

PROMETHEUS: A Corpus of Proverbs Annotated with Metaphors

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Abstract

Proverbs are commonly metaphoric in nature and the mapping across domains is commonly established in proverbs. The abundance of proverbs in terms of metaphors makes them an extremely valuable linguistic resource since they can be utilized as a gold standard for various metaphor related linguistic tasks such as metaphor identification or interpretation. Besides, a collection of proverbs from various languages annotated with metaphors would also be essential for social scientists to explore the cultural differences between those languages. In this paper, we introduce PROMETHEUS, a dataset consisting of English proverbs and their equivalents in Italian. In addition to the word-level metaphor annotations for each proverb, PROMETHEUS contains other types of information such as the metaphoricality degree of the overall proverb, its meaning, the century that it was first recorded in and a pair of subjective questions responded by the annotators. To the best of our knowledge, this is the first multi-lingual and open-domain corpus of proverbs annotated with word-level metaphors.

Keywords: proverbs, metaphors, multilinguality

1. Introduction

“A proverb is to speech what salt is to food”.

– Arabic proverb

Proverbs can be considered as descriptions of a specific situation that can be applied to a broad scope of circumstances (Gibbs, 1994). The main characteristics of proverbs are their shortness, concreteness, originality and rhymed poetical utterances (Mieder, 1985). They gain familiarity among the members of a society as they store their culture, conceptual thinking and accumulated experiences (Emrich, 1972). Therefore, proverbs have high communicative and cross-cultural value and they can be an essential tool for gaining insight into the way a language group experiences and conceptualises the world (Wilson, 2009; Moreno, 2010).

Turner and Lakoff (1989) define proverbs as commonly metaphoric in nature and they suggest Great Chain Metaphor Theory for the analysis and interpretation of proverbs. According to this theory, people can be understood in terms of lower-order forms of being, or lower-order forms of being can be understood in terms of human attributes and behaviour. As also indicated by the Conceptual Metaphor Theory (Lakoff and Johnson, 1980), the mapping across domains stands at the core of the metaphorical connection and this kind of connection is very commonly established in proverbs as linguistic metaphors. Therefore, metaphors can resolve a significant amount of the figurative meaning in many proverbial utterances (Faycel, 2012). This richness of proverbs in terms of metaphors makes them an extremely beneficial linguistic resource as they can be utilized as a gold standard for various metaphor related linguistic tasks such as metaphor identification or interpretation. For instance, as suggested by Shutova (2015), Machine Translation (MT) task should especially tackle metaphor identification and interpretation since metaphorical expressions are usually specific to each culture and language. In the same manner, proverbs would also be compelling for MT as they are culture-specific and metaphorically rich. In addition, a collection of proverbs from various languages annotated with metaphors would also be es-

sential for social scientists to investigate the cultural differences between different language groups.

In this paper, we introduce PROMETHEUS, a dataset of English proverbs together with their equivalents in Italian, and we describe the annotation task that we carried out on it. In addition to the labeled metaphors in word-level for each proverb, this dataset contains other types of information such as the metaphoricality degree of the overall proverb, its meaning, the century that it was first recorded in and a pair of subjective questions responded by the annotators. To the best of our knowledge, this is the first multi-lingual and open-domain corpus of proverbs annotated with word-level metaphors.

Based on the resulting annotations, we show how words belonging to different parts-of-speech and semantic domains contribute differently to the metaphoricality in the two languages. Furthermore, we report the correlation among various parameters including the number of search results on Twitter, recording time, old-fashionedness and agreement to the message conveyed.

2. Background

Since proverbs are very pervasive in all societies, they have been studied from many points of view including linguistic, social, psychological, cognitive, religious and political (Mieder, 2014). As a matter of fact, the nature of proverbs is so intriguing that there is a specific research field (i.e., *paremiology*) devoted to studying them.

