BodyParts and Anatomography

Pen, Typeface, or Font? The same text may transmit an idea better when typed than written, and even better in suitable font. To make a set of font data takes cost. But each set serves for the whole world.

Tree is OK, but can you think with trees? “Assume the occluded artery from Pt’s symptoms” is a common task at clinics. Can you think with two symbolic trees in mind?

Do you know how Font works? Every time you read on your monitor, hundreds of Font files for letters are called and arrayed to make WYSWYG. Expensive printers have own Font data to reduce the transmission within LAN. Anatomography server is now distributing dozens of 2D images when you rotate your avatar on your browser. This repetitive transmission over the internet causes poor response. For the smoother interaction, some of the processes are transplanted in Web GL. In our test, rotation response was enhanced x100.

What’s behind the Art and Web? Playground for BioNLP, Biodatabase.

Creating BodyParts requires better dictionary, ontology, NEI and Ontology mapping.

This is a Project Oriented Engineering. Applicable to integration or IR from PubMed, articles, and DBs.

1. To create canonical models, artists recruit various knowledge sources. Unfortunately, they are written in different nomenclature systems. So, data update /curation needs ontology mapping that works.

2. For making bigger parts from smaller parts, PMA-Ontology is rigorously used. Because most ontologies are never used in practice, this is a bug fixing process and may end up with one practical ontology.

3. Users search a part from thousands of bodyparts. The way he conceptualize is not necessarily the way Ontology does. Then we need a better menu to let him find. This is a new question in Knowledge representation and ontology.

4. Gathering written anatomical knowledge for each ontologyID has been underway to make sure the model is truly canonical. After digitizing the dictionaries and textbooks, we need to identify all the anatomical concept and translate them into universal concept ID. We are vigorously using the 日本解剖大辞典 by the Japanese dictionary made at DBCLS (SK, KO) and enhancing it for better Named Entity Identification processes.

More to Come: Artists in DBCLS have created Pharynx (shown above Fujieda Modell), Eyes, Vascullatures in high resolution. They are under curation and mapping to FMA. BPversion 4.0 with ~2000 parts will be released soon.