

SEMANTIC PROTOTYPE IN THE CZECH CULTURE

Pavla Chejnová

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Abstrakt

Tématem článku je kategorizace v českém kulturním a jazykovém kontextu. Prezentuji výsledky výzkumu, který jsem prováděla mezi 1689 respondenty v roce 2008. Výzkum se týkal zmapování sémantických prototypů u vybraných významových kategorií (domácí zvíře, dopravní prostředek, lesní zvíře, nábytek, ovoce, zelenina, strom, rostlina). Získaná data byla interpretována na základě subjektivních faktorů, tj. věku a genderové charakteristiky respondenta. Data byla rovněž kvantifikována z hlediska frekvence odpovědí.

Abstract

The topic of this article is the categorization in the Czech cultural and language context. I am presenting the results of the survey that I carried out among 1689 informants in 2008. The survey was oriented at mapping semantic prototypes in selected categories (domestic animal, means of transport, wild forest animal, furniture, fruit, vegetables, tree, and flower). The collected data were interpreted according to subjective factors, e.g. age and gender of the informants. The data were also quantified according to the frequency of answers.

1. Categorization

Information processing would not be possible without categorization. If we understand the process of categorization, we also understand our cognition. Even animals categorize while distinguishing food or environment.

Categorization is mostly automatic and subconscious, we are usually aware of it only in problematic cases when we are not sure if the item belongs to the category. We organize people, animals, things and abstract objects into categories.

2. The prototype theory

According to the prototype theory, the meaning of many words is described as a whole set of features, no one of which is individually either necessary or sufficient (Gleitman, 2003, p. 355). Wittgenstein speaks about family resemblance structure (Wittgenstein, 1953), suggesting that all members of the category are interrelated, but not all members share all the attributes that define the category.

The category does not usually have sharp borders; it is possible to add new members. Some members represent the category better than the others; they belong to the central part of the category. Some members are not so good examples of the category; they belong to the peripheral area: for example *a robin* is more prototypical of a bird than *a penguin*.

According to Rosch (1978), each language user carries in memory a mental prototype for each of our concepts. Those prototypes are dependent on our experience and culture where we live. If we meet a new object, we confront it with our mental prototype – does the new object share the attributes with the prototype, so could it be considered a member of the category?

Sedláková (2004) uses the synonymous expression *base concept*. Base concepts characterise the most typical attributes of the class of concepts. *Semantic prototype* is the most frequently used term.

3. Methodology and hypothesis

My objective was to discover if we can find *a semantic prototype* for selected categories. As *a semantic prototype* I understand the representative of the category which has the necessary attributes, and also it represents the category better than the other members.

In 2008 I carried out the research together with the students of Charles University in Prague. I obtained data from 1689 informants, including 711 men and 978 women. I used the questionnaire, in this article I am presenting eight tasks. The informants were asked to write semantic prototypes – the best examples representing each category (domestic animal, means of transport, wild forest animal, furniture, fruit, vegetables, tree, and flower). Each category required only one answer. Students distributed the questionnaire at schools during their teaching practice and also in their families.

I expected that the choice of *the semantic prototype* would be influenced by the culture in which the informant has lived since childhood; in our case is it the Czech culture. The informants acquired information about the world in Czech language, which is a West-Slavonic language, with a lot of inflection. The influence of the cultural aspects is highly emphasized by the theory called *Language image of the world*, which was founded in 80's in Poland, at first in connection with etnolinguistics and folklore texts (Vaňková, 2007). This theory is based on the basic principles of creating language image of the world: anthropocentrism, content metaphor and categorization, including prototypicality.

The most frequent answers were in fact bound to our cultural context. For example, the informants chose typical Czech fruit (*an apple*) more often than exotic fruit (*a banana, an orange*); they chose trees grown in our country (*an oak, a lime tree*) more often than exotic trees (*a cedar, a baobab*).

