licensing and ontologies: research from creative commons

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john wilbanks

Creative Commons – licenses with core right to make non-commercial copies

3 versions: lay person, lawyer, machine-readable (RDFa)

500,000,000+ objects on web

Science Commons project – explore application of CC licenses success in the sciences

data, ontologies, biological materials, patents

about me

now: VP for science at Creative Commons

past: Fellow, W3C (semantic web for life sciences)

CEO, Incellico (semantic databases for life sciences)

Assistant Director, Berkman Center for Internet & Society, Harvard Law School

IANAL.

CC experts - technical

- Alan Ruttenberg (Co-chair, W3C OWL 2 working group)
- Jonathan Rees (W3C Technical Architecture Group)
- Hal Abelson, Ben Adida (MIT)

CC experts - legal

- Thinh Nguyen, Diane Peters, Lawrence Lessig, James Boyle, Michael Carroll

practice informs the theory.

http://neurocommons.org

science commons

Bundles

The Neurocommons RDF distribution is organized into modules or "bundles". Following is list of what's provided. Each has its own page of documentation.

In most cases bundle B corresponds to named graph http://purl.org/science/graph/B.

Bundle	Description	Documentation
Derived from MeSH:		
mesh/mesh-skos	MeSH polyhierarchy represented using SKOS courtesy van Assem et al.	/mesh/mesh-skos
mesh/qualified-headings	MeSH qualified headings - defines one URI for each valid major/minor heading combination	/mesh/qualified-headin
Derived from Medline:		
medline/subject-headings	Medline: NLM MeSH subject headings for all articles	/medline/subject-headings
medline/titles-years	Medline: title and year of publication for each article	/medline/titles-years
Derived from NCBI:		
ncbi/goa	NCBI Gene Ontology annotations	/ncbi/goa
ncbi/homologene	NCBI Homologene selection	/ncbi/homologene
ncbi/gene-info	NCBI Gene gene synonyms extraction	/ncbi/gene-info
ncbi/gene-pubmed	Links from NCBI Gene to Medline	/ncbi/gene-pubmed
Ontologies:		
bams	BAMS (Brain Architecture Management System)	/bams
galen	Galen ontology	/galen
obo/all	All OBO ontologies	/obo/all
mesh-eswc06	Supporting ontology for conversion of MeSH polyhierarchy to RDF	/mesh-eswc06
nci-thesaurus	NCI thesaurus	/nci-thesaurus
sciencecommons	Ad hoc Science Commons ontology	/sciencecommons
senselab	Senselab	/senselab
skos	W3C SKOS (Simple Knowledge Organization System) ontology	/skos
pdspki	PDSP Ki	/pdspki
Other:		

licensing and ontologies?

“classification is a creative endeavor,” and “each scheme of classification could be expressed in multiple ways”

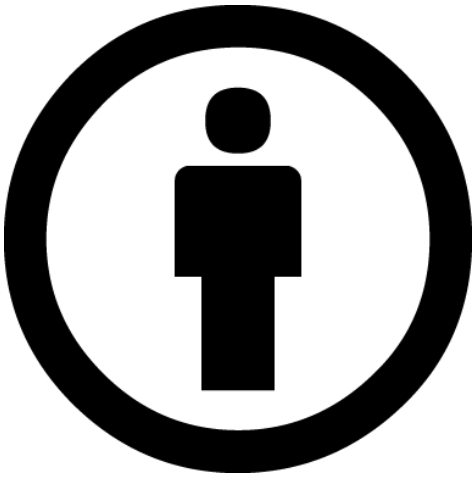
American Dental Association v. Delta Dental Plans Association

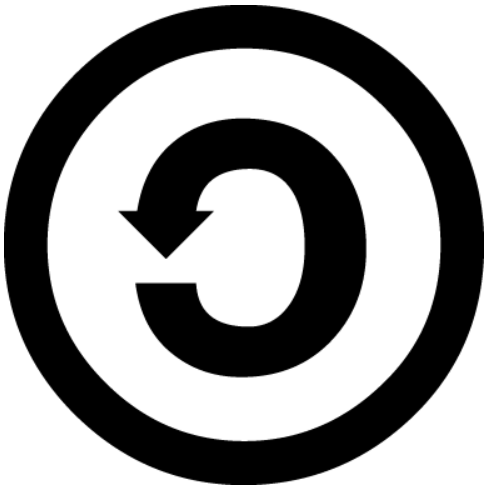
“a way of describing items in a body of knowledge and practice,” not merely “collection or compilation of bits and pieces of ‘reality’.”

