VOLARE – Visual Ontological LAnguage REpresentation

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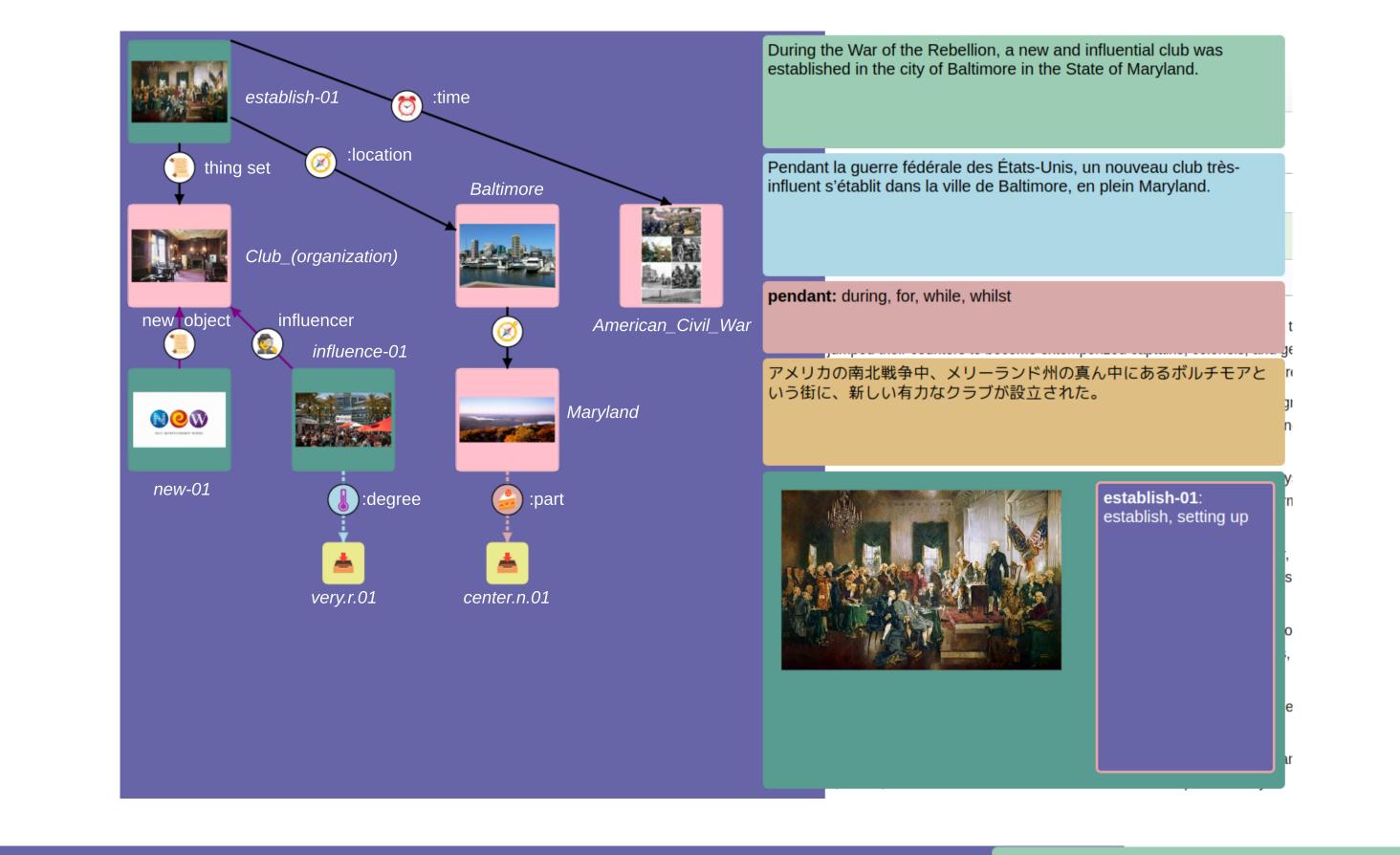
1. Introduction

