

Subject salience in SOV and SVO word orders as a result of agent animacy¹

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Abstract

The present paper presents a cognitive account of how animacy leads to the initial positioning of the subject (subject salience) in SOV and SVO word orders. Subject salience has been paid attention to in the literature from a semantic and functional viewpoint. In this paper, we argue that clauses with SOV and SVO word orders are diagrammatic icons in that they reflect how the prototypical transitive action scenario is conceptualized by the human mind. In such a scenario, the agent receives the most attention from the human viewer and is conceptualized more saliently than the other elements of the scenario. As a result, the linguistic counterpart of the agent, i.e. the subject is mentioned before the object and the verb to show its salient position. The reason for the more attention paid to the agent, we believe, is that in a prototypical transitive action scenario, the agent is animate and as research shows, animacy is evolutionarily of great importance to the human species.

Key Words: Subject Salience, SVO word order, SOV word Order, Attention, Animacy

Introduction

Linguistic researchers have attended to typology and the study of linguistic universals from different viewpoints. Most works dealing with typological properties of languages have either focused on linguistic form or the form-function relationship.

These two approaches to the study of universals is a consequence of a lack of a uniform definition for what a language universal is. According to Evans and Green (2006: 55), there are two different senses in which the term “language universal” is used. In one of these senses, universals are innate and hard-wired in people’s brains at birth and account for the cross-linguistic similarity patterns. According to Noam Chomsky and his followers in the generative linguistics tradition, these universals are independent of all other mental processes. Researchers in this tradition solely focus on language form since they believe language form is not affected by language function. The other sense in which the term language universal is used refers to similarity patterns across a large number of world’s languages collected and studied by typologists. This mode of studying similarity patterns has been termed “typological classification” by Croft (2003). He then explains that a number of researchers go farther and seek to explain the observed cross-linguistic similarities in the light of the functions of language. In “functional typology”, as the approach is called, it is believed that linguistic forms are affected by communicational functions of language and since there are common intended functions of language in human societies around the world, similar forms are attested.

There are few studies that deal with typology and universals from a cognitive perspective. Van derAuweraand Nuyts (2007) mention reasons for this lack

¹ This paper is extracted from the first author’s PhD thesis.

of cooperation between cognitive linguists and typologists. On the one hand, cognitive Linguists do not use the typological method because of the unavailability of the relevant types of data. On the other hand, linguistic typologists do not have enough expertise in cognitive science and abstain from looking for cognitive explanations for their data.

The birth of functional typology shows that many typologists are well-trained in functional linguistics and present functional explanations for their typological observations. This can be the beginning of a strong communication between the two movements for many linguists believe that functional explanations are cognitive by nature. Croft (2001) asserts that functionalists resort to cognitive explanations at times. Delancey (2001) too believes that cognitivist explanations are in line with functionalist explanations, and there is no visible theoretical or practical gap between the two movements. According to him, their greatest difference lies in the scope of their interests. Evans and Green (2006) claim that belief in the central role of language use in people's knowledge of language is a common assumption of cognitive and functional linguistics. Newmeyer (1998: 137-153) points to the common belief of functionalists and cognitivists in a close iconic relationship between form and meaning. Hudson (2014) believes that cognitive explanations can be used by functionalists and vice versa because functional pressures on humans are always of a cognitive nature.

The view adopted in the present paper is a cognitive one. But what constitutes a cognitive explanation? Adhering to the cognitive commitment proposed by Lakoff (1991), we believe that language should be described and modeled in the light of convergent evidence from other cognitive sciences as well as brain studies. This stems from the cognitive linguistics belief that language is a product of common general-purpose structures that lead to other cognitive abilities as well as language (Langer, 1993).

The purpose of this paper is to seek a cognitive explanation for a typological observation: the cross-linguistic prevalence of SOV and SVO word orders. In the following section, we will present a brief overview of the nature of the problem including research that has attracted attention to it. We will also look at some semantically oriented explanations for the observation. The next section will be devoted to our own cognitive account of how the peculiarities of human cognition and in particular human attention leads to the prevalence of SOV and SVO cross-linguistically.

