

Fortress Europe

University of Openness, Faculty of Cartography
and Marina Llewelyn

Free Universities

The University of Openness is a framework in which individuals and organisations can pursue their shared interest in emerging forms of cultural production and critical reflection such as unix, cartography, physical and collaborative research (see <http://uo.twentiethcentury.com> for admissions and more information).

First published in Mute Magazine #27 (www.metamute.com) this technical/paranoic mix of manifesto and front-line reporting prepared the ground for critical thinking about the Semantic Web and the broader debates about the technocratic future of knowledge representation.

Faculty of Cartography: Mapping the Semantic Web

Talking about the Web as a single entity has become a formally inadequate description of the increasing electrical interconnectedness of devices, processes, information and indices; inadequate because these words imply a coherence that is not evident in the use of many incompatible formats, private networks, and non-indexed sections of network. This incoherent, frayed mess of networks are like an expanding and obscure territory for which there are no maps, or at least, no maps with standard keys, scales or control co-ordinates. In some ways 'surfing' or 'browsing' are increasingly appropriate metaphors for the superficial and indiscriminate ways our browsers allow us to use the Web. These limited researches are almost entirely dependent on the indices of one of the major search engines (Google in most cases) which has become the limit of the network, everything else is uncharted, unconnected and therefore largely inaccessible.

"The Semantic Web is an extension of the current web in which information is given well-defined meaning, better enabling computers and people to work in cooperation."

-- Tim Berners-Lee, James Hendler, Ora Lassila, "The Semantic Web", Scientific American, May 2001.

By attempting to develop an extensible and syntactically coherent language to describe networks and information resources, the Semantic Web Project promises (or threatens) to help make these maps. Using computer readable data formats and programmable agents with which to collect and categorise them, the object is to produce a schema from which to build a local description of local data formats, network topographies and information resources. This local description, fitting into the logical framework of the Semantic Web, can then be transposed into other contexts, linked to similar or related descriptions of other resources and networks, understood and used by human and software agents; put on the map.

To expedite the growth of colonial empire, Admirals Cook and Vancouver pioneered new forms of cartography in the late 18th Century, a period sometimes referred to as the 'cartographic reformation'. Where they had no empirical, controlled data for their maps, they simply left large blank sections rather than filling in the gaps with supposition, thematic motifs or 'here be dragons'. This was the start of a powerful set of scientific norms about representations of the world that are largely still intact, keyed into subsequent cartographic and spatial technologies. This is the initial impact of the Semantic Web, revealing enormous blank spaces in our maps and limited uses of the networks, and setting out a framework by which they might be described, understood, and mapped.

Technical Developments

In the mid 90's Ramanathan V. Guha went to work for Apple, where he developed a metadata format called Meta Content Framework which described websites, files, file systems and relationships between them. The intention was that using Apple's 'Hotsauce' browser, users could fly through a 3 dimensional representation of that content. However,

it was only when Guha moved to Netscape in '97 and Extensible Markup Language (XML) became a common standard for the exchange of structured, computer-readable data that his ideas about representing semantic associations between bits of data began to gain influence.

At that time the World Wide Web Consortium (W3C), the international web standards body founded by Tim Berners-Lee, began a general-purpose metadata project, loosely termed the 'Semantic Web', to develop ways of representing data on the web. Based on the Resource Description Framework (RDF), the basic idea is that resources are named with Uniform Resource Locators (URLs or web addresses) and described by the links between them using machine readable XML for syntax. The framework is general enough that it is not limited to describing data on the web, crucially it can also be used to describe and interrelate things in the world: people, places, objects, abstract concepts: the largest blank spaces on the semantic map.

If we can assign a URL to a physical object, person, or idea, we can link other URLs to it, which in turn refer to people, objects, ideas or other links. Someone (or something) looking at this association can then make inferences about what is being represented from its associations, which can be further described and qualified by more links. The 'namespaces', or vocabularies used in these descriptions can also be seen as nodes in this semantic network and linked to, extended, re-written and re-defined, so these representations are always contingent and non-originary. There is no start or end point, and no point of observation that can be outside them, just new nodes in the network.