Based on the idea that proverbs offer a vast and reliable source of previously translated metaphors, Wilson (2009) develops a translation model which applies to translations of French proverbs to English and the metaphors present in these metaphors. Many studies in the literature have analyzed proverbs belonging to specific domains. Moreno (2010) focuses on the animal domain and conducts a cognitive and sociolinguistic analysis between English and Spanish proverbs where dogs are the protagonists (where “people are animals” metaphor is used). The metaphor “ideas are food” has also been studied across languages. Faycel (2012) focuses on food metaphors in Tunisian Arabic

proverbs based on the observation that food terms are abundant in proverbs. Chiarung (2012) again focuses on the eating frame and analyzes metaphors in Taiwanese, Chinese and English proverbs to compare cultural values.

In addition to the studies devoted to proverbs, we would also like to briefly mention the efforts of the natural language processing community to build metaphor datasets and utilize them to develop computational techniques for metaphor identification and interpretation. Steen et al. (2010b) construct Amsterdam Metaphor Corpus (VUAMC) by annotating a subset of BNC Baby¹. Linguistic metaphors in VUAMC are annotated by utilizing the Metaphor Annotation Procedure (MIP) proposed by Group (2007). VUAMC contains 200,000 words, 13.6% of which is metaphoric (Shutova, 2010), in samples from a wide range of styles of texts including news, fiction, academic, and conversations. Another metaphor annotation study following the MIP procedure is conducted by Shutova and Teufel (2010). A subset of the British National Corpus (BNC) (Burnard, 2000) is annotated to reveal word-level metaphors expressed by a verb and to determine the conceptual mappings of the verbs that are annotated as metaphorical. The annotated corpus contains 761 sentences and 13,642 words including 241 metaphorical expressions. Turney et al. (2011) introduce an algorithm to classify word-level metaphors expressed by an adjective or a verb based on their abstractness/concreteness levels in association with the noun they collocate. Following Turney et al. (2011), Neuman et al. (2013) extend the abstractness/concreteness model with a selectional preference approach to detect metaphors formed of concrete concepts. They focus on three types of metaphors (Krishnakumaran and Zhu, 2007): Type I) a subject noun and an object noun associated by the verb *to be*, e.g. *God is a king*, Type II) a metaphorical verb representing the act of a subject noun on an object noun, e.g. *The war absorbed his energy*, Type III) metaphorical adjective-noun phrases, e.g. *sweet kid*. Klebanov et al. (2014) propose a supervised approach to predict the metaphoricality of all content words with any part-of-speech in a running text. The authors propose a model combining unigram, topic models, POS, and concreteness features. They evaluate their model on two datasets that feature full text annotations of metaphors: i) a set of essays written for a large-scale assessment of college graduates, ii) VUAMC.

3. Dataset

PROMETHEUS and its analysis are based on 1,054 proverbs listed in the dictionary of proverbs by Simpson and Speake (1998). This dictionary consists of English proverbs together with their topical categories and the years that they were first recorded in. They belong to 258 fine-grained topics such as *curiosity*, *charity*, *reputation* and *national characteristics*. The proverbs were recorded between the 9th and the 20th century and most of them date back to the 16th (27.4%) and 17th (20.5%) centuries. In Figure 1, we plot the percentage of the English proverbs belonging to

