

The properties of Language.

Unique properties

There have been a number of attempts to determine the defining properties of human language, and different lists of features can be found. Six of these features have been taken and it has been described how they are manifested in human language.

1. Displacement

When your pet cat comes home after spending a night in the back alleys and stands at your feet calling meow, you are likely to understand this message as relating to that immediate time and place. If you ask the cat where it was the night before and what it was up to, you may get the same meow response. It seems that animal communication is almost exclusively designed for its moment, here and now. It cannot effectively be used to relate events which are far removed in time and place. When your dog says GRRR, it is likely, I mean GRRR, right now because it does not appear capable of communicating GRRR last night, over in the park.

Now, human language users are capable of producing messages equivalent to GRRR, last night, or saying "In fact, I'll be going back tomorrow". They can refer to past and future time, and to other locations. This property of human language is called **displacement**. It allows the users to talk about things and events not present in the immediate moment. Animal communication is generally considered to lack this property.

However, it has been proposed that bee communication does have the property of displacement. For example, when a worker bee finds a source of nectar and returns to the hive, it can perform a complex dance routine to communicate to the other bees the location of this nectar. Depending on the type of dance (round dance for nearby and tail-wagging dance, with variable tempo, for further away and how far), the other bees can

work out where this newly discovered feast can be found. This ability of the bee to indicate a location some distance away must mean that bee communication has at least some degree of displacement as a feature. The crucial consideration involved, of course, is that of degree. Bee communication has displacement in an extremely limited form. Certainly, the bee can direct other bees to a food source. However, it must be the most recent food source. It cannot be that rose garden on the other side of town that we visited last weekend, nor can it be, as far as we know, possible future nectar in bee heaven.

The factors involved in the property of displacement, as it is manifested in human language, are much more comprehensive than the communication of a single location. It enables us to talk about things and places whose existence we cannot even be sure of. We can refer to mythical creatures, demons, fairies, angels, Santa Claus, and recently invented characters such as Superman. It is the property of displacement that allows the human, unlike any other creature, to create fiction and to describe possible future worlds.

2. Arbitrariness

It is generally the case that there is no 'natural' connection between a linguistic form and its meaning. Recognizing this general fact about language leads us to conclude that a property of linguistic signs is their arbitrary relationship with the objects they are used to indicate. The forms of human language demonstrate a property called arbitrariness: they do not, in any way, 'fit' the objects they denote.

However, there are some words in language which have sounds which seem to 'echo' the sounds of objects or activities. English examples might be cuckoo, CRASH, slurp, squelch or whirr, which are *onomatopoeic*. In most languages, however, these onomatopoeic words are relatively rare, and the vast majority of linguistic expressions are arbitrary.

For the majority of animal signals, there does appear to be a clear connection between the conveyed message and the signal used to convey it. This impression we have of the non-arbitrariness of animal signaling may be closely connected with the fact that, for any animal, the set of signals used in communication is finite. That is, each variety of animal communication consists of a fixed and limited set of (vocal or gestural) forms. Many of these forms are used only in specific situations (e.g. establishing territory) and at particular times (e.g. during the mating season).

In *Jabberwocky*, Lewis Carroll exploits the arbitrary nature of the sign in its use of nonsense words. The poem also demonstrates very clearly the concept of the sign as a two sided psychological entity, since it is impossible to read the nonsense words without assigning a possible meaning to them. We naturally assume that there is a signified to accompany the signifier.

In further support of the arbitrary nature of the sign, Saussure goes on to argue that if words stood for pre-existing concepts they would have exact equivalents in meaning from one language to the next and this is not so. Different languages divide up the world differently. To explain this, Saussure uses the word *bœuf* as an example. He cites the fact that while,

in English, we have different words for the animal and the meat product: *Ox* and *beef*, in French, *bœuf* is used to refer to both concepts. A perception of difference between the two concepts is absent from the French vocabulary. In Saussure's view, particular words are born out of a particular society's needs, rather than out of a need to label a pre-existing set of concepts.

A further issue is Onomatopoeia. Saussure recognised that his opponents could argue that with onomatopoeia there is a direct link between word and meaning, signifier and signified. However, Saussure argues that, on closer etymological investigation, onomatopoeic words can, in fact, be coincidental, evolving from non-onomatopoeic origins. The example he uses is the French and English onomatopoeic words for a dog's bark, that is *Ouaf Ouaf* and *Bow Wow*.