I also presumed that the choice of the prototype would be influenced by subjective factors such as age and gender of the informants. This presupposition was confirmed to a certain point. The answers of the adults, especially of seniors, were more similar – they wrote mostly the same answer(s). Younger informants, especially children, wrote usually answers that differed from each other. We can conclude, that the adult informants operate with mental prototypes, while children are more dependent on momentary experience and preferences, therefore their semantic prototypes were not so distinctive (e. g. in category domestic animal children chose *a dog* which seldom occurred among answers of older informants).

Also gender characteristic affected the answers. There is not a natural gender in Czech grammar; there is a grammatical gender, so even animals, plants, trees and objects have gender. Women tended to choose a prototype which has a feminine gender, men chose a masculine gender: men chose as a prototype in the category wild forest animal *a stag* and *a*

wild boar (masculine in Czech), women chose *a roe* and *a fox* (feminine in Czech). In the category tree, men chose *an oak* and *a spruce* (masculine in Czech), women *a lime tree* (feminine in Czech). In each category, there was one most frequent answer which could be viewed as *a semantic prototype*, but there were differences in frequencies. In the next part of the article I will mention some specifics of each category.

4. Semantic prototype in the category of *domestic animal*

As *domestic animals*, I understand animals producing food (milk, eggs, and meat) or textiles (wool, feathers) or animals that can be used for work in agriculture, e. g. *a horse* or *an ox*. *The dog* can be viewed as a guard dog; therefore this answer would be acceptable. If *the dog* is viewed as a pet, it would not be a good prototype; a similar case is *the cat*. However, it is difficult to distinguish between the two possible interpretations. Answers stating pets (e. g. *a mouse*, *a hamster*, *a quinea-pig*) are irrelevant.

The five most frequent answers in the category of *domestic animal*:

age of the informants	boys 6-13	girls 6-13	boys 14-17	girls 14-17	men 18-35	women 18-35	men 36-50	women 36-50	men 50 +	women 50 +	total
number of the informants	138	118	126	149	292	447	101	165	54	99	1689
cow	28 %	28 %	46 %	52 %	36 %	55 %	21 %	35 %	33 %	24 %	40 %
pig	12 %	14 %	12 %	13 %	25 %	20 %	43 %	28 %	35 %	17 %	21 %
hen	7 %	9 %	15 %	14 %	13 %	9 %	10 %	11 %	6 %	15 %	11 %
dog	23 %	15 %	8 %	7 %	4 %	2 %	6 %	5 %	4 %	9 %	7 %
goat	6 %	6 %	2 %	3 %	6 %	8 %	7 %	5 %	11 %	12 %	7 %

Other relevant answers were less frequent, e. g. *a rabbit*, *a horse*, *a cat*, *a goose*, *a sheep*, *a duck*, *a donkey*, *a turkey*. As we can see, there is no single prototype for this category, but there are several ones which fulfil the conditions mentioned above.

Considering some age specifics, the informants in the age category 6 – 13 choose *a dog* more frequently than adults (23 % boys, 15 % girls), they also occasionally wrote pets like *a hamster*, *a rat*, *a mouse* or *a turtle*, probably because they cannot categorize correctly.

Another specific group are men in the age category 18 – 35, who tried to joke, and wrote irrelevant answers as *a woman*, *a girl*, *a platypus* or *a vacuum cleaner*. Irrelevant answers were rare and they do not influence the result of the survey.

In the age category over 50 years, the answers *a goat* and *a rabbit* were more frequent than in other age categories, probably there is a different kind of experience in this generation. Older informants did not write any irrelevant answers, their categorization is fully fixed.

5. Semantic prototype in the category of *means of transport*

As a relevant answer I understand *means of transport* used both for personal and cargo transport. Sport utensils (*skis*, *a skateboard*, *in-line skates*, *skates*) are irrelevant. However, *a bike* can be considered as a relevant answer according to a dictionary definition (Slovník spisovné češtiny pro školu a veřejnost, 1994). Some rare answers state peripheral means for transport (*a three wheeler*, *a four wheeler*, *a dust van*, *a tractor*); they do not influence the results of the research, they were usually written by younger informants (age 6 – 13).