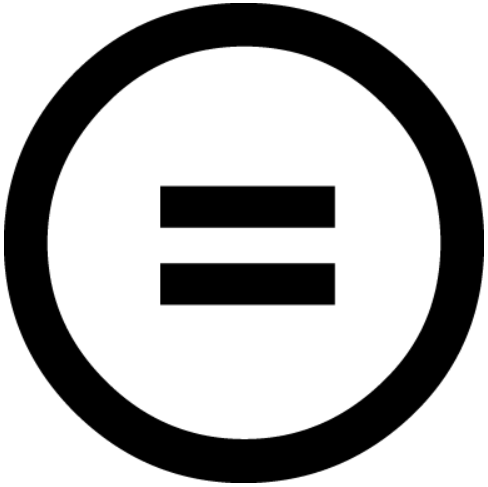
American Dental Association v. Delta Dental Plans Association

copyright governs *copying* and *distribution* – but what about *uses* of ontologies?

(which is why we use licenses in the first place)







a) right to “use” (in the sense of linking or copying) definitions or objects in the original ontology
b) right to use the definitions in their original contexts or in new ones
c) right to use the ontology in a “reasoner” (i.e., for computation).

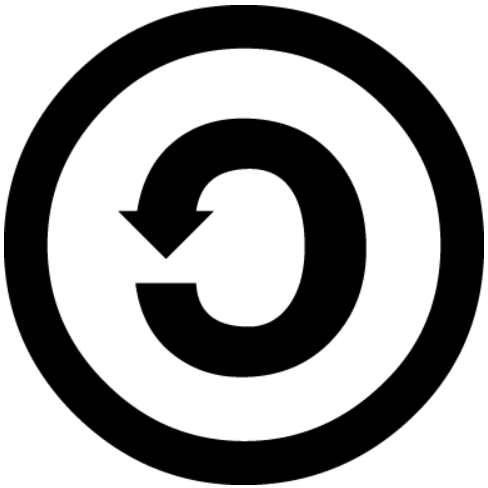
(a) and (c) map to the right to make copies, (b) may in some cases map to the right to make derivative works…

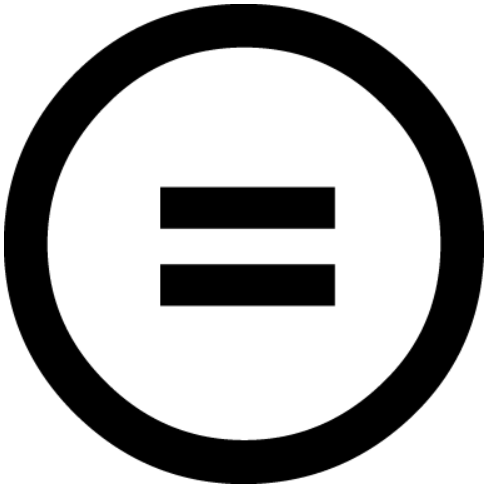
derivative works?

- two *mapped* ontologies?
- a definition *changed*?

changes in the OWL file may trigger
derivative work obligations…

high risks to inteorperability for each of these restrictions.





“open source” or “open access”?

attributes of software
- embodied in files (e.g., OWL)
- used along with software for computation

attributes of documentation
- do not usually have separate source code and binary (executable) forms
- norms of practice / reference to ontologies as form of documentation

preliminary conclusions

- talk to your lawyer.
- share-alike, non-derivative, non-commercial pose significant threats to interoperability.
- attribution licenses (open source or open access) scale best.
- adopt open patent policy a la W3C.