Finally, Saussure considers interjections and dismisses this obstacle with much the same argument i.e. the sign / signifier link is less natural than it initially appears. He invites readers to note the contrast in pain interjection in French (*aie*) and English (*ouch*).

3. Productivity

It is a feature of all languages that novel utterances are continually being created. A child learning language is especially active in forming and producing utterances which he or she has never heard before. With adults, new situations arise or new objects have to be described, so the language-users manipulate their linguistic resources to produce new expressions and new sentences! This property of human language has been termed **productivity (or 'creativity', or 'open-endedness')**. It is an aspect of language which is linked to the fact that the potential number of utterances in any human language is infinite.

Non-human signaling, in contrast, appears to have little flexibility. Cicadas have four signals to choose from and vervet monkeys have about thirty-six vocal calls (including the noises for vomiting and sneezing). Nor does it seem possible for animals to produce 'new' signals to communicate novel experiences or events. The worker bee, normally able to communicate the location of a nectar source, will fail to do so if the location is really 'new'. In one experiment, a hive of bees was placed at the foot of a radio tower and a food source at the top. Ten bees were taken to the top, shown the food source, and sent off to tell the rest of the hive about their find. The message was conveyed via a bee dance and the whole gang buzzed off to get the free food. They flew around in all directions, but couldn't locate the food. The problem may be that bee communication regarding location has a fixed set of signals, all of which relate to horizontal distance. The bee can not manipulate its communication system to create a 'new' message indicating vertical distance.

The problem seems to be that animal signals have a feature called **fixed reference**. Each signal is fixed as relating to a particular object or occasion.

4. Cultural transmission

While you may inherit brown eyes and dark hair from your parents, you do not inherit their language. You acquire language and culture with other speakers and not from parental genes. An infant born to Korean parents who have never left Korea and speak only Korean, which is adopted and brought up from birth by English speakers in the United States, may have physical characteristics inherited from its natural parents, but it will inevitably speak English.

This process whereby language is passed on from one generation to the next is described as **cultural transmission**. While it has been argued that humans are born with an innate predisposition to acquire language, it is clear that they are not born with the ability to produce utterances in a specific language, such as English. The general pattern of animal communication is that the signals used are instinctive and not learned.

Human infants, growing up in isolation, produce no 'instinctive' language. Cultural transmission of a specific language is crucial in the human acquisition process.

5 . Discreteness

The sounds used in language are meaningfully distinct. For example, the difference between a /b/ sound and a /p/ sound is not actually very great, but when these sounds are part of a language like English, they are used in such a way that the occurrence of one rather than the other is meaningful. The fact that the pronunciation of the forms pack and back leads to a distinction in meaning can only be due to the difference between the /p/ and /b/ sounds in English .This property of language is described as **discreteness**. Each sound in the language is treated as discrete.

6. Duality

Language is organized at two levels or layers simultaneously. This property is called **duality**, or '**double articulation**'. In terms of speech production, we have the physical level at which we can produce individual sounds, like /n/, /b/ and /i/. As individual sounds, none of these discrete forms has any intrinsic meaning. When we produce those sounds in a particular combination, as in bin, we have another level producing meaning which is different from the meaning of the combination in nib. So, at one level, we have distinct sounds, and, at another level, we have distinct meanings .This duality of levels is, in fact, one of the most economical features of human language, since with a limited set of distinct sounds we are capable of producing a very large number of sound combinations (e.g. words) which are distinct in meaning.

Other properties

1. The use of the vocal-auditory channel is a feature of human speech. Human linguistic communication is typically generated via the vocal organs and perceived via the ears. Linguistic communication, however, can also be transmitted without sound, via writing or via the sign languages of the deaf. Moreover, many other species (e.g. dolphins) use the vocal-auditory channel. Thus, this property is not a defining feature of human language.

2. Reciprocity: any speaker/sender of a linguistic signal can also be a listener/receiver.

3. Specialization: linguistic signals do not normally serve any other type of purpose, such as breathing or feeding.

4. Non-directionality: linguistic signals can be picked up by anyone within hearing, even unseen.

5. Rapid fade: linguistic signals are produced and disappear quickly

6. Prevarication: Lying and deception, which appear to be particularly human traits, may have prompted Charles Hockett (1963) to include them (in technical terms, as prevarication) as a possible property of human language. In discussing this property, he claimed that "linguistic messages can be false" while "lying seems extremely rare among animals".

Most of these are properties of the spoken language, but not of the written language. They are also not present in animal communication systems which characteristically use the visual mode or involve frequent repetition of the same signal.