

Collaborative Discussion 1: Knowledge Representation and Reasoning

by Maria Ingold

Peer Response

Dewyn, thank you for your insightful initial post. I concur with your point that structured knowledge is valuable, even without reasoning. The indigenous petroglyphs at Three Rivers, New Mexico, near where I grew up, provide insight into the culture, even if we no longer have the reasoning to infer precise meaning.

While I would appreciate spelling out the acronym KR on first use, your point on Knowledge Representation (KR) providing frameworks for organising and search, is a fantastically succinct description of the foundational element of ontologies (Malik, Hijam & Sharan, 2021). This was exemplified strongly with the Protégé pizza tutorial and our own library applications in our ontology assignment using Web Ontology Language (OWL) (DeBellis, 2021).

I did have fun with my initial post for this Collaborative Discussion, as I now live in London, UK, where the Rosetta Stone is in the British Museum. I have been lucky enough to see a recent exhibition on Egyptian hieroglyphics, so was already aware that hieroglyphs were both pictographic and spoken consonants and that the language evolved to Coptic from Hieratic and Demotic (Loprieno & Müller, 2012). Learning about the deciphering process—or extrapolation from representation to reasoning was insightful. I was, however, surprised to realise that the end of the era (3000 BC – AD 400) of the invention of the first written language was due to Christianity leading to the closure of pagan temples and hieroglyphic literacy (Cruz-Uribe, 2010). We then had to rediscover the language to add reasoning back to representation.

Overall, I enjoyed your post, but would have liked to see a little more on reasoning and its value to representation.

References:

Cruz-Uribe, E. (2010) *The Death of Demotic Redux*: Pilgrimage, Nubia and the Preservation of Egyptian Culture*.

DeBellis, M. (2021) *A Practical Guide to Building OWL Ontologies Using Protégé 5.5 and Plugins*. Available from:

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Loprieno, A. and Müller, M. (2012) Ancient Egyptian and Coptic, in *The Afroasiatic Languages*. Cambridge University Press 102–144.

Malik, N., Hijam, D. & Sharan, A. (2021) Ontology based knowledge representation: Case study from agriculture domain, *International Journal of Knowledge-Based and*

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