'Total Information Awareness' & 'Consensual Reality'

The totalising invective of the Semantic Web project was very evident in one of its main predecessors, the CYC corporations' proprietary 'common sense' knowledgebase. This 'big AI' project was Guha's first job out of university, and involved the collation of a huge database of so-called 'common sense' statements. These statements were machine-readable so that software agents would be able to search through and make inferences based on them. A typical example is a CYC-based search engine that could respond to the question 'what is bravery?' by looking through its knowledge base, finding an assertion that a property of 'brave' is 'danger', finding another saying that rock climbing is dangerous, and then retrieving a picture of a rock climber.

The notion of collating all 'common sense', (or 'consensual reality' as Cycorp sometimes put it), as a basis for artificial intelligence is a genuinely totalising and largely discredited idea. This problem, and the fact that the format of the knowledgebase and the modes and methods used to describe its contents were fixed, prescribed by Cyc's designers and their proprietary legal structures frustrated Guha, and gave him and his collaborators the impetus to attempt to formulate a more malleable framework, without this dubious premise.

The development of the Semantic Web; a machine-readable representation of everything, and its relationship to everything else, does sound like a step towards 'total information awareness'. It is true that the enriched and extensible vocabularies that the Semantic Web uses to describe relationships will expedite morally dubious activities such as surveillance, unsolicited direct marketing and military operations. These technologies will refine existing authoritarian systems for associating and describing things and people (consumer profiling systems for example) which are usually imposed without negotiation or consent, and by virtue of their limited interest in the person as a 'consumer', these representations currently remain very unsophisticated.

However, the extensibility of the Semantic Web, the fact that the person doing the describing can define the terms, the 'vocabulary' of that description suggests a less totalising, more heterogeneous 'information awareness'. This is both promising and potentially dangerous. Augmented by many more layers of information and description, volunteered by the person being represented, the 'consumer profile' becomes infinitely more insidious and detailed. At the same time, the greater sophistication of the Semantic Web's descriptive language enables someone to consciously and deliberately allow or deny access to specific data that they produce. Using cryptography, and 'friend of a friend' testimonial systems (sometimes called 'trust' networks) at least offers some degree of control over and awareness of the data being exchanged about us. On a more structural level, the development of many divergent, even antagonistic descriptions of the world and the people in it moves away from the idea of any imposed 'consensual reality' and suggests a mode of representation that can be multiply subjective.

Technical Examples

RDF was developed as an open framework from philosophical inquiries by W3C about creating universal categorising systems, with the understanding that such a framework can never be comprehensive, hence the ability to add and modify the vocabularies used to describe and categorise things. These vocabularies are grouped into machine-readable XML documents called 'namespaces'.

The Semantic Web's use of the RDF common framework allows the data used in each description to be fully distributed in terms of storage and authorship. Not only can groups collate and share their own data, but also automate the aggregation and inclusion of publicly accessible data sources such as company profits, IMF trade data, names and connections between regulatory board members etc.

RDF's more widely-known derivative is Rich Site Summary (RSS), a format often used to syndicate news stories and blog postings between websites. Both RDF and RSS are machine readable web standards for expressing metadata (data about data) but whereas RSS has a predetermined and fixed vocabulary specifically for reading news, RDF is an extensible common framework for vocabularies, and their namespaces.

Using the framework of RDF you can create an ordered list about a category of things (a namespace). For example Foaf Corp namespace which came about as a vocabulary to convert the <http://theyrule.net> project into a Semantic Web-compatible format started with the original vocabulary below:

- * fc (foaf corp)
- ** fc: Company
- ** fc: Committee
- ** fc: Board
- ** fc: Member
- ** fc: Stock code
- ** fc: Filings

and then in June 2003 the MCC (Mapping Contemporary Capitalism) project proposed the following additions extensions:

- * fc: Owns - internal, external.
- * fc: Shareholders - list of shareholders, number of shares on each market, percentage of shares.
- * fc: Company employs - (this is a crude category which will display multiple categories: business management, investment banking, marketing, personnel etc).
- * fc: Company is funding - (this data may be unavailable but we can draw many inferences from its patchiness).
- * fc: Company affiliation - company member affiliation (e.g. Gate Foundation).
- * fc: Company's geographical locations.