1. SVO and SOV as the Most Prevalent Word Orders

One typological property of languages is their dominant word order in transitive clauses¹. Word order refers to “the relative positioning of the subject (S), object (O), and verb (V)” (Siewierska, 1994). There are six possible types of languages in terms of word order: SVO, SOV, VSO, OVS, VOS, and OSV. A very interesting observation is that the languages of the world are by no means equally assigned to these six types. According to different statistical studies, SVO and SOV are the most prevalent word orders cross-linguistically (Ultan, 1969; Ruhlen, 1975; Mallinson and Blake, 1981; Hawkins, 1983; Tomlin, 1986; and Dryer, 2013). These studies show that some 90% of the world's language have either an SOV or an SVO basic word order. Considering this fact, one may wonder why this is the case.

¹In this use, a clause is transitive if its verb can take a direct object. This is the definition of transitivity in traditional grammars, but as Hopper and Thompson (1980) mention, transitivity is a property of all clauses in the modern sense of the word.

As Jackendoff (2002: 135-6) and Kemmerer (2012: 53) mention, transitive clauses, in the traditional sense of the word, i.e. clauses whose verbs take a direct object, can linguistically encode many situations including those having nothing to do with agentive behavior like sentence (1). However, the most basic function of transitive clauses seems to be the encoding of the prototypical transitive action scenarios. In such scenarios, the agent which is animate and volitional, performs an activity whose effect is transferred to the patient which is inanimate, and undergoes some change as a result of the action (Hopper & Thompson 1980, and Næss, 2007). So, it can be claimed that prototypically, the subject, verb, and object are the linguistic counterparts of the agent, action, and patient respectively. Sentence (2) is an example of a clause that encodes a prototypical action scenario¹.

- (1) John likes Sarah.
- (2) John sliced the bread.

Langacker (2008) depicts a canonical event model (his terms for such a scenario) as in figure 1. In such a model, the agent (AG) acts upon a patient (PAT) and brings about some sort of change in it (the little square in the patient circle).

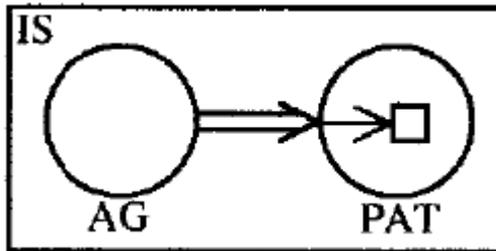


Figure 1. A Canonical Event Model (from Langacker, 2008: 357)

A scenario like this can be decomposed into two sub-scenarios: in one of these sub-scenarios, the agent performs the activity, and in the other, the patient undergoes change as a result of receiving the effect of the agent's action.

As mentioned in Kemmerer (2012), typologists like Greenberg (1966), Tomlin (1986), Comrie (1989), and Whaley (1997) explain the cross-linguistic prevalence of SVO and SOV word orders using two general principles: subject salience and verb-object contiguity. Subject salience holds that in the most frequently attested word orders, the subject tends to precede the object, and according to verb-object contiguity, verbs and objects tend to be adjacent.

Subject salience and verb-object contiguity are the results of the way a prototypical action scenario is conceptualized. The conceptualization of the first sub-scenario leads to subject salience, and that of the second sub-scenario leads to verb-object contiguity. According to Kemmerer (2012), "the subject salience principle may derive in large part from the fact that in the prototypical transitive action scenario, the agent is at the head of the causal chain that affects the patient" and as to verb-object

¹ The diversity of situations encoded by transitive clauses may be explained by developmental psychologists who hold that humans start with forming concrete concepts which then serve as a basis for forming abstract concepts. For more information, see Vygotsky (1962), Werner and Kaplan (1963), Lakoff and Johnson (1980) and Piaget and Inhelder (2013).

contiguity, “it is the agent’s action, rather than the agent per se, that changes the state of the patient”.

