

The Effects of Linguistic Classifiers on Object Concepts

Substantial academic debates have surrounded linguistic relativity. One manifestation of linguistic relativity is whether classifier languages impact human's categorisation of matter. Classifier languages are languages that group nouns into classes based on some characteristics—such as shape, material, and size—of the referents of the nouns (Allan 1977, cited in Kuo & Sera, 2009:p.2). Examples of classifier languages include Chinese, Japanese, and Korean. In Chinese, it is obligatory to attach a classifier when quantifying the referent of a noun (e.g. sān zhāng zhuōzi, *three piece table*). In contrast, languages without classifiers generally group nouns into count nouns and mass nouns. Count nouns represent discrete individuated objects whereas mass nouns represent unindividuated formless substances. In non-classifier languages like English and other European languages, enumerating count nouns does not require any classifier (e.g. *three tables*). This cross-linguistic difference closely relates to object concepts that distinguish discrete objects from formless material. In this essay, I will present and analyse arguments on the effects of classifier languages on categorisation in comparison to non-classifier languages, covering a spectrum ranging from a strong Whorfian position to much weaker forms of it.

One of Whorf's original examples of possible influences of language on thought concerned the ontological distinction between objects and substances, along with quantificational consequences of categorisation of an entity as a member of an object kind versus of a substance kind (Whorf, 1939/1956, cited in Li, Dunham & Carey, 2009:p.488). In support of the strong effect of language on thought, Whorf argued that languages with a count-mass distinction imposed the distinction between objects and substance on their speakers as part of a "Standard Average European" ontology not shared by speakers of classifier languages. Without count-mass syntax, speakers would not conceptualize the world in terms of the distinction between individuals and unindividuated entities such as substances (Li et al, 2009:p.488). Several assumptions were made here. Firstly, count-mass syntax was assumed to be the only way for language to discretise objects, separating them from substances. The lack of such syntax—modelled after European languages—directly indicates the inability of such languages to make this distinction. Classifier languages could have no alternative syntactic device that serves similar purposes. Secondly, the capability of a language for object-substance distinction or the lack thereof could translate into its speakers' ability to conceptualise a world with such a distinction. If these points were true, speakers of classifier languages would construe a given entity in terms of its constituent material rather than its shape or form. There would be no way to enumerate objects without first packaging them into pre-defined containers, of which classifiers seemed to serve the role. This strong Whorfian view has since been heavily challenged by experimental evidence, such as that of prelinguistic children being able to make object-substance distinction (Li et al, 2009:p.489). Consequently, many weaker hypotheses regarding classifier languages and object-substance distinction have emerged.

One such hypothesis concerns the salience of shape in classifier languages. The dominant view, termed the Mass Noun Hypothesis (Quine et al, cited in Yi, 2010:p.210), states that: "(MH1) Classifier languages have no count nouns. (MH2) All the common nouns of classifier languages are mass nouns." Since mass nouns denote substances rather than discrete

entities, all nouns in classifier languages refer to shapeless substances rather than objects with shape. As such, this hypothesis predicts that shape is *less salient* for speakers of classifier languages (Kuo & Sera, 2009:p.3). To analyse this argument, I will break it down into constituent points. MH1 uses the concept of count nouns from English grammar, and presupposes that all languages should follow the English structure of count-mass distinction. The lack of such adherence—the absence of numeral noun phrases without quantifiers—indicates that there is no concept of count nouns in classifier languages. Another assumption is that all classifiers serve the same function: to “contain” otherwise unindividuated substances for quantification. This imposition of English syntactic structure onto other languages patently disregards possible semantic resources to make count-mass distinction that are unavailable in English. MH2 takes it one step further, arguing that all nouns are either mass or count nouns. The lack of count nouns in a language directly results in all nouns being mass nouns. This point is ill-founded. If the count-mass binary follows from English grammar, and classifier languages have clearly been shown to not conform to English grammar, then this binary classification of nouns should not be invoked to conclude that all nouns are mass nouns in classifier languages. Lastly, the prediction of the Mass Noun Hypothesis about the reduced salience of shape builds upon the assumption that the basis for count-mass distinction in non-classifier language is that count nouns emphasise the shape of the referents of nouns, and mass nouns, substance. This association is assumed to extend to classifier languages like Chinese, and the fact that Chinese lacks count nouns implies that Chinese speakers view objects with a focus on substance rather than shape.