The five most frequent answers in the category of *means of transport*:

age of the informants	boys 6-13	girls 6-13	boys 14-17	girls 14-17	men 18-35	women 18-35	men 36-50	women 36-50	men 50 +	women 50 +	total
number of the informants	138	118	126	149	292	447	101	165	54	99	1689
car	66 %	66 %	51 %	54 %	54 %	58 %	61 %	73 %	48 %	48 %	58 %
bus	11 %	9 %	17 %	21 %	16 %	17 %	13 %	10 %	9 %	17 %	15 %
tram	3 %	3 %	5 %	3 %	8 %	8 %	6 %	2 %	7 %	6 %	6 %
train	2 %	2 %	5 %	4 %	4 %	4 %	9 %	8 %	15 %	16 %	6 %
metro	2 %	3 %	7 %	4 %	6 %	5 %	0 %	1 %	2 %	7 %	4 %

Some relevant answers were less frequent, e. g. *a bike, a motorbike, a plane, a truck, a ship, a trolley bus*. As we can see, more than a half of the informants chose *a car*, which is a personal means of transport; some owners can even have emotional relation to it. The means of public transportation were less frequent. If they were chosen, the informants chose those that were used for everyday transportation. *A bus* was more frequent than *a tram*, probably because it is used in the country too – trams are typical for some cities and metro only for Prague.

Gender distinctions were not so significant, but there were some differences according to the age of the informants – e. g. *a train* was chosen more often by older informants. It is not surprising; travelling by train was more frequent in the past than it is now.

Means of transport that are used less often in the Czech Republic were rare (*a plane, a ship*), so was *a truck*.

6. Semantic prototype in the category of *wild forest animal*

The dictionary defines *wild forest animals* as feral mammals and birds, usually hunted. Therefore all the answers stating insects, reptiles and fish are irrelevant, even if they live in the forest. Also exotic animals that are found only in ZOO in our country are irrelevant.

The five most frequent answers in the category of *wild forest animal*:

age of the informants	boys 6-13	girls 6-13	boys 14-17	girls 14-17	men 18-35	women 18-35	men 36-50	women 36-50	men 50 +	women 50 +	total
number of the informants	138	118	126	149	292	447	101	165	54	99	1689
stag	36 %	27 %	40 %	45 %	50 %	51 %	43 %	48 %	52 %	46 %	46 %
roe	12 %	24 %	21 %	21 %	24 %	30 %	34 %	43 %	28 %	33 %	27 %
wild boar	8 %	3 %	13 %	4 %	8 %	3 %	6 %	2 %	9 %	1 %	5 %
fox	4 %	7 %	6 %	7 %	4 %	6 %	4 %	2 %	4 %	6 %	5 %
squirrel	4 %	6 %	5 %	7 %	2 %	2 %	1 %	2 %	0 %	1 %	3 %

Some relevant answers were less frequent, e. g. *a hare, a bear, a wolf, a marten, a badger, an owl, a hedgehog, a lynx, a weasel*. In this category, we can see quite clearly a prototype – *a stag* and *a roe*. The informants chose animals that do frequently occur in our woods.

We can see a gender influence here, men and boys more often chose animals which tend to have a masculine characteristic (strength) and a masculine grammatical gender in Czech (*a stag, a wild boar*, less frequently *a bear* and *a wolf*), women and girls often chose animals having a feminine characteristic (gentleness, loveliness), and a feminine grammatical gender in Czech (*a roe, a squirrel*).

Young children occasionally wrote irrelevant answers (*a tick, a worm, an ant*); those answers were very rare and did not influence the result of the survey. On the other hand, older informants did not write any irrelevant answers, and had more fixed idea of the prototype – their answers were more convergent.