In the next section, we will focus on the first sub-scenario and try to explain in cognitive terms the reason for the more salient conceptualization of the subject (agent).

2. The Conceptualization of a Prototypical Transitive Action Scenario

De Saussure (2011) considers signs as double entities formed through the association of two terms. One of the terms is a form that signifies, and the other is a meaning that is signified. The signifier and the signified are like the two sides of a paper sheet, they are inseparable. The signifier is a perceptible, material (visual or acoustic) signal that leads to a mental image. That mental image is the signified. Thus the signified of “table” is not the piece of furniture itself but the mental image created upon hearing or seeing the word.

Words are not the only signs in the realm of language. Constructions too can serve as linguistic signs by virtue of signifying events or scenes. In such cases, the event or the scene in the real world is perceived by the human viewer and a concept of it is then formed in the viewer’s mind. The concept of the scene in the viewer’s mind is the signified of a linguistic sign whose signifier is the spoken or written construction.

Some signs, including linguistic signs, are of an iconic nature. Peirce (1885) thus defines an icon: “I call a sign which stands for something merely because it resembles it, an icon. Icons are so completely substituted for their objects as hardly to be distinguished from them”. As evident from the definition, icons are signs in which the relationship between the signifier and the signified is based on some sort of similarity.

Peirce (1885) classifies icons into three categories: images, metaphors, and diagrams. Images are the prototypes of icons. An image is a simple sign that is similar to its referent by virtue of its sensory properties. These properties may be auditory or visual. Pictures, drawings, statues, and onomatopoeic words are examples of imagic icons. The second class of icons are metaphors. Metaphors display a parallelism in something else and thereby distinguish a salient property of the sign. For example, a flower can represent a good-looking person. Diagrams are the third class of icons and the focus of our attention here. According to Peirce (1974: 227), a diagram is a systematic arrangement of signs that are not necessarily similar to their referents, but their relations reflect the relations between their referents.

Haiman (1985: 11) distinguishes two types of diagrammatic iconicity: isomorphism and motivation. To him, isomorphism refers to a one-to-one correspondence without regard to the relative positioning, importance, or any other property of the diagram. In contrast, motivation is what leads diagrams to display the same relations among their parts as those relations detectable among the comprising parts of their referents.

We believe that sentences with an SVO or an SOV word order display motivated diagrammatic iconicity. As linguistic signs, they are composed of two parts. The signifier is the material realization of the sentence either in the auditory or the visual form. This form signifies a mental concept in the speaker’s mind. Since the relations among the linguistic elements of such sentences to some extent mirror those among the parts of the mental concept (signified), they can be considered as instances of motivated diagrammatic iconicity.

Earlier in the paper, we mentioned literature that decomposed the prototypical action scenario into two sub-scenarios. The concept of the whole scenario together with its sub-scenarios exists in the speaker’s mind. The beginning of the

scenario is triggered by the animate agent's doing an activity. As will be explained later on, the animacy of the agent is of great importance in giving rise to subject salience in SOV and SVO word orders. Apart from the salient role of the agent, the action and its effect on the patient are perceived and then conceptualized inseparably.

If we consider the signifier of such linguistic signs, we can detect similar parts and similar relations among them. The subject, action, and object are typically in a one-to-one correspondence with the agent, action, and patient respectively. In the signified (mental concept of the scenario), the agent boasts a salient role and is conceptualized separately from the rest of the scenario. Also, just as the action and patient are perceived and conceptualized together in the mental concept, the verb and object are adjacent in the signifier (the SOV or the SVO clause). Thus, it can be claimed that sentences with an SVO and an SOV word order are diagrams for the prototypical transitive action scenario.

3. How the Mind Assigns Salience to the Subject in SVO and SOV

In the previous chapter we explained that subject salience and verb-object contiguity both come about as by-products of motivated diagrammatic iconicity. In this section, we will discuss what gives salience to the agent of a prototypical transitive action scenario such that it leads to the initial positioning of subject in SOV and SVO word orders.