Kuo and Sera’s (2009) paper refuted the Mass Noun Hypothesis and its consequent prediction that shape is less salience for speakers of classifier languages. They proposed an alternative hypothesis which stated: “When shape is the basis for noun categorization in a classifier language, shape will be more salient for speakers of that language” (p.5). Chinese is a language whose classifiers are largely based on shape. They conducted experiments where Mandarin speakers and English speakers were asked to judge which of the two items presented to them was more similar to the target item. One was similar in shape to the target (thus sharing the same classifier in Chinese) while the other in functionality or taxonomy. The experimental results contradicted the above-mentioned prediction. Kuo and Sera concluded that Mandarin speakers relied on shape more heavily than English speakers when classifying solid objects. Here, they assumed that the observed cross-linguistic differences were solely due to the presence or absence of shape-based classifiers in each language. Even though the experiments invalidated the prediction of the Mass Noun Hypothesis, it did not establish that speakers of classifier languages conceptualise matter as distinct classes of objects versus substances, since the distinction made in the experiments was between shape and functionality rather than between shape and material. Moreover, the conclusion still adopts a weak Whorfian position. Shape-based classifiers have a significant impact on Chinese speakers’ categorisation of objects, albeit in a different direction from the conventional view, as Chinese accentuates the salience of shape in object conceptualisation rather than diminishing it, as expected of a classifier language.

Yi (2010) also rebutted the Mass Noun Hypothesis. However, instead of arguing against the Hypothesis through contradicting its predicted consequences, Yi questioned its premise, that is, whether classifier languages indeed make no distinction between count and mass nouns.

In opposition to the Mass Noun Hypothesis, Yi conjectured the Count Noun Hypothesis (p.211): “Classifier languages have count nouns as well as mass nouns. They have morphosyntactic devices for distinguishing count nouns from mass nouns.” On the surface, it seems that Yi still used the English framework of count-mass distinction to analyse noun categorisation in classifier languages. However, instead of focusing on superficial syntactic constructs, Yi ascertained the semantic distinction between different classifiers, and noticed that the notion of individuality is semantically encoded in classifiers that are used exclusively for discrete objects but not for shapeless aggregates. Yi’s theory squarely refuted Whorf’s view that classifier languages made no distinction between objects and substances. Nevertheless, Yi did not address weak Whorfian claims about how different ways of categorisation potentially affect human’s conceptualisation of objects.

The lexical statistics hypothesis falls on the other end of the spectrum, which Li et al (2009:p.491) claimed to be a non-Whorfian interpretation on empirical evidence seemingly implying different language speakers’ tendencies to categorise objects differently. They pointed out that “the language one speaks may entail naming conventions, or an attention to different properties of entities for the purposes of comprehending, producing and learning language, even if underlying ontological commitments and task neutral feature weightings remain unaffected” (p.491). The dichotomy between classifier languages and others only affects a narrow set of linguistic tasks that involve lexical projection. Non-linguistic representations of objects remain unaffected. This view completely contrasts the strong Whorfian view that mental conceptualisation of entities changes due to the presence of classifier structures.

In conclusion, arguments on the effects of classifiers on human categorisation fall on a spectrum. The strong Whorfian claim that speakers of classifier languages cannot conceptualise the object-substance distinction has been challenged by several weaker claims. The “standard view” is the Mass Noun Hypothesis, which has been refuted from different angles by Kuo and Sera’s findings on Mandarin speakers’ propensity for shape salience, and Yi’s Count Noun Hypothesis. The non-Whorfian lexical statistics hypothesis posits that classifiers do not affect non-linguistic representation of entities. Moving forward, more research needs to be conducted to differentiate the effects on linguistic and non-linguistic cognitive tasks in order to establish more concretely the impact of classifiers on human cognition.

References

Kuo, J. Y.-C., & Sera, M. D. (2009). Classifier effects on human categorization: the role of shape classifiers in Mandarin Chinese. *Journal of East Asian Linguistics*, 18(1), 1–19. doi: 10.1007/s10831-008-9036-6

Li, P., Dunham, Y., & Carey, S. (2009). Of substance: The nature of language effects on entity construal. *Cognitive Psychology*, 58(4), 487–524. doi: 10.1016/j.cogpsych.2008.12.001

Yi, B. U. (2009). Chinese Classifiers and Count Nouns. *Journal of Cognitive Science*, 10(2), 209–225. doi: 10.17791/jcs.2009.10.2.209