7. Semantic prototype in the category of *furniture*

Furniture is movable objects used to furnish the rooms, may support the human body (*seating furniture and beds*), provide storage, or hold objects on horizontal surfaces above the ground. Irrelevant answers were those that stated textiles (*curtains, cushions*), electric appliances (*a freezer, a TV*) and decorative objects such as *paintings, vases, decorations*, also parts of the house itself (*windows, doors, and steps*).

The five most frequent answers in the category of *furniture*:

age of the informants	boys 6-13	girls 6-13	boys 14-17	girls 14-17	men 18-35	women 18-35	men 36-50	women 36-50	men 50 +	women 50 +	total
number of the informants	138	118	126	149	292	447	101	165	54	99	1689
table	25 %	27 %	21 %	31 %	28 %	37 %	27 %	41 %	41 %	48 %	33 %
wardrobe	30 %	21 %	37 %	21 %	25 %	21 %	21 %	15 %	17 %	10 %	22 %
chair	10 %	20 %	13 %	21 %	21 %	17 %	25 %	19 %	15 %	12 %	18 %
bed	8 %	11 %	9 %	12 %	9 %	13 %	10 %	9 %	11 %	10 %	11 %
arm chair	3 %	5 %	5 %	5 %	6 %	6 %	6 %	7 %	4 %	6 %	5 %

Some relevant answers were less frequent, e. g. *a sofa, a chest of drawers, a shelf, a bench, a kitchen unit, a book case, a pouffe*. We can conclude that in this category there is no single semantic prototype, but as a prototype function the pieces of furniture that are most often to be seen in every room – combination of *a chair* and *a table* + *a wardrobe*. Together with *a bed* they are sufficient to furnish any room.

Younger informants occasionally wrote irrelevant answers (*doors, windows*), probably because they are not able to categorize properly. Boys more often wrote *a wardrobe*, girls *a table* and *a chair*, we can interpret it from a gender point of view: girls write the pieces of furniture that join the family together. Boys also sometimes wrote *a sofa*, which can be connected with leisure time.

Even adults rarely wrote some irrelevant answers, we can see also gender distinction: men wrote *steps* and *windows*, women *a refrigerator* and *a cooker*.

In older age categories, *a table* is the most frequent answer, more frequent than in younger age categories. The prototype is more distinctive here.

8. Semantic prototype in the category of *fruit*

The dictionary defines *fruit* as edible fruit (usually from trees and bushes). A fruit is a structure of a plant that contains its seeds. It is often sweet. There are differences between fruit in botanical and culinary sense, e. g. some adult informants wrote *a watermelon* as a prototype, because it is sweet, even if it is vegetable in fact. The answers stating peripheral members of the category, usually exotic fruit which is not typical for our country (*a date, a nashi, a litchi, a papaya, a fig*) were rare. On the other hand, exotic fruit that has been consumed in our country commonly and for a long time was frequently chosen as a prototype (*a banana, an orange*).

The five most frequent answers in the category of *fruit*:

age of the informants	boys 6-13	girls 6-13	boys 14-17	girls 14-17	men 18-35	women 18-35	men 36-50	women 36-50	men 50 +	women 50 +	total
number of the informants	138	118	126	149	292	447	101	165	54	99	1689
apple	49 %	44 %	50 %	50 %	50 %	55 %	65 %	72 %	61 %	65 %	55 %
banana	11 %	9 %	8 %	13 %	14 %	11 %	8 %	6 %	7 %	1 %	10 %
orange	14 %	11 %	17 %	10 %	11 %	9 %	1 %	3 %	4 %	6 %	9 %
pear	3 %	4 %	5 %	5 %	1 %	4 %	7 %	4 %	11 %	7 %	4 %
strawberry	1 %	8 %	2 %	7 %	2 %	6 %	3 %	2 %	0 %	2 %	4 %

Some relevant answers were less frequent, e. g. *a pineapple, a watermelon, a tangerine, a kiwi, a plum, a peach, a mango, grapes, a cherry, an apricot, a pommel, a lemon, a raspberry*.