¹<http://www.natcorp.ox.ac.uk/corpus/babyinfo.html>

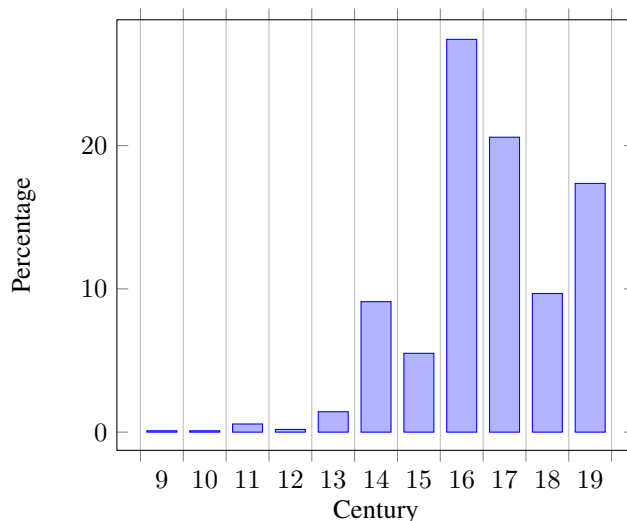


Figure 1: Percentage of English proverbs belonging to each century in the dataset.

each century in our dataset. From this figure, it can be seen that the number of proverbs in PROMETHEUS is very small until the 13th century (1.42%) but a sudden increase is observed in the 14th century (9.11%).

To have a concrete idea about the popularity and the familiarity of the proverbs in our resource, for each of them we queried Twitter via its search API to retrieve the number of tweets containing the proverb². Due to the rate limits of the API, we could retrieve at most 500 results per proverb.

To understand whether there is a correlation between the number of search results for the proverbs and the centuries they were first recorded in, we calculated the Pearson’s correlation coefficient between them. However, we could not observe a linear correlation between these variables ($r = -0.03$).

Furthermore, to facilitate the interpretation of the proverbs by the annotators, we collected the meaning of each proverb from various resources such as (Fergusson, 1983), Wiktionary³ and The Free Dictionary by Farlex⁴.

As an example, the proverb “Actions speak louder than words” was first recorded in the 17th century and at the time of querying, it was a very popular proverb among Twitter users, yielding the maximum number of search results. It belongs to the “words and deeds” category and it means “What you do is more significant than what you say.”

4. Annotation

After building the dataset, we conducted a two-phase annotation procedure for finding the Italian equivalents of English proverbs and for identifying the word-level metaphors in both English and Italian proverbs.

4.1. First Phase

During the first phase, we asked an Italian (native speaker) linguist to find the equivalent Italian proverbs for each En-

²We queried Twitter on 25.07.2015 and it is worth noting that Twitter Search API usually only serves tweets from the past week.

³<https://en.wiktionary.org/>

⁴<http://idioms.thefreedictionary.com/>

English proverb in the original dataset. She was also required to provide the literal English translation of each Italian proverb. After her annotations were complete, the translations were verified and modified whenever necessary by two other annotators.

To find the Italian equivalents, the linguist was allowed to use a variety of sources including academic articles (Giusti and Capponi, 1994; Lapucci, 2006) and online resources (e.g., https://en.wikiquote.org/wiki/Italian_proverbsWikiquote, <http://luirig.altervista.org/proverbi/hypertext>). At the end of this process, 751 English proverbs were matched to a total of 1,148 Italian proverbs. Each match was annotated with a similarity degree ranging from 1 to 3. While degree 1 signals that the meaning of the Italian proverb differs slightly from the original, degree 2 indicates that the meaning is the same but the conceptualization is different. The cases in which both the meaning and the conceptualization are identical (i.e., the Italian proverb is a literal translation or an obvious paraphrase of the one in English) are annotated with degree 3.

Similarly to the translations, two other annotators went through the mappings together to verify and modify the mappings when required. 12.63% of the final mappings have a similarity degree of 1, 64.63% have a similarity degree of 2, while 22.74% are considered as literal translations of the original proverbs in English.

For instance, the English proverb “Better late than never.” was mapped to “Meglio tardi che mai.” with a similarity degree of 3. “Where the carcass is, there shall the eagles be gathered together.” was mapped to “Dove c’è il dolce, si riuniscono le mosche.”, which was translated as “Where there is the sweet, the flies gather.” with a similarity degree of 2. As an example to a mapping with a similarity degree of 1, “The better the day, the better the deed.” was aligned with “Lavoro di festa non ti giova e non ti resta.”, which literally means “The work done on a holiday does not help you and does not last.”. We believe that the proverbs mapped with similarity degrees of 1 or 2 are especially beneficial to understand the cultural and linguistic differences between English and Italian.