Ontology Examples

"An ontology defines the terms used to describe and represent an area of knowledge. Ontologies are used by people, databases, and applications that need to share domain information (a domain is just a specific subject area or area of knowledge, like medicine, tool manufacturing, real estate, automobile repair, financial management, etc.). Ontologies include computer-usable definitions of basic concepts in the domain and the relationships among them (note that here and throughout this document, definition is not used in the technical sense understood by logicians). They encode knowledge in a domain and also knowledge that spans domains. In this way, they make that knowledge reusable "

Quote: <http://www.w3.org/TR/2003/WD-webont-req-20030203/#onto-def>

Once web content has been formatted using an RDF vocabulary from a namespace, such as !FoafCorp, then it becomes possible to infer meaning from the associations between the things it describes. To make those inferences, the

Semantic Web uses 'Web Ontology Language (OWL)', a language for asking logical questions about metadata, to ask questions about the assertions in RDF documents.

A set of OWL ontology code could include a namespace, an initial set of URL's to visit and then call on a number of logical declarations. Because the semantic web deals with web content, it is inherently distributed, so expect OWL ontologies to also be distributed. One consequence of this is that OWL generally makes an 'open world assumption' allowing it to move across networks, finding new bits of RDF metadata, new assertions and new questions, and adding them to the initial ontology.

Owl would be employed in the form of a 'bot, spider or scutter', a set of code sent out onto the web to gather and interpret RDF data. For example, Ed Dumbill's 'FOAFBot' [1] sits on an IRC channel, listening for snippets of the conversation that it is programmed to understand:

```
"<edd> foafbot, edd's name <foafbot> edd's name is 'Edd Dumbill', according to Dan Brickley, Anon35, Niel Bornstein, Jo Walsh, Dave Beckett, Edd Dumbill, Matt Biddulph, Paul Ford"
```

The FOAFbot is invoked when edd calls its name in the IRC channel, and then responds to his command 'edd's name' by searching through the statements in the FOAF files of Dan Brickley, Anon35, Niel Bornstien etc.. and inferring from those that the nickname 'edd' refers to 'Edd Dumbill'. It can retrieve any information about edd that is available in the statements in those FOAF files, such as links to pictures of 'edd' or lists of the people that edd says he knows in his FOAF file. This simple functionality can then be re-used by other bots, built on and re-purposed to create hugely complex and nuanced systems of distributed information storage and retrieval.

Free Association

Prior to the invention of the printing press, there was no such thing as an index. Books copied by hand would have different pagination, so the idea of correlating specific sections in the book with certain ideas, and collating them in an index at the back never occurred. Similarly, without standardised grammar, spellings or spacings between words, hand-written script tended to run into long, unbroken lines of letters that needed to be read out and understood aurally for meaning to emerge. The visual comprehension of words on a page without a spoken and heard intermediate stage was again, a development of the printing press. These two developments made possible access to, and use of information with formerly unimaginable speed and sophistication. The Semantic Web promises a similar acceleration and transformation in our relationship with information. The vision of computers and people, working in 'co-operation' as Berners-Lee puts it, casts aside superficial metaphors of 'pages' to be 'explored' or 'navigated' and instead suggests the Web as a growing network of prosthetic comprehension, and potentially, a treacherous one.

"The third wave of network attacks is semantic attacks: attacks that target the way we, as humans, assign meaning to content. "

-- Bruce Schneier, Semantic Attacks, The Third Wave of Network Attacks, Crypto-gram newsletter, October 2000. [2]

Although here Bruce Schneider is talking about the immanent threat of a catastrophic hacker assault on computer security systems, he could just as well be referring to the standard operation of certain search engines. Although Google currently maintains a fairly clean track-record with regards to how it indexes, ranks and displays its search results, the potential for massaging and manipulating those operations is huge. Dependence on a single system of information association, particularly an unaccountable commercial system whose ownership may change at any moment, makes our use of the Web very vulnerable to abuse.