- We introduce a novel meaning representation, which is based on AMR but extends it towards a visual ontological representation
- We visualize concepts by representative images, and roles by emojis
- All concepts are identified either by PropBank rolesets, Wikipedia page titles, WordNet synsets, or Wikidata lexeme senses
- We have developed a Web-based annotation environment enabled by augmented browsing and interactive diagramming
- We have implemented a multilingual annotation solution by using English as anchor language and comparing it with French and Japanese versions
- We have extended our representation by a translation deviation annotation to document the differences between the language versions
- The intended user groups are, besides professional translators and interpreters, students of translation, language, and literary studies
- We describe a first use case in which we use novels by French authors and compare them with their English and Japanese translations
- The main motivation for choosing Japanese is the soaring popularity of Japanese courses at our university and the particular challenges involved with trying to master this language

2. Related Work

- Meaning Representations: AMR (Banarescu et al., 2013), SPRING parser (Bevilaqua et al., 2021), WISeR (Feng et al., 2023), CAMRA annotation tool (Cai et al., 2023), UMR (Gysel, et al. 2021)
- Multimodality: ImageNet collection (Deng et al., 2009), Wikipedia, BabelNet (Navigli et al., 2021) with annotation tool Babelfy (Moro et al., 2014) and BabelPic dataset (Calabrese et al., 2020)
- Translation Deviations: Deviation analysis of Chinese-English MT texts (Deng and Xue, 2017), MT documents with annotated translation errors (Fishel et al., 2012), English-French-Chinese corpus annotated with translation relations (Zhai et al., 2018)
- Japanese Language: Research on Japanese linguistics (see Hasegawa, 2015, 2018), JMdict (Breen, 2004), OMW (Bond and Paik, 2012),