4.2. Second Phase

The second phase of the annotation task involved the annotation of the proverbs and the words in each proverb. It was divided into four parts in which the annotators were required to i) determine the word-level metaphors in both originally English proverbs (*en*) and literal English translations of Italian proverbs⁵ (*it*), ii) determine the metaphoricality degree of each proverb as a whole for both *en* and *it*, iii) state whether they agreed with the ideas or statements presented by *en*, iv) state whether *en* include old-fashioned concepts or ideas. Five annotators with a linguistic background were involved in this phase.

Word-level metaphors:

As a preprocessing step, we tokenized and POS-tagged the

English proverbs and the English translations of the Italian proverbs using Stanford CoreNLP (Manning et al., 2014). It is worth noting that for this part of the annotation task, we excluded 261 Italian proverbs having a similarity degree of 3 with the English proverbs since they were literal translations of the ones in English and they had the same metaphorical words. Instead, our motivation with this annotation is to determine the differences between English and Italian in the metaphorical word choices to convey the same message.

The annotators were required to identify the metaphors among the nouns, verbs, adjectives and adverbs (in total 4978 tokens for English and 4098 tokens for Italian) appearing in the proverbs by taking their meanings into consideration. During the decision process, they followed the guideline below, which was inspired by the Metaphor Identification Procedure of VU University Amsterdam (MIPVU) (Steen et al., 2010a).

Read the proverb and its meaning *m*.

for each token *t* in the proverb **do**

Check if the concept in *m* evoked by *t* is semantically far away from the basic meaning of *t*.

if yes **then**
| Mark *t* as metaphorical.

else
| **if** *t* is a verb **then**
| | Consider the selectional preference of the verb.
| | Can the subject of the verb perform the stated action?

if no **then**
| | Mark *t* as metaphorical.

end

end

end

Algorithm 1: Word-level metaphor annotation

For instance, for the proverb “Every cloud has a silver lining.”, which means “You can derive some benefit from every bad thing that happens to you.”, the annotators were expected to identify the tokens *cloud*, *silver* and *lining* as metaphors. As another example, for the proverb “After a storm comes a calm.”, which means “Things are often calm after an upheaval.”, *storm* was expected to be annotated as a metaphor.

It is worth noting that the annotators were asked not to consider the cases where there is a synecdoche (i.e., a specific part of something is used to refer to the whole, or the whole to a specific part) as metaphorical. For instance, in the proverb “The curse returns to the mouth which sends it.”, since “mouth” refers to a person actually, they were expected not to annotate it as a metaphor. In case of phrasal words (especially verb + preposition such as “break down” or “come across”), they were expected to also annotate the preposition cooccurring with metaphorical verbs as metaphorical.

The agreement among the annotators was determined by using Krippendorff’s alpha (Krippendorff, 2007) with the nominal distance metric. The values 0.59 and 0.67 were

⁵We preferred to carry out the annotations in the literal translations rather than the original proverbs to make them easily comparable and comprehensible for the target of this dataset.

obtained for English and Italian respectively. The higher value obtained for Italian might be due to the English proverbs having been annotated first, causing the annotators to be more experienced or better adapted to the task during the annotation of the Italian proverbs. Although there is no general consensus on the interpretation of agreement figures, values of alpha less than 0.67 are often considered as indicators of unreliability (Krippendorff, 2004). For this reason, we conducted a reconciliation phase which we will detail in Section 4.3..

Metaphoricity degree:

The annotators were also required to label the metaphoricity degree of each proverb (both originally English and English translations of Italian proverbs) as a whole. Similarly to the task of determining the word-level metaphors, we excluded the Italian proverbs having a similarity degree of 3 with the English proverbs.

