

A stylized graphic of a mountain peak in shades of gray and black, set against a bright orange background. The peak is jagged and layered, with a white outline that separates it from the orange background. The overall composition is modern and geometric.

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TECHNOLOGIES

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Models,
Representations,
Interoperability

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My Background / Interests



- History / training in earth & environmental sciences
 - Academia, government, and industry
- Present work in interoperability engineering & information architecture
- Craven consultant / technical diplomat
- Initiative architect for Open Geospatial Consortium
 - Testbeds (OGC Web Services)
 - Pilots (Census BAS, Critical Infrastructure, CGDI Feature Services, GEOSS)
 - Experiments (Geospatial Semantic Web)
- Chair of OGC Geosemantics Working Group & Services Group
- (Ex) chair of W3C Geospatial Incubator
- Co-lead of first Terra Cognita workshop
- Participant / lurker in SOCoP, Ontolog Forum, etc.

Questions



- Brief overview of your work/interest in ontology.
 - Easier semantic interoperability (explicit, formal, machine-actionable)
- How does your work intersect/impact developing an ontology for The National Map?
 - Foundational to spatial data infrastructure and geospatial interoperability
- What do you see as major benefits to developing an ontology for The National Map?
 - Richer feature relationships and better machine accessibility
- What do you see as major obstacles to developing an ontology for The National Map?
 - People (and how they see the world)
- What opportunities do you see for contribution to developing an ontology for The National Map?
 - Meta-model methodology, geospatial standards, and Web-friendliness

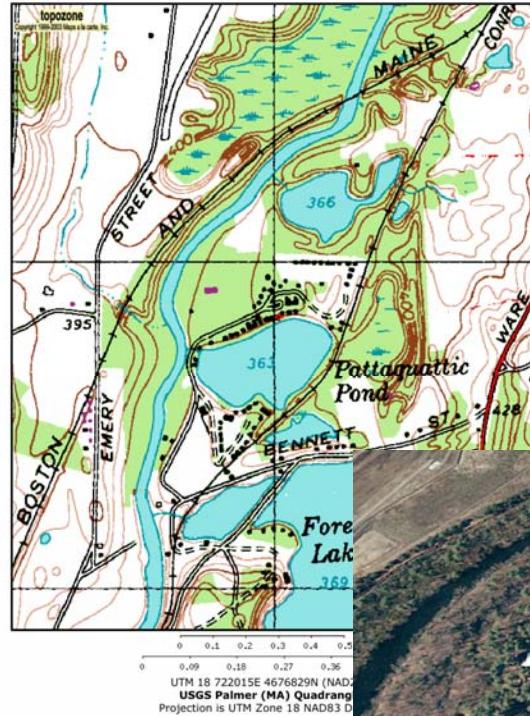
Evolution of National Map Concepts



- Map composition
 - Map layers
 - Map feature layers
 - Feature data layers
 - Feature data sets
 - Related features
 - Feature relationships with benefits
- National Map (The Movie)