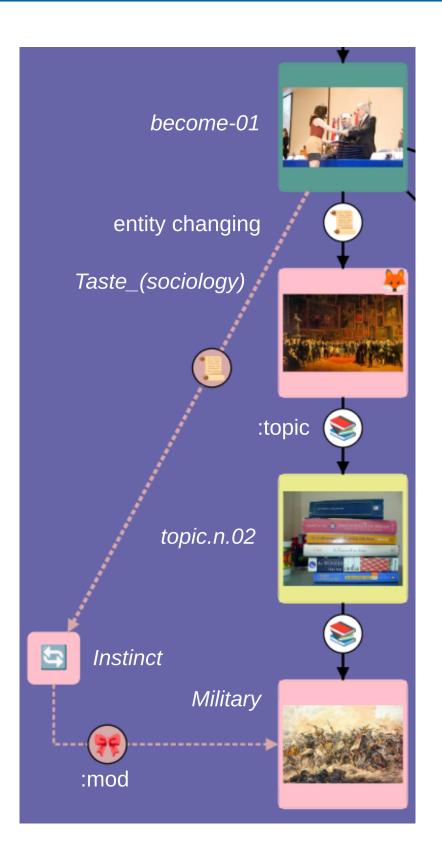


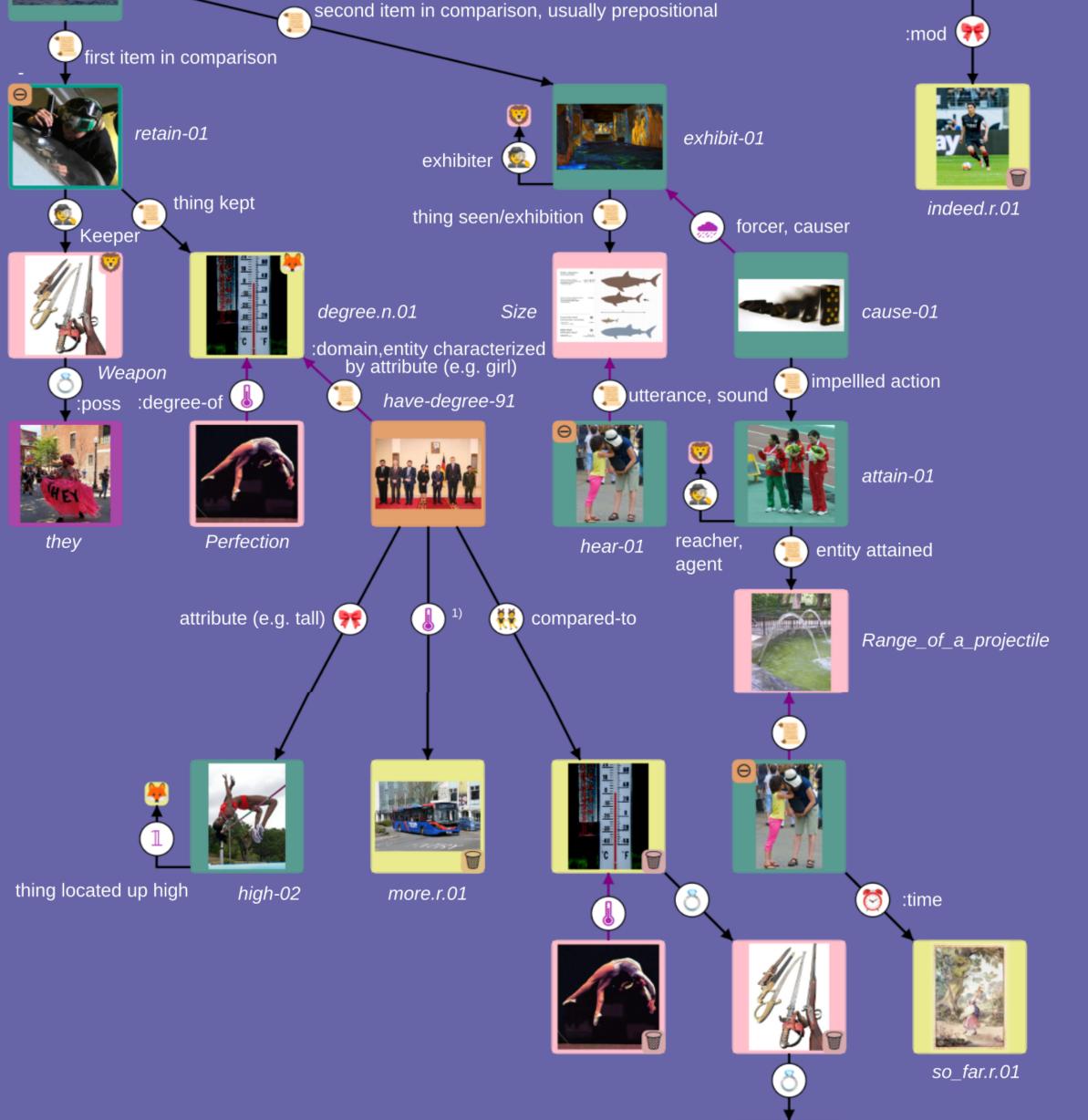


Not, indeed, that their weapons retained a higher degree of perfection than theirs, but that they exhibited unheard-of dimensions, and consequently attained hitherto unheard-of ranges.

CaboCha dependency parser (Kudo and Matsumoto, 2002), trained pipelines for SpaCy

4. Complex Substitution

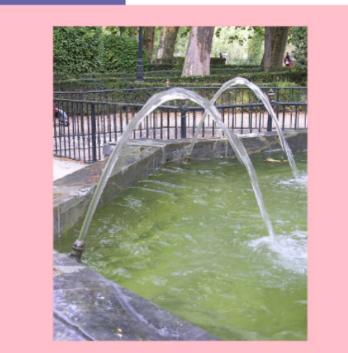




Non que leurs armes atteignissent un plus haut degré de perfection, mais elles offrirent des dimensions inusitées, et eurent par conséquen des portées inconnues jusqu' alors.