The enclosure of a potential 'information commons' by an anarchistic elite of corporate/state bodies is well underway. Alongside this enclosure, strong and vibrant hobbyist movements are flourishing. Free Software activists, Free Hardware geeks and Free Networkers, natives of the information commons are continuing to fiddle, peeking under the bonnet of their technologies, creating and manipulating their information environment as they see fit. Bearing in mind the problematic heritage of the Semantic Web project, there is still potential in its use and development as a part of the Free Information movement. The three strands of this movement mentioned above share the !SemWeb's dubious origins,

but are pursuing a difficult and tortuous course that avoids a deterministic return to authoritarian and profit-driven exploitation. As it is, these movements are disparate, unconnected, resembling the state of the Net itself; an incoherent mess of networks. Worse, the connections between these networks are almost always proprietary at some point. Downloading your Free Software, it will almost certainly be passing over a proprietary network, and somewhere in that transaction, there is a dependency on the permission and profit-margin of a corporation, a media owner, an ISP, the DNS system. You might not even have found out about the software if Google hadn't permitted it to be indexed and returned in your search results.

Without the associations and indices that allow access to information, that information is inaccessible, valueless. As the density and quality of Semantic Web meta-content grows, that meta-content will become an extremely valuable asset in itself. To protect the integrity and trustworthiness of their meta-content, Semantic Web developers and meta-content producers will need to co-operate with, and adopt similar legal defence strategies to the Free Software groups: asserting the intellectual property rights of an author to allow their works to be maintained in the public domain.

But here is the most treacherous part. Asserting intellectual property rights over associations, vocabularies, descriptions, the relationships between things in the world, as much as data on the Web, is premised on the assumption that this kind of information must be seen as property. As the Semantic Web stretches over more and more areas of knowledge production, histories, identities, interpersonal relationships, and language, this assumption feeds nauseous system of self-industrialisation and commodification, the process by which we are transforming ourselves into Fortress Europe.

Fortress Europe Apocalypse: the Future History of the End of the World.

This section is an extrapolation of a near future in which association and interpretation of information become commodified and mechanised, and where every recess of the mind and every word spoken is treated as intellectual property, self-recorded and associatively catalogued. It gives a first hand account of what happens when the process of alienation from one's own thought, speech and action is complete – and they all become a fabrication supplied by some regulatory state-controlled agency such as MI5.

Within the secret society each area has groups of witch-bashers who are in secret paedophile rings which specialise in traumatising spiritually evolved children and targeting dissident adults with psychic abuse and involving agents using MI5 Frequency Weapons. The witch-bashers are paid in psychic-skills and enjoy their witch-hunt activities and persecution drives. Masonic paedophiles are trained in recognising childhood attributes that signify a creative and potentially effective spirit and seek to ruin the child by traumatising him/her with physical molestation disguised by a cover memory. It takes two paedophiles to molest a child and induce a cover memory – hence the paedophile 'rings'. These rings, supported by MI5, monitor the child as it grows and if the cover memory is displaced and the molester identified, MI5 will be called in to do induced experiences mimicking psychosis with mind-control frequency weapons on the victim who can then be classed as schizophrenic, sectioned and, as a result, be disempowered in a court of law – hence the molester stays free. Local centres present themselves as alternative, political or spiritual but are really used by MI5 to monitor dissidents and natural psychics.

Natural psychics will be sectioned. The whole point of sectioning is to fully block the psychic minority to conceal the fact that you can get all psychic abilities without secret society initiations once your personal energy is in balance and freely flowing. This energy, which is carried by the neurotransmitters, needs dopamine to guide it along its journey and anti-psychotic drugs block dopamine. This, effectively, restricts and muddies the flow of your spirit through your brain and prevents your 'doors of perception' being opened at relevant times for use of psychic abilities.

Sectioning is also very traumatising and can break people. Those will lose their psychic abilities because of the trauma they are now afflicted by and can be tossed aside by MI5. Those of a stronger nature will be re-sectioned for the rest of their lives until they are lost to themselves. Things are changing in Britain as far as torture and murder are concerned. Although these practices still take place in isolated wings, in general less extreme frequency weapons applications are used to control, punish and shape the more individual members of the population. Over the last few years MI5, MI6 and foreign intelligence agencies have made significant developments in the mind control realm of parapsychological

engineering. MI5 now have the means to directly block the spirit. This is done to demotivate, desensitise, uninspire, shut-down, block you off from your mind, torture, incapacitate and disconnect the individual from their destiny. This blockage takes the form of an electro-magnetic barrier, suspended at the base of the brain in the kundalini channel. Many people across Europe are slightly barred without their knowledge – preventing them from growing, expressing themselves artistically and wondering why they are not psychic at all. Some people are completely barred and additionally incapacitated for years on end. These are the ones whose enemies hold personal grudges against them and who still have the power to torture them severely. There are still many of these torture subjects who will endure invasions into their mind by synthetic telepathy, disorientating brain-scrambling sessions which can last over a whole day and whatever other more personally designed settings and programmes most upset the target.