The possible answers for this question were 0 (completely literal), 1 (slightly metaphorical) and 2 (very metaphorical). To decide between 1 and 2, the annotators were suggested to consider the semantic similarity of the metaphorical words to the concepts in the meaning and the frequency of the metaphorical words in the proverb. For instance “You can’t please everyone.” was given a metaphoricity degree of 0, while “Experience is the best teacher.” was judged to be slightly metaphorical (i.e., metaphoricity degree 1) by all the annotators. As another example, the proverb “Why buy a cow when milk is so cheap?” was determined to be very metaphorical (i.e., metaphoricity degree 2) by all the annotators.

To determine the agreement among the metaphoricity degree annotations obtained from 5 annotators, Krippendorff’s alpha values were calculated by employing the ordinal distance metric. The resulting values are 0.69 and 0.75 for English and Italian respectively.

I agree:

In addition to the questions pertaining to metaphoricity in both word and sentence level, the annotators also needed to state whether they agreed with the idea or statement presented by the proverb. The possible answers for this question were *yes* or *no*. Since this is a subjective question, the annotators were supposed to respond according to their own opinion. Unsurprisingly, the Krippendorff value obtained for this field is very low ($\alpha = 0.31$).

After analyzing the annotations for this question, we found out that while the majority (i.e., at least 3) of the annotators agreed with most of the proverbs (93.83%), superstitious proverbs such as “Morning dreams come true.” and “One funeral makes many.” were disagreed by the majority. Religious proverbs such as “All things are possible with God.” caused conflict among the annotators.

old-fashioned:

The annotators were also required to state whether they thought the proverb includes concepts or ideas that are old-fashioned or timeless. For this question they were supposed to consider only the proverb without its meaning. Similarly to the inter-annotator agreement for the “I agree” field, the

Krippendorff value obtained for this field is also quite low ($\alpha = 0.33$).

Our analysis of the annotations indicates that only a small portion of the proverbs (15.09%) such as “Don’t change horses in mid-stream.” and “Whom the Gods love die young.” were considered as old-fashioned by the majority of the annotators while most of the proverbs were found to be timeless.

To understand whether there is a correlation between the answers of the annotators for the “I agree” and “old-fashioned” fields, we calculated the Pearson’s correlation coefficient among the majority decisions for each field. We obtained a weak downhill linear relationship between these variables ($r = -0.28$).

4.3. Reconciliation phase

To increase the reliability of the metaphor annotations in both word and sentence level and thereby to enhance the quality of our dataset, we conducted a reconciliation phase after the second phase for English and Italian proverbs.

In this phase, we involved three annotators who already took part in the second phase. We provided each annotator with the list of tokens for which his/her answer was conflicting with the majority. For each conflicting annotation, they could see how many annotators were disagreeing with them. We asked the annotators to reconsider their decisions about these tokens and whenever they changed their decision for a token, we required them to also reconsider their sentence level decision (i.e., metaphoricity degree of the whole proverb). For their original annotations that they felt sure about and did not want to change, they were allowed to discuss with the other annotators and make a decision altogether.

At the end of this process, we recalculated the inter-annotator agreement for the token level metaphor annotations and the metaphoricity degree of the proverbs. The agreement values before and after the reconciliation phase are listed in Table 1. As can be observed, while the differences in the agreement for the metaphoricity degree in English and Italian are similar, the difference for the token level is much higher in English than in Italian. As already mentioned before, the English proverbs were annotated before the ones in Italian. As a consequence, the annotators had a better understanding of the task during the annotation of the Italian proverbs. For both languages, the difference in the sentence level is much smaller than the one in the token level, due to the inherent differences between the tasks and the fact that sentence level annotation is not very sensitive to token level decisions.

	<i>Language</i>	<i>Token</i>	<i>Metaphoricity degree</i>
English	before	0.59	0.69
	after	0.76	0.74
Italian	before	0.67	0.75
	after	0.77	0.79

Table 1: Krippendorff’s alpha values before and after the reconciliation phase.

