Imagine that you are asked to give a definition of the word *fruit*, such that, on the basis of your definition, a person would be able to use the word appropriately, that is, to refer to all and only the things that are called ‘fruit.’

There are, broadly speaking, two ways in which you might approach the task. One approach would be to enquire what it is that all members of the fruit category have in common, in contrast to everything else that is ‘not-fruit.’ As a matter of fact, it turns out to be quite difficult to characterize the common essence of ‘fruit.’ For example, it would not do to define fruit as ‘the seed-bearing part of a plant,’ since the definition would encompass chestnuts, tomatoes, and pumpkins, which would not normally be described as fruit. You might try to improve the definition by including such aspects as the fact that the ‘seeds’ are surrounded by a fleshy part that is edible, in a raw, cooked, or dried state; that the edible part is ‘usually sweet’; that it is ‘often eaten as dessert’; and so on. Notice, though, that these latter aspects, though certainly typical of fruit, are by no means defining of the category. It would not be a contradiction to speak of a ‘bitter fruit,’ or of a ‘poisonous’ or ‘inedible fruit.’

Mention of these typical aspects does, however, raise the possibility of an alternative way to define the word, namely, in terms of its most typical exemplars. On this approach, apples and pears would be good examples of fruit, whereas tomatoes and olives would have marginal, or unclear, status within the category. In a remarkable series of papers publishing during the mid-1970s, and summarized in Rosch (1978), the psychologist Eleanor Rosch presented experimental results that demonstrated that the categories designated by words such as *fruit* may indeed be understood in terms of ‘good examples,’ or ‘prototypes,’ whereby entities are assimilated to the category on the basis of their similarity to the prototype, rather than through their sharing of a set of common, defining features. The model was initially explored using the example of color words. The concept of ‘red,’ for example, would be understood, not as that segment of the color spectrum that is labeled ‘red,’ but in terms of a ‘focal red,’ a ‘good example’ of red, with other shades being called red to the extent that they are close to the focal color. The model was extended to other everyday words such as *weapon*, *vehicle*, *furniture*, *toy*, and *bird.* For example, we have a fairly clear
picture of what a prototypical bird looks like; it would be a small, flying songbird, such as a robin or a sparrow, rather than a turkey, ostrich, or penguin. If asked to draw a picture, or to form a mental image of ‘a bird,’ it is the prototypical bird that we would envisage.

Rosch and her colleagues developed the prototype concept on the basis of several kinds of data:

- when asked to judge entities according to how good an example they are of a category, people, on average, tend to agree on their rankings;
- when asked to give examples of a category, people tend to name prototypical examples first;
- when asked to judge the truth of a statement of the kind ‘An X is a Y,’ where X is a potential member of category Y, people respond faster to the extent that X is a more prototypical member of Y;
- When reasoning or drawing inferences about a category, people tend to refer to properties of prototypical exemplars, rather than to properties shared by all members of the category.

Rosch’s work was popularized among linguists largely through the work of Lakoff (1987), Taylor (1989), and Geeraerts (1989). The prototype notion was not, however, completely new in linguistics. Independently of Rosch’s work, Ross (1973) had argued that some nouns were ‘nounier’ than others, in that some exhibited the full range of noun-like properties and others exhibited fewer noun-like properties, whereas Labov (1973) had demonstrated prototype effects (though they were not so called) for the concepts ‘cup,’ ‘bowl,’ and ‘vase.’

Not surprisingly, when taken up by linguists, the prototype notion was applied primarily to the study of word meaning – nouns in the first instance, but also words of other lexical categories, such as verbs and prepositions. Thus, Coleman and Kay (1981) showed that prototypical instances of ‘tell a lie’ involve making a statement (1) that is factually incorrect, (2) that is believed by the speaker to be factually incorrect, and (3) with the intention of deceiving the hearer. Statements that exemplify only two, or even only one, of these features were judged to be correspondingly less good examples of ‘tell a lie.’ The prototype concept has since been found to be useful in many other areas of linguistics, for example, in the study of meaning change, in the characterization of lexical and syntactic categories, and in phonology.

The notion of categorization by prototype has become a distinctive feature especially of cognitive semantics. There are, nevertheless, a number of contentious issues associated with the notion.

1. First, there is disagreement about what, exactly, the prototype is. Some have argued that it is an actual member of the category. Thus, we might say that the bird prototype is a robin. Others have argued for a more abstract characterization. For example, the bird prototype would consist of the conjunction of the typical features of birds – ability to fly, nest-building, etc. Alternatively, the prototype could represent the statistical average of the category members. Thus, the prototypical bird would be of average size, average predacity, etc. Yet another approach would be to claim that the prototype is the ‘default’ category member – the member that is activated in the absence of more specific information. Thus, on learning that a person has purchased ‘furniture,’ you would infer, in the absence of information to the contrary, that he or she had been buying tables, chairs, and beds, not clocks, lamps, and footstools.

