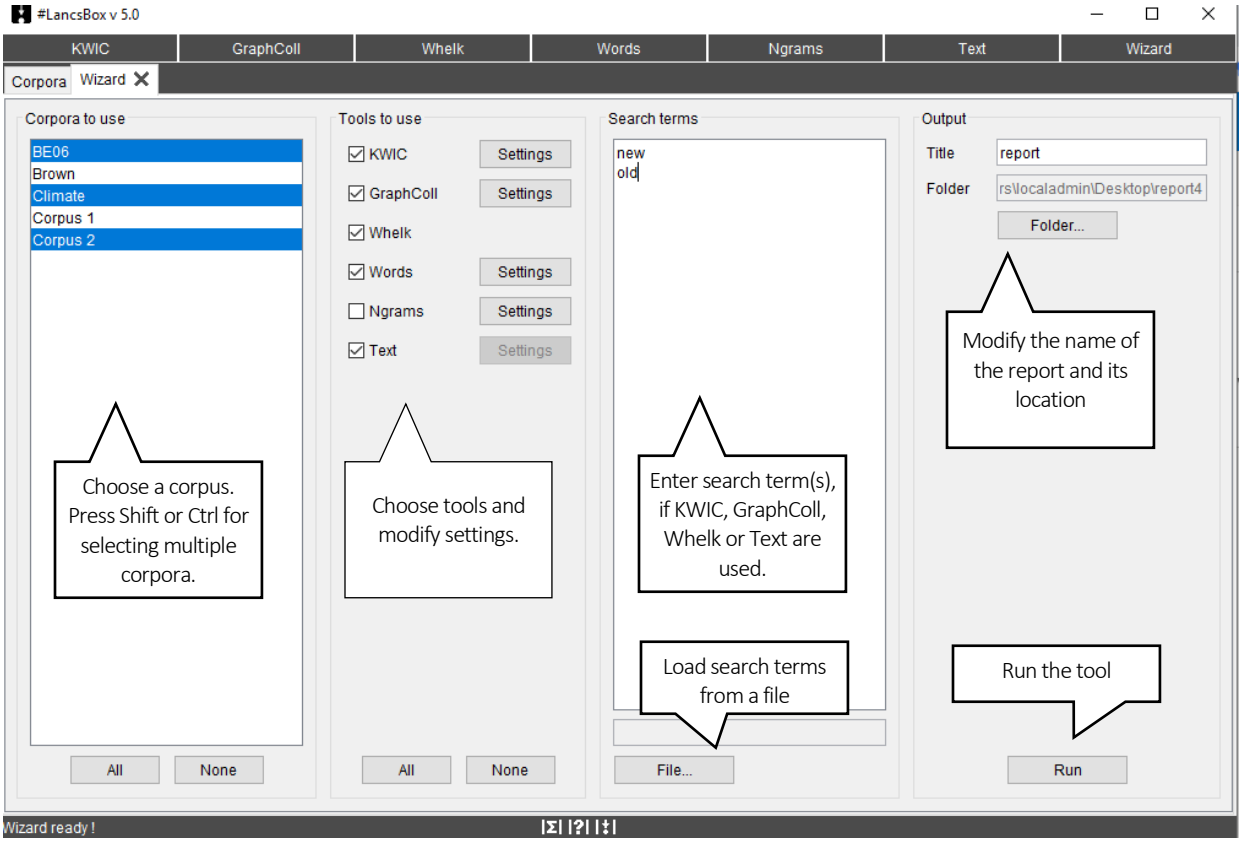
1) [word="cat"]
2) [headword="go"]
3) [pos="V.*"]
4) [tag="XX"]
5) [word== "Cat"]
6) [word="go" & headword="go" & pos="N.* "]
7) [headword="go" & pos="V.*"] [word="to"]
8) [headword="very" & pos="R.*"]{2} [pos="J.*"]
9)

3 The Wizard tool

The Wizard tool combines the power of all tools in #LancsBox, searches corpora and produces research reports for print (docx) and web (htlm).

It can be used, for example, to:

- Carry out simple or complex research.
- Produce a draft report.
- Download all relevant data.



The report produced by Wizard follows the structure of an academic research report – please see the example below.

Comparison of British and American English

1 Introduction

This research report was automatically produced by #LancsBox (Brezina et al. 2020), a corpus analysis tool developed at Lancaster University. It uses cutting-edge technology and statistical sophistication (Brezina 2018) to analyze and visualize corpus data. For more information and tips on research report writing see the Research Report Guide.

2 Method

2.1 Data

The study analyzed the following corpora:

Table 1. Corpora used

Name	Language	Texts	Tokens	Additional information
Brown	English	15	1,014,361	Types: 49,686 Lemmas: 44,622
L-O-B	English	15	1,007,677	Types: 48,349 Lemmas: 43,920

In the study, 2 corpora were used of the total size of 2,022,038 running words (tokens) in 30 texts. A full description of the corpora is available in data\tsv\corpora.

2.2 Procedure

#LancsBox (Brezina et al. 2020) software package was employed to analyse the data. The following tool from the package was used: KWIC. The KWIC tool generates a list of all instances of a search term in a corpus in the form of a concordance. The following search terms were used: "new", "old" and "some".

3 Results