The informants in the youngest age category choose exotic fruit more often than the older informants – *a banana* and *an orange* were quite frequent, even if they are not grown in our country. The reason may be that the children like them more than typical Czech fruit (*an apple, a pear*), they eat them more often. Some children choose even less known exotic fruit (*a mashie, a litchi, a papaya*), probably they were trying to impress.

If we consider gender characteristic of the informants, women and girls wrote *a strawberry* more often than men and boys – it is probably also a matter of preference.

The higher the age of the informants, the higher the frequency of the answer *an apple*. Older informants had a more distinctive prototype in their mental database, their answers tended to be more convergent. Exotic fruit occurred less often in their answers, partly because the older informants did not get in touch with it in times of their childhood, when their experience formed the idea of prototypical fruit.

9. Semantic prototype in the category of *vegetables*

The Czech language dictionary defines *vegetables* as parts (leaves, roots, and fruit) of some plants that are grown to be eaten. Most irrelevant answers were due to wrong categorization, informants mixed up fruit and vegetables (*a gooseberry, grapes*). The answers stating vegetables that are peripheral in our country (*a rucola, dill, a turnip*) were given less frequently.

The five most frequent answers in the category of *vegetables*:

age of the informants	boys 6-13	girls 6-13	boys 14-17	girls 14-17	men 18-35	women 18-35	men 36-50	women 36-50	men 50 +	women 50 +	total
number of the informants	138	118	126	149	292	447	101	165	54	99	1689
carrot	43 %	31 %	47 %	35 %	37 %	45 %	55 %	58 %	69 %	64 %	45 %
cucumber	8 %	19 %	11 %	22 %	11 %	15 %	12 %	10 %	7 %	4 %	13 %
tomato	11 %	13 %	11 %	12 %	13 %	13 %	10 %	10 %	0 %	11 %	12 %
pepper	6 %	15 %	6 %	15 %	9 %	14 %	2 %	6 %	4 %	2 %	9 %
cabbage	4 %	3 %	6 %	1 %	4 %	3 %	3 %	4 %	6 %	4 %	4 %

Some relevant answers were less frequent, e. g. *a cauliflower, a lettuce, a celery, a potato, a kohlrabi, a broccoli, a leek, an onion, parsley, peas, an aubergine, a radish, a garlic*.

The youngest informants did not choose one distinctive prototype, their answers were more divergent. In this age category there were also some irrelevant answers, stating fruit instead of vegetables.

There was a difference between the answers of girls and boys in the two youngest age categories: the answers of girls were even more divergent, while boys wrote *a carrot* most often, girls frequently stated other kinds of vegetables.

In the older age categories there was again a tendency to concentrate answers in one prototype (here it was *a carrot*).

10. Semantic prototype in the category of *tree*

The Czech language dictionary defines a *tree* as a woody plant with a trunk and a treetop. Both broadleaved trees, and coniferous trees are relevant answers. Because I tried to find a prototypical tree for the Czech culture, exotic trees (*a cypress*, *a cedar*, *a baobab*) would not be a good prototype.

The five most frequent answers in the category of *tree*:

age of the informants	boys 6-13	girls 6-13	boys 14-17	girls 14-17	men 18-35	women 18-35	men 36-50	women 36-50	men 50 +	women 50 +	total
number of the informants	138	118	126	149	292	447	101	165	54	99	1689
lime tree	14 %	25 %	17 %	19 %	20 %	32 %	19 %	31 %	15 %	36 %	25 %
oak	27 %	26 %	28 %	21 %	26 %	18 %	15 %	13 %	17 %	5 %	20 %
spruce	16 %	10 %	17 %	13 %	15 %	12 %	24 %	19 %	19 %	15 %	15 %
maple	11 %	9 %	6 %	9 %	9 %	7 %	7 %	5 %	0 %	2 %	7 %
apple tree	5 %	7 %	5 %	10 %	4 %	5 %	6 %	5 %	11 %	12 %	6 %

Some relevant answers were less frequent, e. g. *a beech*, *a birch*, *a poplar*, *a pine*, *a fir*, *a chestnut*, *a yew*, *a willow*, *a larch*, *an ash*, *a walnut*, *a ginkgo*, or other fruit trees.

