

Collaborative Discussion 1: Knowledge Representation and Reasoning

by Maria Ingold

Summary Post

In agreement with Ramos' (2023) peer response, we recognise that Knowledge Representation (KR) is not a recent phenomenon, so it is not exclusive to computing. Weststeijn (2011) discusses a range of guesswork about the meaning of pictographs and hieroglyphs, which demonstrates that while knowledge can be represented, it cannot always be understood, or reasoned back once the meaning is missing.

Ramos (2023) observed that Knowledge Representation provides frameworks for organising and search. Having now completed the Protégé pizza ontology and LoCLOnt local library ontology using Web Ontology Language (OWL 2), it is evident that this aptly summarises the foundational element of ontologies. Ramos further reminded that libraries are valuable by simply storing knowledge, without reasoning.

Dating from 1000 to 1400 AD, the Jornada Mogollon petroglyphs—rock art—near where I grew up, are numerous and fascinating. I joked in my initial post that things we can no longer interpret are referred to as 'ritual', a point demonstrated by Berrier (2017) in Jordana Mogollon bighorn sheep anthropomorphic analysis, even though these pictographs are relatively recent.

Which is why the ability to reinterpret the Ancient Egyptian hieroglyphs (3000 BC – AD 400) following the loss of hieroglyphic literacy due to the closure of the Egyptian temples has been so critical to moving from representation back to reasoning (Cruz-Urbe, 2010). To do this took the Rosetta Stone, which used Ancient Greek and Demotic script (Parkinson et al., 1999). Coptic mapped back to Demotic, and then to Hieratic (Loprieno & Müller, 2012). Now we know the hieroglyphs are both ideographic and linguistic, representing spoken consonants of words. This 'knowledge reasoning' infers new knowledge from known data (Chen et al., 2020).

References:

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