Patrik Svensson. *Number and Countability in English Nouns. An Embodied Model*. Umeå University. Uppsala: Swedish Science Press, 1998. v + 261 pp. ISBN 91-7191-505-2. Reviewed by **Inge de Mönnink**, University of Nijmegen.

There are many disparate ways of handling number and countability in language, and, despite the efforts of linguists and philosophers, there exist few convincing theories of number and the count-mass distinction in English. In this thesis, Patrik Svensson aims to provide a coherent theory of nominal number, in particular of the count-mass distinction in English. The underlying theme of his analysis is the notion of embodiment, as developed by Lakoff and Johnson. We are embodied beings, and this fact constraints the way we categorize the world. Svensson argues that the count-mass distinction can be described in terms of a more general figure-ground schema that applies to many areas of language, and is vital for our low-level perceptual system and for the way in which we interpret the world. Empirical support for his argument comes from a corpus-based set of data. Three commitments serve as overall guiding principles in the endeavour: the cognitive commitment, the real data commitment, and the diachronic commitment. After a brief discussion of the basic structure, I will discuss the contents of the book, using these three commitments as a point of departure.

The book comprises eight chapters and a conclusion. It opens with a discussion of the category of number in language. Chapter 2 discusses general issues in corpus linguistics, introduces the corpora that are used and the selection of nouns for which these corpora are searched, and it presents cluster analysis, the method that is used to analyse the corpus data. In Chapter 3, Svensson gives an extensive survey of existing theoretical approaches to number and countability in both linguistic and philosophical frameworks. The discussion stresses the enormous differences that exist in treatments of number and countability. Chapter 4 introduces (different types of) embodiment and discusses neural, visual and psychological aspects of embodiment. The results of the corpus study are presented and discussed in Chapter 5. This can be seen as the central chapter of the book, which tries to bring together the notion of embodiment and the corpus data. The last three chapters all focus on a different aspect of the way in which nouns can deviate from their prototypical category of countability: reclassification, reification, and individuation. The book ends with a brief, but important, conclusion, which succeeds, at least to a certain extent, in bringing together the enormous variety of different paths this study travels upon.

The cognitive commitment says that any theory of language should be in accordance with the way our body, mind and brain work. This means, among other things, that other disciplines, such as philosophy, psychology, neurology,

and biology, can provide insights in the way we can deal with phenomena that are linguistic, yet inextricably linked to our perceptual and cognitive apparatus. The fundamental hypothesis of the work under discussion is 'that embodiment serves as the basis for how we form categories and thus for much of language, and that the notion of embodiment can be used to shed light on the linguistic classification of nouns into count and mass' (p 85). The book discusses different aspects of embodiment. Examples of notions which are important parameters in the way we categorize the world, and thus relevant for the investigation into number and countability, are perceptual salience, proximity, boundedness, and localization. Of these, perceptual aspects get the most attention. The distinction between count and mass nouns is shown to be directly related to the distinction between figure and ground. The figure has definite shape, whereas the ground has a substance-like character. Count entities typically function as figure in a given visual scene, while mass entities typically serve as ground.

The diachronic commitment gets the least attention of the three basic commitments. It is directly linked to the notion of motivation, which is closely associated with the notion of embodiment. Motivation is an important aspect of any system that does not have clear boundaries and the number system is such a system. Often a noun is not 100 per cent count or mass, but merely 'typically count' or 'typically mass'. Motivation is what holds a category of this kind together. The link between linguistic forms can vary in strength. The link between mass and count, for example, is strong to begin with, but may weaken over time. Once this happens and a noun loses its original motivation, a semantic split may occur, and the linguistic form can change as well. This may explain, for example, why syntactic countability is sometimes also associated with abstract entities. In this study, motivation is largely used to explain deviations from the rough classification of nouns that resulted from the corpus study.

The real data commitment is satisfied by the use of corpus data. The main corpus used for the study of English nouns consists of a subset of the Bank of English, the CobuildDirect Corpus. Also, some Swedish examples have been taken from the Gothenburg corpus, Spårbanken, and some supplementary English examples from the British National Corpus. The CobuildDirect corpus contains both spoken and written material, and three varieties of English (British, American and Australian). To restrict the corpus study somewhat, a selection of nouns as well as a selection of syntactic criteria were made. In total, 110 nouns were studied for their occurrence in 14 different syntactic constructions. The choice of nouns is well-founded. The choice of syntactic criteria is largely based on previous literature on the topic. Svensson tries to establish a set of identifying criteria for distinguishing between singular count nouns, plural

count nouns and mass nouns. In total, 34 criteria were postulated and discussed (Chapter 1); of these 14 were selected for their feasibility in a corpus search. Because of the relatively large number of objects under investigation, Svensson uses multivariate analysis, or more specifically cluster analysis, for the statistical treatment of the data and gives a clear account of the procedure of cluster analysis (Chapter 2). Cluster analysis aims to assemble variables into clusters of similar items. The resulting clusters should ideally be internally homogeneous and externally heterogeneous. In practice, five of the original 14 constructions were left out of the cluster analysis, either because they occurred too infrequently, or because they were highly correlated with one of the other constructions.

The corpus study resulted in a rough classification of nouns. In the dendogram which resulted from the cluster analysis, clear clusters are formed by 'singular count nouns', 'singular mass nouns', 'dual/binary object nouns', 'weak plurals', and 'strong plurals'. In other words, it was possible to cluster the nouns on the basis of the syntactic contexts in which they occurred. However, Svensson argues that this classification has to be seen as a radial structure in which nouns have a prototypical category, but various extensions from that category are possible.

Svensson illustrates his 'theory' of number and countability with many examples, and he provides some interesting insights in the way corpus data and the notions of embodiment and motivation can be used to explain, among other things: the existence of a class of English 'plurale tantum' nouns, the need for a special treatment of collective nouns, and the existence of nouns with 'limited countability'. However, because of his apparent urge to be complete about (almost) everything the study of number and countability touches upon, Svensson tends to get lost in the enormous amount of information available, leaving the reader to deal with more questions than can ever be answered in the rest of the book, but at the same time establishing a profound impression in the reader of the complexity of the study at hand. His remark in the conclusion that '[t]his study has been somewhat sprawling' must be considered an understatement.

A drawback of this 'sprawling' approach is that, in trying to say everything, only general points are touched upon, and the most important observations are left out. A good illustration of this can be found in the author's discussion of the corpus data. Instead of focusing on the characteristic of the corpus at hand, Svensson takes it upon himself to discuss all issues that play a role in corpus design in general. Unfortunately, the considerations of corpus design discussed appear not to be applied to the corpus used in this thesis. No motivations are given, for example, for the choice of the Bank of English and the CobuildDirect

corpus. Neither is the design of these corpora discussed with an eye to their representativeness and usefulness for the study of number and countability in English nouns. While the literature sometimes indicates a difference between varieties of English, for example, in agreement characteristics of collective nouns, no attempt has been made in the present study to examine the different varieties available in the corpus. Nor has the diachronic commitment apparently led to even a consideration of using diachronic corpus data. No attention has been paid either to the way in which syntactic annotation of corpora may have facilitated the research.

While the study undoubtedly shows that there is a link between perception and cognition on the one hand and the linguistic classification of number on the other, and while it stresses the usefulness of cluster analysis in a classification of number based on the syntactic characteristics of nouns, I must conclude that the author failed in his aim to provide a coherent theory of the count-mass distinction in English.