5. Analysis

Concerning word-level metaphor annotation, 1,441 (28.95% of the total number of annotated tokens) and 1,205 (29.40% of the total number of annotated tokens) tokens were labeled as metaphorical by the majority (at least 3 annotators) for English and Italian proverbs, respectively. It is worth noting that in the remainder of this section, for the Italian proverbs with a similarity degree of 3, we reuse the statistics of the equivalent English proverbs. We do so to avoid biasing the results by excluding the proverbs which are most similar across the two languages.

In Table 2, we show the distribution of the annotated tokens based on parts-of-speech, while in Table 3, we list the distribution of the metaphorical tokens according to the majority based on their parts-of-speech. As can be observed from the table, the majority of the metaphors are nouns followed by verbs for both English and Italian proverbs, while adverbial metaphors are the least frequent in both languages.

Similarly, the percentage of the metaphorical words within each part-of-speech are shown in Table 4. The distribution follows a similar trend in both languages and a very high percentage of the nouns appearing in the dataset are annotated as metaphorical, followed by verbs, adjectives and adverbs.

Language	Noun	Verb	Adjective	Adverb
English	47.44	32.08	11.16	9.32
Italian	45.71	31.72	12.97	9.60

Table 2: Distribution of the annotated tokens based on parts-of-speech.

Language	Noun	Verb	Adjective	Adverb
English	70.16	21.37	7.08	1.25
Italian	65.70	22.56	8.23	3.21

Table 3: Distribution of the metaphorical tokens based on parts-of-speech.

Language	Noun	Verb	Adjective	Adverb
English	42.91	19.33	18.41	3.89
Italian	44.01	21.68	19.35	10.18

Table 4: Percentage of the metaphorical words per part-of-speech.

We also analyze the distribution of the domains that the metaphorical words belong to. To this end, we consider the domains extracted from WordNet Domains (Bentivogli et al., 2004) for the first sense of each metaphorical lemma and POS pair. First, for each lemma that is used metaphorically at least once, we compute an estimate of the likelihood of the lemma being used metaphorically. Let N be the number of distinct lemmas used metaphorically, w_i be a word lemma, m_i the number of times w_i is used metaphorically, c_i the total count of w_i in the dataset. The likelihood of w_i

being used metaphorically is computed as:

$$L(w_i) = \frac{m_i + \frac{1}{N} \sum_j m_j}{c_i + \frac{1}{N} \sum_j c_j},$$

where the sum terms, like in a Bayesian average, are used to mitigate the effect of infrequent words which are used as metaphors. Then, the relative likelihood $L(d_i)$ of a domain L_i being used as a source for metaphors is estimated as:

$$L(d_i) = \frac{\sum_{w|w \in d_i} L(w_i)}{\sum_w L(w_i)},$$

where the nominator includes the contribution of all the words that belong to a specific domain, and the denominator is a normalization factor.

In Table 5, we show the top 10 words in English and Italian proverbs that have the highest $L(w_i)$ scores together with their POS and domain information.

Concerning the domains, Table 6 lists the top 10 domains for each language. It should be noted that the domain “factotum” was ignored during the sorting of the domains.

To have a better understanding of the differences in the domains that the metaphorical words in English and Italian belong to, we calculated the difference in rankings of the domains between the two languages. In the first and third columns of Table 7, we list the top 15 domains that have a higher rank in English and Italian respectively. The second and fourth columns indicate the difference in the ranks between English and Italian.

Table 8 lists the domains that have very close or the same ranks in English and Italian proverbs. The negative values in the second column indicate that the ranks in English are higher, while the positive values indicate that the ranks in Italian are higher.

With regard to our analysis about the domains, it is also worth noting that in the English dataset there are no metaphorical words belonging to the domains fishing, body-care, university, exchange, numismatics, animal-husbandry, folklore, occultism, hydraulics, plastic-arts and psychiatry. Similarly, in the Italian dataset there are no metaphorical words belonging to skiing, bowling, psychology, telecommunication, anthropology, post, card, geometry, literature and theatre.