There is a clear gender distinction: while men and boys state *an oak* and *a spruce*, trees that evoke strength and are used for wood, women and girls state *a lime tree* more often, which is the Czech national tree, connected strongly to our culture; bloom is used mostly in the pharmacy.

Answers stating *fruit trees* were not really frequent, but their highest rate was in the youngest category – probably it is a matter of preference. Younger informants also wrote some trees that are not typical for our country and which are therefore peripheral (*a baobab*, *a cedar*, *a redwood*).

11. Semantic prototype in the category of *flower*

The Czech language dictionary defines a *flower* as a plant with beautiful bloom and leaves. It means there is some aesthetic value in the semantic description. Therefore I consider those plants that lack this characteristic (*a nettle*, *a thistle*, *a marihuana*) irrelevant.

The five most frequent answers in the category of *flower*:

age of the informants	boys 6-13	girls 6-13	boys 14-17	girls 14-17	men 18-35	women 18-35	men 36-50	women 36-50	men 50 +	women 50 +	total
number of the informants	138	118	126	149	292	447	101	165	54	99	1689
rose	38 %	42 %	33 %	34 %	45 %	45 %	45 %	47 %	41 %	43 %	42 %
ox daisy	5 %	7 %	10 %	9 %	15 %	17 %	21 %	16 %	15 %	21 %	14 %
tulip	9 %	9 %	13 %	9 %	8 %	7 %	7 %	7 %	4 %	1 %	8 %
dandelion	11 %	10 %	18 %	11 %	9 %	5 %	5 %	4 %	2 %	3 %	8 %
daisy	6 %	8 %	5 %	6 %	5 %	5 %	1 %	2 %	2 %	0 %	5 %

Some relevant answers were less frequent: e. g. *a sun flower, an orchid, a lily, a violet, an aster, a kale, a narcissus, a lily of the valley, a cactus, a carnation, a geranium, a dahlia, a snow drop, a chrysanthemum, a lavender, a snowflake, a forget-me-not, a cornflower, a gladiolus, a crocus, a primrose, a water lily, a bell flower, a freesia, a marigold, a peony*. In this category there were many types of answers, but we can see that *a rose* was the most typical prototype in each age group. The answer *a rose* was even more frequent in older age categories.

Many informants also choose typical meadow flowers, exotic flowers were rare. Most irrelevant answers were in group of men aged 18 –35, they wrote plants such as *a nettle, a thistle, a marihuana*, probably as a joke.

12. Conclusion

There were several tendencies in choosing *semantic prototypes*. There was a difference between younger and older informants; the answers of older generations were more convergent, the most prototypical member of each category was chosen most often. On the other hand, younger members were often inspired by momentary experience, their answers were more varied.

Men tend to write more masculine members of the category, on the contrary, women choose members with feminine characteristic, often with feminine grammatical gender in Czech.

Most chosen prototypes were typical for Czech culture, exotic or foreign examples were rare, chosen mostly by younger informants.

To sum up, for all the categories there exist some members that represent the category better than the others. Choosing a semantic prototype is influenced by a personality of the person who is doing the categorization and by the culture where the person was born.

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PhDr. Pavla Chejnová, Ph.D.

Odborná asistentka Katedry českého jazyka
 Univerzita Karlova – Pedagogická fakulta
 M. D. Rettigové 4, Praha 1, 116 39
 pavla.chejnova@pedf.cuni.cz