English that select all and only mammals as arguments. On the other hand, as we shall see below, there are plenty of verbs that select ‘horse’ as an argument.

**Case study: harness, verb**

The DVC accounts for the normal patterns for *harness*, verb, as follows:

1. 5% [[Human]] *harness* [[Human]]
   - [[Human]] puts harness on [[Human]] in preparation for riding or driving it, or getting it to pull a cart, carriage, or plough

2. 95% [[Human | Institution]] *harness* [[(Eventuality | Entity) = Resource]]
   - (to [[Eventuality | Entity] 2])
   - [[Human | Institution]] makes use of [[(Eventuality | Entity) = Resource]] (in conjunction with [[Eventuality | Entity] 2]) for some purpose

In Pattern 1, the lexicographer faces a dilemma that is a typical issue in DVC research. Prototypically, it is horses that get harnessed, but (as it happens) only 50% of the BNC citations for this pattern involve horses. The remaining 50% involve harnessing other animals: the British National Corpus (BNC) gives us the following examples of animals other than horses that get harnessed:

- dogs (huskies, for pulling sledges)
- oxen
- bullocks
- deer
- donkeys
- reindeer
- camels
- mules

When a speaker or writer talks about *harnessing* a bullock, reindeer, or mule, this is not a linguistic exploitation for effect; they are literally talking about the act of putting one of these animals into a harness in order to ride it, drive it, or get it to pull a cart etc. DVC must account for this regular alternation for the benefit of both language users and NLP applications. Therefore, it might be better to state Pattern 1 as [[Human | Institution]] *harness* [[(Animal | Event) = Resource]].

However, if [[Animal]] is given as an argument alternation of this pattern, the scope is too broad, as it could be taken as implying that it is normal to harness cats, primates, and cows, which is not correct. On the other hand, as we have seen, stating [[Human | Institution]] alone is over-restrictive, appearing to rule out dogs, bullocks, oxen, etc. The answer to this apparently irresolvable dilemma is that, whatever semantic type (or set of types) is chosen, it is really only a form of shorthand, encapsulating a set of lexical items that are prototypical in this slot. Semantic typing is helpful as far as it goes, but it is possible to put too much weight on the type, as opposed to the actual lexical items that ‘populate’ the semantic type.

The DVC Ontology places the semantic type ‘Animal’ in a hierarchy, as follows:

<table>
<thead>
<tr>
<th>Animates</th>
<th>Human</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal</td>
<td>Horse</td>
</tr>
<tr>
<td>Dog</td>
<td>Cat</td>
</tr>
<tr>
<td>Primate</td>
<td>Cow</td>
</tr>
<tr>
<td>Bird</td>
<td>Insect</td>
</tr>
<tr>
<td>Fish</td>
<td>Snake</td>
</tr>
<tr>
<td>Spider</td>
<td>Cetacean</td>
</tr>
</tbody>
</table>

Given this ontological set, by choosing the type [[Animal]] as an alternate for [[Human]], the lexicographer can signal that it is normal for other types of living creatures to be put into a harness (though not birds, insects, fish, or cetaceans, which are separate semantic types, associated with distinctive sets of verbs).

Pattern 2, which refers to the non-literal *harnessing* of abstract resources in order to use them, would once have been considered an exploitation:

[[Human | Institution]] *harness* [[(Eventuality | Entity) = Resource]] (to [[Eventuality | Entity] 2])

However, DVC has discovered that this pattern now accounts for 95% of uses of *harness*, verb, in this corpus: a clear example of an exploitation becoming a norm. It will be interesting to compare the relative frequencies of these two patterns in other corpora.

The example below shows a one-off exploitation of *harness*:

Perot wants to take us all back in time and *harness* us behind mules!

The writer is not suggesting that people will literally be forced to wear harnesses and pull carts behind mules: most readers will work out that this is a metaphorical extension of Pattern 1, with the intended meaning that Perot would treat people as no better than beasts of burden, valued for their physical strength only. However, in
5. Conclusion
The Pattern Dictionary of English Verbs (PDEV) represents a new development in lexical analysis, based on careful empirical analysis of a corpus. We hope that it will take its place alongside other innovative approaches such as FrameNet in accounting for words and meanings. It represents only one of many possible approaches to identifying and explaining patterns of word use and the connection between such patterns and their meanings. If it is successful, PDEV can function as a set of ‘seed’ patterns for semi-automatic expansion over much larger sets of data, including domain-specific corpora, corpora of children’s language, historical corpora, etc. We do not claim that it is possible that any pattern dictionary could account for all and only the meanings of words in any natural language. “All and only” represents a theoretical goal that was exploded as unrealistic and distorting for natural-language research (including lexicography) during the second half of the 20th century. Instead, the aim now is to represent prototypical usage and associate it with prototypical meaning.

PDEV is work in progress and is in the public domain. It can be accessed at http://deb.fi.muni.cz/pdev/.

Although it is still only work in progress, we urge you to explore it. Comments and feedback are invited.

References


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There were 7 parallel sessions, namely: Theoretical and Methodological Aspects of National Culture Studies in Various Paradigms of Knowledge; National Spiritual Culture: Traditions and Innovations; Cross-Cultural Communication, Cross-Cultural Competence and Globalisation; The Dialogue Between Cultures: West, East and Russia; National Mentality Representation in the Modern Information Globalisation and Preservation of National Cultures in Literary Perception; Lexicography, Terminology Banks and National Identity. The latter session concerned national and cultural aspects of lexicography and problems associated with the formation of corpora and databases for dictionaries. New tendencies in lexicographic practice were discussed and compared to the Russian tradition of dictionary compilation. These included papers on ‘Professional communication in terms of globalization’ (Averbukh), ‘Terminology system of higher education of Russia: National identity or harmonization?’ (Budykina), and ‘Lingua franca, mother tongue, and pedagogical lexicography: Developing a global dictionary series for learners’ and a masterclass on ‘The current status, changes and prospects in the dictionary world’ (Kernerman).

The conference proceedings, comprising 800 pages, are the issue of these discussions.

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