

Chapter LIV

Text Entry System for Semitic Languages on Mobile Devices

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ABSTRACT

Support for the Semitic language on mobile devices, while not yet universal, is becoming more ubiquitous. Many items and data contents written in Arabic or Hebrew, for example, can be seen on a whole range of mobile devices. It is not uncommon, however, to encounter difficulties in entering and displaying Semitic text; as experienced mobile/computer users know, there is in fact a variety of different Semitic input methods and character encoding schemes. The challenge involved in constructing a text entry system for Semitic scripts is amplified by the fact that existing resources are inadequate. This chapter attempts to review the current state of affairs regarding text entry for Semitic scripts on mobile devices in order to provide a stepping ground for further investigation in this area.

INTRODUCTION

The Semitic family language includes many languages spoken by a large number of native speakers. However, Semitic languages are still understudied. Support for the Semitic language on mobile devices, while not yet universal, is becoming more ubiquitous. Many items and data

contents written in Semitic scripts can be seen on a whole range of devices, from the simplest mobile handset to smart phones to full feature PDAs. It is not uncommon, however, to encounter difficulties in entering and displaying Semitic text; as experienced mobile/computer users know, there is in fact a variety of different Semitic input methods and character encoding schemes. The challenge

involved in constructing a text entry system for Semitic languages is amplified by the fact that the existing resources are inadequate.

SEMITIC LANGUAGES AND SCRIPTS

History

The Semitic languages are a family of languages spoken by more than 370 million people across much of the Middle East where they probably originated, as well as in North and East Africa. They constitute the northeastern subfamily of the Afro-Asiatic languages and the only branch of this group spoken in Asia (see Figure 1).

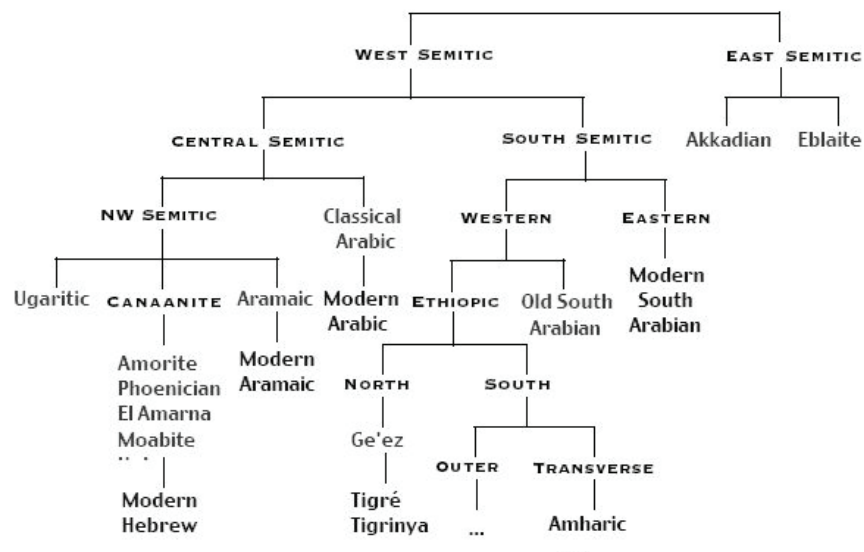
The most prominent members of this family are Arabic (206 million speakers) followed by Amharic (26 million speakers), Tigrinya (6.75 million speakers), and Hebrew (6 million speakers). Semitic languages were among the earliest to attain a written form, with Akkadian writing beginning in the middle of the 3rd century B.C. The term *Semitic* for these languages, after Shem,

a son of Noah, is etymologically a misnomer in some ways, but is nonetheless standard (Wikipedia, 2006).

The Aramaic Language

The Aramaic language was the international trade language of the ancient Middle East between 1000 and 600 B.C., spoken from the Mediterranean coast to the borders of India. Aramaic was used by the conquering Assyrians as a language of administration communication, followed by the Babylonian and Persian empires that ruled from India to Ethiopia and employed Aramaic as the official language. For this period (about 700–320 B.C.), Aramaic held a position similar to that occupied by English today. The most important documents of this period are numerous papyri from Egypt and Palestine. Its script, derived from Phoenician and first attested during the 9th century B.C. also became extremely popular and was adopted by many people with or without any previous writing system (Lo, 2005).

Figure 1. Semitic languages family tree



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