2. Whereas ‘prototype effects’ (that is, speakers’ judgments concerning how good an example an entity is of a category) are easy to elicit, it is less clear why certain members of a category should have this privileged status. One proposal is that prototypical instances are encountered more frequently or are culturally more salient. An alternative would be to adopt a more ‘structuralist’ approach, whereby the prototype maximizes the distinctiveness of a category vis-à-vis its neighboring, contrasting categories. Thus, the fruit prototype maximizes the distinctiveness of fruit vis-à-vis contrasting categories, such as ‘vegetable’ and ‘nut,’ whereas the bird prototype maximizes the distinctiveness of birds vis-à-vis land and sea creatures.

3. Prototype effects give internal structure to a category, in that some members are considered better examples of the category than others. This aspect of prototype structure is often referred to as degree of representativity, or goodness-of-example ratings. Sometimes – though not always – degree of representativity goes with fuzziness of category boundaries. Thus, ‘red’ merges, at its boundary, with ‘orange’ – there are boundary colors that are genuinely difficult to categorize as either red or orange. Similarly, there are receptacles that are ambiguous vis-à-vis the categories ‘cup’ and ‘bowl,’ or ‘cup’ and ‘vase.’ But prototype categories do not necessarily have fuzzy boundaries. A Pekinese may not be a prototypical dog, but it is a dog nonetheless, not a ‘dog to a certain degree.’ The category ‘dog’ does not merge with other categories at its boundaries. The need to distinguish goodness-of-example ratings from category fuzziness is illustrated by the example of categories such as ‘odd number.’ The category is well defined, yet some odd numbers, such as 3, are judged to be more representative of the category than others, such as 447 (Armstrong et al., 1983).

4. Although knowledge of the category prototype may be an important aspect of knowing the meaning
of a word, word meaning cannot be equated with knowledge of the prototype. To know that robins are prototypical birds does not define the word *bird*, nor is this knowledge sufficient to guarantee appropriate usage of the word. A speaker needs to know how far, and in what ways, the category can be extended. It can be extended to encompass ostriches, penguins, and kiwis, but not to include bats, grasshoppers, and airplanes.

5. The nature and status of the prototype can vary according to the kind of word in question. For example, natural kind terms (that is, words that designate categories supposedly given by nature, such as *bird, mammal, gold*) presumably appeal to a defining essence (such as DNA, anatomical structure, chemical composition, as the case may be) that clearly circumscribes the category. Since the average language user may not be able to access the defining essence, appeal must be made to typical, observable, and stereotypical properties (such as yellow color in the case of gold or giving birth to live young in the case of mammals). Prototype effects can arise because such recognition procedures may be unreliable (think of the platypus – an egg-laying mammal). On the other hand, nominal kind terms (which are susceptible to an analytic definition), such as *vehicle* and *toy*, are liable to be much more fluid in their range of application and are likely to display both goodness-of-example effects and category fuzziness, not least because the terms used in the definitions (such as ‘for children to play with’ in the case of *toy*) may themselves exhibit prototype effects. It should, however, be borne in mind that even nominal kinds may have a clear-cut definition imposed on them, for example, by bureaucrats, lawmakers, and ‘experts’ in various fields. Thus, alongside the everyday understanding (with its prototype structure) of what constitutes an ‘adult,’ there exists the bureaucratic definition of a person above a specific age (in many countries: 18).

6. The prototype notion has been extended and applied to the analysis of polysemy. Irrespective of whether *bird* is used in reference to a robin or an ostrich, we should probably want to say that *bird* has the same sense in both cases; the fact that *bird* can be applied to different kinds of creatures does not in itself entail that the word is polysemous. But if you speak of a person as a ‘rare bird,’ or when (in what is now perhaps somewhat dated British slang) males refer to attractive young females as ‘birds,’ we should probably want to say that *bird* is being used in different senses, i.e., that the word is polysemous. For a polysemous word, one sense can often be regarded as ‘central,’ from which the others are derived, e.g., by processes of metaphor or metonymy. Although one sense may be regarded as the ‘prototype,’ it must be remembered that each of the senses of a polysemous word is itself liable to have a prototype structure. The application of the prototype notion to polysemous words is, however, complicated by the fact that it may be difficult to determine which of the senses is in fact ‘the prototype.’ For example, is the ‘static’ sense of *over*, exemplified in *The lamp hangs over the table*, the basic sense, or should we accord this status to the dynamic sense, exemplified by *The cow jumped over the moon?*

Despite these problematic aspects, the prototype concept continues to play an important role in linguistic analysis, especially in the study of word meaning, not least because it offers an alternative to the view that categories must always be defined in terms of a set of necessary and sufficient conditions for category membership. For many – perhaps, even for most – words in common usage, a definition in terms of a ‘core’ meaning, instantiated in each of a word’s uses, simply does not work.

*See also: Cognitive Semantics; Color Terms; Polysemy and Homonymy; Stereotype Semantics.*

**Bibliography**