範囲【ハンイ】: extent, scope, sphere, range

彼らの武器は完成度が高いわけではないが、尋常ではない大きさで、 それまで知られていなかった範囲のものであった。



Range of a projectile: the potential distance a projectile can be hurled by a firearm or cannon

energy the taste for military matters became developed Is, and generals, without having ever passed the School of openditure in ammunition, money, and men.

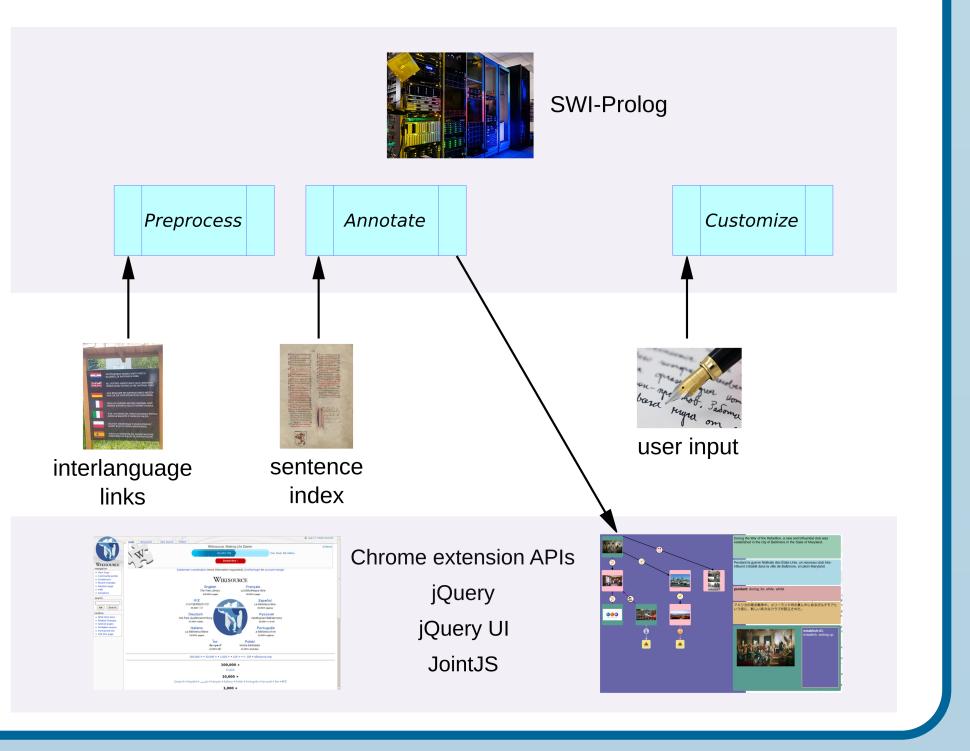
gher degree of perfection than theirs, but that they exhibited g, the English, French, and Prussians have nothing to learn;

metaphysicians-- by right of birth. Nothing is more natural, . The Armstrong, Palliser, and Beaulieu guns were compelled

ven four, they name a keeper of records, and the office is annon associated himself with the caster and the borer. Thus obers.

d, or (more or less) perfected a cannon; or, in default of a all arms, met with little consideration. Artillerists always

5. System Architecture



¹⁾degree itself (e.g. more, most, less, least, times, equal, enough, too, so, to-the-point, at-least)

contrast-01



ses of their guns, and in the direct ratio of the square of the

rtions, and their projectiles, exceeding the prescribed limits, tillery.

6. Future Work

- Evaluation with several volunteer professional translators and interpreters
- Based on results and user feedback further improvement of our system
- Annotation guidelines for the users
- Classroom scenarios in university courses to investigate the educational benefits
- Extension to other/additional languages
- Switch foundation to UMR