D G. BARNBROOK, O. MASON, & R. KRISNAMURTHY, COLLOCATION: APPLICATIONS AND IMPLICATIONS

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The book *Collocation: Applications and Implications* is a comprehensive study on collocation – the history of the word collocation, relevant theories, computer programs and their application in pedagogy, lexicography and natural languages. Divided into four parts and consisting of eight chapters and three appendices, the book does not require previous knowledge of collocation studies. It is thus suitable for beginners or graduate students.

The first part of the book provides a historical background of collocation and consists of two chapters. Chapter 1 briefly reviews the word collocation as a technical term that appears both in dictionaries and other texts from the sixteenth century onwards. We catch a glimpse of how the word collocation develops from non-linguistic origins to a linguistic one. Chapter 2 continues to explore the historical development of the term collocation and the authors discuss the role of collocation in linguistic theory. The authors first examine the development of linguistic theory in the twentieth century, providing a detailed background of the contribution of Firth (1951), McIntosh (1966), Halliday (1966) and Sinclair (1966). Sinclair is paid special attention for his OSTI report that formed 'the world's first electronic corpus of spoken language' (p.44) and the COBUILD project that led to the creation and analysis of a corpus of contemporary English.

The second part of the book, implementation, comprising Chapters 3 and 4, focuses on computing issues of collocations. Chapter 3 chooses *awk* as the programming language for its ease of understanding and purpose of pedagogy. The authors first review the general procedure for corpus data processing, and then significance scores including *z*-score, *t*-score, mutual information, contingency tables and log-likelihood, which are all discussed in detail. At the end of the chapter, several application examples of different node words are illustrated. Chapter 4 is an extension of Chapter 3 in which more advanced aspects of collocation related with syntagmatic element and various settings are discussed. The authors first introduce "Picture", for example, as a way of displaying collocation columns and textual collocates on a computer screen. Some issues that need to be considered, including case, names, inflected form, and derivation are discussed at the end of the chapter.

Part Three (including Chapters 5 and 6) focuses on the applications of collocation. The comprehensive study on collocation has led to the development of corpus-based dictionaries, producing more acceptable output in machine translation and natural language processing,

solving word ambiguities, and demonstrating the importance of psychological mechanisms, such as 'chunking' (Ellis, 2001) or 'priming' (Hoey, 2005). Furthermore, collocation is considered as an important part of SLA pedagogy in that it constitutes the major means for achieving language fluency and promoting native-like language use.

After discussing the contribution of Cruden's Concordance to lexicography and scriptural studies, Chapter 5 considers the enormous and continuing impact that collocation has had on mainstream lexicography. The success of the COBUILD project also presses most major dictionaries of English to base their compilations on corpus evidence: the Johnson and the Oxford English Dictionary both use collocations to ascertain or describe the meaning of words; in English as a Foreign Language (EFL) dictionaries, 'the use made of the newly investigated phenomena of collocations, idioms and phraseology is examined in more detail' (p.96). Chapter 6 discusses the application of collocations in pedagogy, translation and natural language processing. In pedagogy, the realisation of the importance of collocations has led to corresponding changes in language acquisition research, language teaching methods and materials and language teacher training. The translation section briefly reviews part of Baker's (1992) book relating to the importance of a thorough understanding of collocations in both the source and target languages. An article by Bahumaid (2006) on the problems and translation strategies of collocations is also discussed. The remainder of the chapter is devoted to natural language processing in which major topics such as processing tools, methods, dialogue system, machine translation information retrieval and text mining are included.

The last part of the book on the implications of collocations also contains two chapters. Chapter 7 focuses on recent developments of collocation. It discusses the concepts of lexical sets by Halliday (1966) and cohesion developed by Halliday and Hasan (1976), Hoey's (2005) lexical priming model, quantitative analysis of language by Stubbs (1995) and the nature of semantic prosody by Sinclair (1987) and Louw (1993). The end of the chapter looks critically at the use of collocation for modeling language by contrasting the approach based on phraseology. Chapter 8 includes three case studies on *got vs. gotten* from the perspective of variation in time and space, text types taking *blonde* in newspaper corpora as example and re-performance of *dry, ground* and *land* in Cruden's concordance applying the *Bank of English*. Abundant empirical data are presented in this chapter.

The appendices contain sub corpora of the *Bank of English* (Appendix 1), case study 3 as discussed in Chapter 8 (Appendix 2) and computer programs as discussed in Chapters 3, 4 and 7 (Appendix 3).

In general, the book investigates the place that collocation occupies in theories of language, and provides a comprehensive survey of collocation studies in language research. The distinguishing feature of the book is 'a good compromise between ease of understanding, complexity and flexibility' (p.55). It is clearly organised into separate sections according to different themes so that

readers can read each part independently with little necessity of referring to the previous section. However, there are some drawbacks which may hinder the popularity of the book. First, the authors list too many long quotes from relevant researchers. This leads to the impression that the book is more like a literature review and that the essence of the book is missing. For example, in the *Translation* section, Chapter 6 only summarises part of the research by two scholars but neglects other factors such as the process and specific difficulties in collocation translation studies. Such a problem is common throughout the book. Next, the author uses a whole chapter (Chapter 1), totalling 28 pages, to survey the history of the word collocation itself. This seems irrelevant when one considers the main purpose of the book is to study the application and implications of collocation itself. Last but not least, some details are either missing or are not very clear. For example, when some fundamental questions relating to the process of implementing collocation as a computer program are discussed in Chapter 4, only one point is discussed in detail with a hasty ending. Despite all the drawbacks, the book is worth reading for a general understanding of collocation studies and provides a sound introduction to the history of the word *collocation*, the concepts associated with it, and its use in language studies and applied linguistics.

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