With respect to the metaphoricity degrees of the overall proverbs, in Table 9 we list the percentage of the proverbs with metaphoricity degrees 0, 1 and 2 for English and Italian. It is worth noting that they do not sum to 100 due to the cases with ties. It can be seen from the table that more than half of the proverbs (approximately 60% and 58% respectively) are considered to be metaphorical (with a degree of at least 1) in both languages. This confirms the suitability of our dataset for the investigation of and experimentation with the usage of metaphors in language.

6. Conclusion

In this paper, we have described the annotation task that we organized to build a gold standard for the word-level metaphors and overall metaphoricity in English proverbs and their equivalents in Italian.

<i>ENGLISH</i>			<i>ITALIAN</i>		
<i>Lemma</i>	<i>POS</i>	<i>Domain</i>	<i>Lemma</i>	<i>POS</i>	<i>Domain</i>
devil	noun	religion	devil	noun	religion
bird	noun	biology, animals	run	verb	factotum
heart	noun	factotum	cat	noun	biology, animals
cat	noun	biology, animals	blind	adjective	factotum
water	noun	environment, geography, earth	dog	noun	biology, animals
run	verb	factotum	heart	noun	factotum
bone	noun	anatomy	iron	noun	chemistry
laugh	verb	play	bird	noun	biology, animals
dog	noun	biology, animals	water	noun	environment, geography, earth
blind	adjective	factotum	break	verb	factotum

Table 5: Top 10 metaphorical words in English and Italian proverbs with the highest $L(w_i)$ scores and their POS and domain information.

<i>English</i>	<i>Italian</i>	<i>Domain</i>	<i>Difference</i>
biology	biology	geography	-2
animals	animals	military	-2
gastronomy	gastronomy	transport	-1
anatomy	plants	number	-1
person	anatomy	history	-1
plants	person	mathematics	-1
buildings	buildings	anatomy	-1
religion	religion	person	-1
transport	quality	buildings	0
geography	transport	religion	0
		biology	0
		gastronomy	0
		animals	0
		earth	1
		environment	1
		optics	1
		agriculture	1
		industry	1
		physics	1
		commerce	1
		time-period	1
		mountaineering	2
		roman-catholic	2

Table 6: Top 10 domains for English and Italian.

<i>ENGLISH</i>		<i>ITALIAN</i>	
<i>Domain</i>	<i>Difference</i>	<i>Domain</i>	<i>Difference</i>
aviation	33	home	49
finance	31	art	42
linguistics	26	racing	31
sport	26	vehicles	23
dance	21	furniture	22
publishing	19	pedagogy	20
nautical	19	hunting	18
metrology	14	artisanship	16
sexuality	13	town-planning	16
heraldry	13	money	16
electricity	12	geology	11
mechanics	12	acoustics	9
baseball	11	school	9
sociology	10	jewellery	8
color	10	quality	7

Table 7: Top 15 domains that have a higher rank in English and Italian.

To the best of our knowledge, PROMETHEUS is the first multi-lingual and open-domain corpus of proverbs annotated with metaphors. We believe that our resource can be of substantial use for metaphor identification and interpretation tasks. It can also be essential for the analysis of cultural differences between English and Italian. As a

<i>Language</i>	<i>0</i>	<i>1</i>	<i>2</i>
English	39.37	31.50	28.37
Italian	41.11	29.18	28.40

Table 8: Stable domains in English and Italian.

Table 9: Percentage of the proverbs with metaphoricity degrees 0, 1 and 2 for English and Italian.

first step in this direction, we showed how words belonging to different semantic domains contribute differently to the metaphoricity in the two languages. PROMETHEUS is publicly available upon request to the authors so that the community can benefit from it for relevant tasks.

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