Attention, a mental process, enables one to concentrate on an aspect of information and neglect all the rest. It plays an important part in language. Cognitive linguists have recognized the significance. Langacker (1987) believes that while viewing a scene in the real world, the viewer pays more attention to one aspect of it. He states that this is accomplished through a number of focal adjustments. In fact, through a specific focal adjustment, a unique construal is imposed upon the scene.

The three parameters of focal adjustment are selection, perspective, and abstraction. Among these three parameters, the second is the most relevant to our topic. We intend to explain how the adoption of a specific perspective leads to the prevalence of SVO and SOV word orders.

The perspective chosen to view a scene is important in the relative salience of its participants (Evans & Green, 2007). According to Langacker, the grammatical roles subject and object are reflections of the perspective adopted and are cognitive by nature. The distinction of subject and object is related to the prototype of an action chain which is a cognitive model including an energy source that transfers energy to an energy sink. That semantic pole of the linguistic expression that fulfills the role of the subject, he calls the trajectory. This is an indication of the fact that the prototypical subject is dynamic. The semantic pole which fulfills the role of the object is named the landmark. This means that the prototypical object is inert.

Langacker believes that there is a conceptual asymmetry between the participants of a relation that is, the trajector indicates the focal or the most salient participant and the landmark indicates the secondary participant. In the following English sentences, the trajector (subject) is mentioned first and the landmark (object) follows it.

(3) John sliced the bread.

(4) The bread was sliced by John.

In the first sentence, the focal participant is John who is the agent and the second participant is the bread that serves the patient role. In contrast, in the second sentence, we see the reverse situation: the focal participant is the patient and the agent is the secondary participant. What leads to the distinction of these sentences is a change in the perspective which is affected by the relative prominence of each participant.

We agree with Ungerer and Schmid (2013: 210) in that rather than being a syntactic notion, perspective is of a cognitive nature and what lies behind the selection of different perspectives is the ability to direct one's attention. According to them, the perspective through which we watch a scene depends, *inter alia*, on what captures our attention.

From what we mentioned about the relationship between perspective and attention, it can be concluded that in active sentences where the agent is mentioned first, for instance, more attention is paid to the agent and likewise in passive sentences, the patient attracts more attention and is hence mentioned prior to the agent.

Back to our own topic, we can draw an analogous conclusion about the precedence of subject in both SOV and SVO word orders. We claim that what leads to the initial positioning of the subject in these two word orders is the more attention the agent attracts compared to the patient and the action.

The question is "what are the characteristics of the prototypical agent that lead to the precedence of its linguistic counterpart in the SVO and SOV word orders?" With regard to our discussion of the role of attention, the question can be rephrased like this: "what are the characteristics of the prototypical agent that make it worthy of attention?"

Numerous psychological studies have shown that the human mind processes positive information (information that is present) better than negative information (information that is absent). This feature-present/feature-absent effect has been studied by Treisman and Gelade (1980), Treisman and Souther (1985), and Treisman and Gormican (1988).

Since attention is a working of the mind, it too deals with positive information much better than with negative information. So, it seems justifiable to look for features that make the agent of a prototypical transitive action scenario worthy of attention. We suggest that animacy is that feature of the agent which leads to the attraction of more human attention. We propose that human attention is particularly sensitive to the existence of this feature in the agent of a scene due to the evolution of the species *Homo sapiens*.

Throughout the history of human evolution, identifying animate entities in the visual field has been of great importance. This ability that enables *Homo sapiens* to detect potential prey and predators has played a crucial role in the survival of the species. Humans who could not do so effectively were more prone to being hunted by predators and lost the chance to pass on their genes. The importance of animate entities for human beings has led to their developing an attention system which is much more sensitive to animate entities than to inanimate ones.

