

Machine Translation of Word Order in Arabic Simple Sentence into English

A Thesis

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The information revolution and technological innovations have driven the development of language industries and the expansion of multilingualism. The use of machine translation (MT) has experienced unprecedented growth with many diverse new techniques and demands. However, the prime objective of researchers and businessmen, in an Internet-dominated environment, has been the rapid development of translation systems that are both accurate and effective.

This technological development, along with the huge volume of translations available in different languages, points toward the use of this corpus for specific machine translation and computer-assisted translation applications.

This thesis had chosen to deal with word order in Arabic as it has not been previously dealt with in machine translation as far as the present researcher knows.

The thesis has studied word order in Arabic and English in order to locate areas of similarities and differences.

It has managed to develop a suitable MT program for word order of the simple sentence in Arabic.

This thesis is divided into six chapters. The first chapter is an introduction presenting the answer to some simple questions about word order, its history, linguistic typology, and main types. It also presents the problem of study, the aims, the hypothesis, the significance of the study, and the procedures to be followed.

The second chapter is devoted for the study of word order in Arabic simple sentence. First, the concept of sentence is defined according to modern and traditional Arab linguists. Then the sentence structure in Arabic is presented according to the forms of sentences, classifications and divisions, made by the main Arab linguists and grammarians. According to this

analysis, a number of syntactic structures are deduced for the Arabic simple sentence, both nominal and verbal.

The third chapter is devoted for the study of word order in English simple sentences. After defining the sentence in English with its components, the chapter reviews the main syntactic structures of the simple sentence devised by prominent and well established authorities in English grammar and linguistics and the division of Quirk et al. (1978), which includes seven sentence patterns, is chosen for the purposes of this study.

Chapter four is a contrastive study of word order in Arabic simple sentence and English simple sentence. The chapter surveys the main points of similarities and difference in the syntactic structures of the two languages. Then the chapter ends in specifying the patterns of the English simple sentence that are equivalent to the patterns of the Arabic simple sentence already fixed in chapter two.

Chapter five sketches the status of machine translation and then develops a program, in Turbo Prolog 2 language, to machine translate the Arabic simple sentence into English.

The final chapter presents one conclusion and recommendations for further studies.