Contents

1 Revealing the Mysteries of the Maya Script

1.1 Introduction

Ancient writing systems from the Egyptians to the Mayan civilizations used eloborate and enormous character sets to record phonological, morphological, and sentential information.Because of the enormity of the character corpus, researchers working on the translation of these corpora have not been able to completely translate the surviving Mayan literature, despit over two hundred years of effort[3]. Recent advances in machine learning and other statiscally based classification algorithms have allowed researchers to build databases that allow researchers the ability to use machine translation and search to move translation ahead[2]. This paper examines the news article [1] and paper [2] which looks at this process in depth.

1.2 The Mayan script and problems that researchers face

Researchers working on the translation of ancient Mayan writing face several problems: (i) there is a limited amount of digitized data to work with, (ii) photographs and other recorded media are deteriorating, (iii) many of the glyphs that were once in the original pieces have become obscured, and (iv) glyphs artistic style varies depending on the region and time the glyphs were rendered. Although the first problem—available digitized data—may seem the easiest to remedy, researchers face problems related to storing large RAW images, sharing the data, and cataloging them for easy search and retrieval.

The problems related to deterioration, loss of data, and variations in artistic style are difficult problems that may benefit from recent advances in computer vision. Before looking at

1.2.1 Similarities to English orthography

1.2.2 Difficulty in deciphering the characters

The fact that there are still people who speak a descdended form of Mayan language helps researchers decipher the meaning of Mayan text; however, one of the greatest difficulties we face in translating these texts is figuring out when a glyph represents a single phoneme, an entire word, or an entire sentence.

1.3 High quality representations of the Mayan script digitized

1.3.1 Digitizing the work and the catalogue

1.3.2 Machine Learning

1.4 Conclusion

References

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[3] Martha J. Macri and Gabrielle Vail. *The New Catalog of Maya Hieroglyphs*, volume 2. University of Oklahoma Press, 2009.