Legerstee (1991) examined the role of person and object in eliciting early imitation. One group of infants were assigned randomly to two conditions. In the person condition, they were presented with tongue protrusions and mouth openings modeled by an adult. In the object condition, however, the infants were presented with these gestures simulated by two objects. Subjects in the person condition selectively imitated the mouth open and tongue protrusion gestures at significant levels whereas those in the object condition did not do so. The findings of this study indicate that human infants attend differently to human and non-human gestures.

Crichton and Lange-Küttner (1999) presented infants from 16 to 20 weeks with objects traversing a 60 cm distance. They tested four conditions: induced movement, holding the object; induced movement, pushing the object; self-propelled mechanical movement, object moving by an internal clockwork; and self-propelled biological movement, animate object moving by internal impulse. One finding of their study was that in arm movements, the self-propelled moving animate object was

differentiated from inanimate objects. Again, we see a preference for paying attention to animate objects by human infants.

Pratt, Radulescu, Guo, and Abrams (2010) designed six experiments to assess humans' attention to movements of animate objects and those of inanimate objects. They define an inanimate motion as one that is caused by collisions and is predictable. In contrast, animate motion refers to a type movement whose initiation does not depend on collisions and is hard to predict. The results of the study show that animate motion captures human attention much more readily than inanimate motion. They also conclude that their human subjects were not aware of the perceptual animacy that resulted in their attention being attracted. The authors believe that the discriminatory handling of animate motions and inanimate motions by the human attention system is due to the fact that animate motions are perceived as the movements of animate creatures and such movements are much more important to Homo sapience from an evolutionary viewpoint.

Another important piece of evidence comes from research done on the ability to detecting change to animate objects versus that to inanimate objects. One such study was carried out by New, Cosmides, and Tooby(2007). The authors claim that visual attention mechanisms specifically select information related to animals to process, whereas this does not hold for inanimate objects. They carried out a number of experiments to see whether human attention is more sensitive to changes to animals than those to inanimate objects. After the experiments, they concluded that changes to both human and non-human animals were detected more easily and more accurately than changes to inanimate entities like vehicles, buildings, plants, or tools. This is in spite of the fact that in the modern world we live in, there are far more risks originating from moving vehicles than from animals. New, Cosmides, and Tooby believe that this astonishing fact is a result of the importance of animals for human ancestors.

Research, as we saw, points to the importance of animate objects for the human species. This importance is the reason behind the more attention it receives. The animate agent, receiving more attention, finds a more salient position in the mental concept for a prototypical transitive action scenario. It is the mental concept that serves as the signified in the linguistic sign (a clause with an SOV or an SVO word order). In cases where a linguistic sign is diagrammatic, the comprising parts of the signifier and relations that hold among them mirror those of the signified. Because the agent is conceptualized more saliently, its linguistic counterpart (the subject) too should boast some salience compared to the verb and object. This, we believe, is accomplished by positioning the subject in the beginning of transitive clauses. All humans around the globe belong to the same species and are equipped with the same cognitive abilities. Thus, it seems safe and reasonable to conclude that a typological observation like subject salience in SVO and SOV word orders can be the result of a cognitive universal.

4. Conclusion

In this paper, we tried to explain the initial positioning of subject in SOV and SVO word orders, the most prevalent word orders cross-linguistically, in cognitive terms. This linguistic phenomenon has been termed subject salience by a number of linguists. The explanation put forward for this observation was that the agent was at the head of the causal change that brings about some sort of change in the patient. In our pursuit of a cognitive explanation for subject salience, we looked at attention as a mental process. Research in psychology shows that attention is attracted to features that are present (feature-present/feature-absent effect). We suggested that a feature whose presence captures the attention of the viewer is the animacy of the

agent. Some studies that pointed to the importance of detecting animate objects were presented, and it was concluded that the animate agent receives a salient position in the concept of the prototypical action scenario in the speaker's mind. This salience is then reflected in the initial positioning of the subject in SOV and SVO word orders through diagrammatic iconicity.

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