Maps as Expression

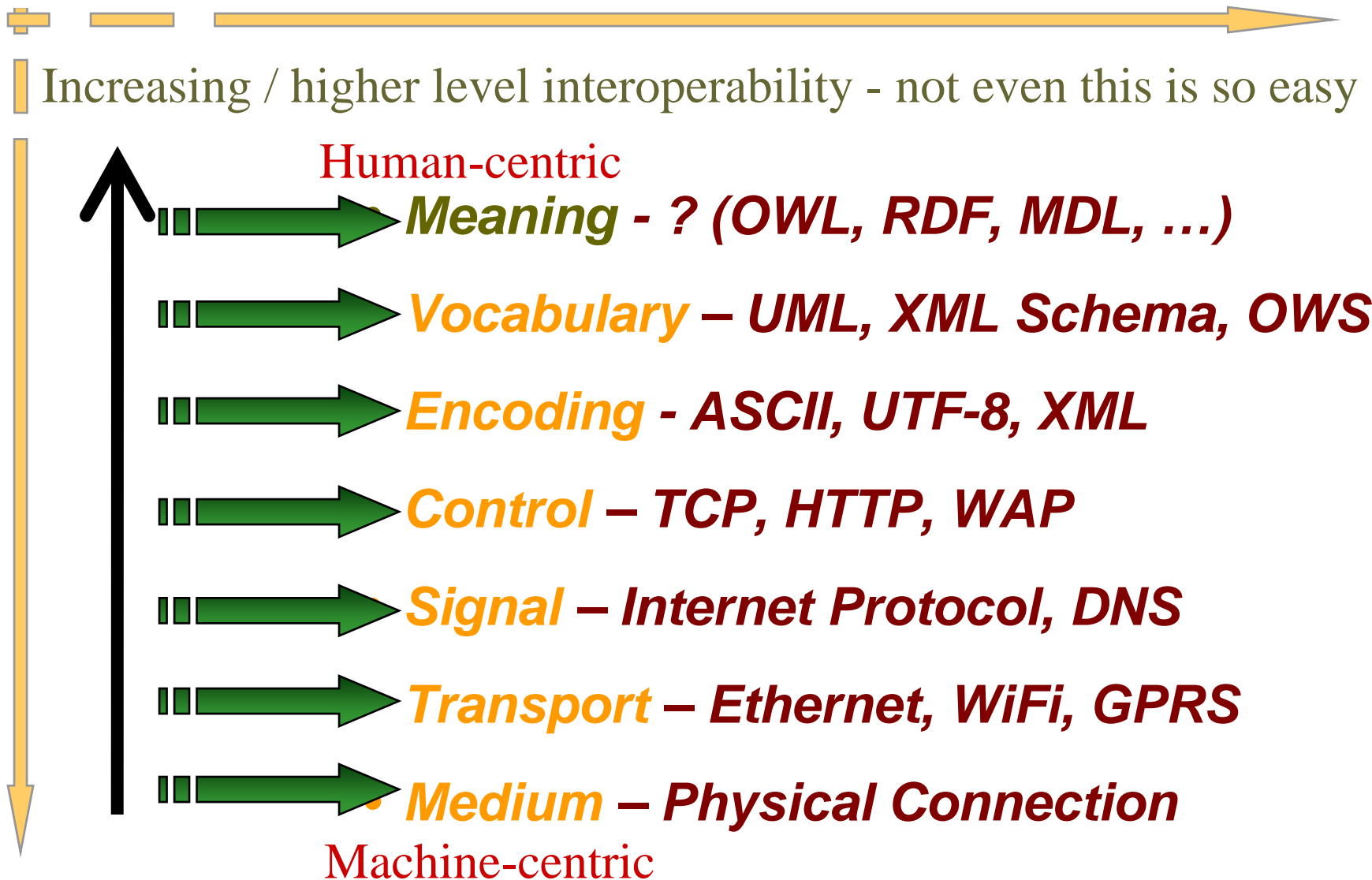
- Cartography is a triumph of multidimensional metaphorical interpretation
- Most people do not speak the language
- 200 million users have installed Google Earth and wonder why their cars are not in the driveway.
- It's the video game (stupid).



Geospatial Interoperability

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- A large, thick orange arrow that starts at the top left, points right across the top, and then turns 90 degrees down to point at the bottom left. It has a small crossbar at the top left and bottom left ends.
- Interoperability has many aspects and roles in enabling
 - Sharing of information
 - Interchanging of technologies, protocols, platforms across space and time
 - Geospatial
 - Maps and map visualization
 - Features and feature geometries
 - Geographic and other relationships
 - Coordinate and other reference systems
 - Geosemantic
 - Feature discernment
 - Spatial reasoning
 - Representational agreement
 - Feature-with-information or Information-with-a-feature

Interoperability Stack



Expanded Interoperability Stack



Increasing / higher level interoperability