Torture, murder, false-imprisonment, discrediting and poisoning are rife all across Europe. The Hierarchy must no longer impose this regime upon those who do not need it and who do not want it. There is nothing wrong with secret societies who deal in psychic skills, as long as they do not abuse these skills or use them to impinge upon more natural ways of life. Using a secret society to maintain an oppressive, violent, traumatising, lying, immoral, restrictive and capitalist regime in which a minority is cruelly abused can no longer be tolerated. Enemies of the Secret State are those who would have a positive impact upon society: exposing injustices, healing and teaching sacred knowledge. Much information, if released, would change the very ideals and aspirations of the population.

Glossary and Links

- * Semantic Web - The Web of data with meaning in the sense that a computer program can learn enough about what the data means to process it.
- * RDF - Resource Description Framework - Designed for expressing metadata about things in the form of 'triples', using vocabularies that are published on the web. see Mute Map Vocabularies (above). An introductory (business-oriented) slideshow by Tim Berners-Lee has some interesting visualisations and talks about using an 'RDF Integration Bus' like the Mute Map Infomesh for applications.
<http://www.w3.org/2003/Talks/03-pcforum-tbl/slide15-4.html>
- * W3C RDF primer: <http://www.w3.org/TR/rdf-primer/>
- * History of RDF by Tim Bray: <http://www.tbray.org/ongoing/When/200x/2003/05/21/RDFNet>
- * RSS - Rich Site Summary - An RDF vocabulary and RDF/XML format for distributing news, increasingly popular with websites, many newsreaders available for example: <http://amphetadesk.com> for windows, <http://www.netnewswire.com> for mac. There are also many RSS aggregation services like <http://syndic8.com>. Easy to write 'crawlers' and 'scrapers' can convert HTML, email, irc, nntp etc... to RSS format.
- * FOAF - FriendOfAFriend - A vocabulary for describing people and networks of people in RDF. <http://rdfweb.org/foaf>.
- * Friends of Corporate Friends (FOAFCorp) : <http://rdfweb.org/foaf/corp>.
- * !FoafNaut, a visual tool for navigating the foaf network done in SVG : <http://foafnaut.org>.
- * A bug in FOAF, explaining the difficulties of modelling groups of people: http://rdfweb.org/issues/show_bug.cgi?id=8.
- * OWL - Web Ontology Language - A language (expressed in RDF) that allows us to apply logical and taxonomic constraints to RDF data and the things expressed in RDF vocabularies. Still in development.
<http://www.w3.org/TR/2002/WD-owl-guide-20021104/>
- * SVG - Scalable Vector Graphics - An XML format for describing vector graphics. with SMIL and javascript it can do Flash-like things; it also does lovely scalable static images.
- * An SVG orgchart demo : <http://swordfish.rdfweb.org/discovery/2003/03/6deg.svg>
- * Carto.net, cartography and SVG : <http://www.carto.net> .
- * SVG London tube map : <http://space.frot.org/rdf/tubemap.svg>
- * XML (Extensible Markup Language) - A simplified successor to SGML. W3C's generic language for creating new markup languages. Markup languages (such as HTML) are used to represent documents with a nested, treelike structure. XML is a product of W3C and a trademark of MIT.
- * Scutter, spider, bot : in the Semantic Web context this would be a set of code containing logical instructions, that is then sent to a number of URI's to apply the code to RDF data it finds at these addresses.
- * Namespace - repository for Semantic Web vocabulary
- * URI - Uniform Resource Identifier. The generic set of all names/addresses that are short strings that refer to resources.

- * URL - Uniform Resource Locator. An informal term (no longer used in technical specifications) associated with popular URI schemes: http, ftp, mailto, etc.
- * W3C (World Wide Web Consortium) - A neutral meeting point of those to whom the Web is important, with the mission of leading the Web to its full potential.

If you are interested in taking part in Semantic Web or cartography projects, you are welcome to join the University of Openness Faculty of Cartography: <http://uo.theops.net/FacultyCartography>, or find more information at one of the key resources listed below:

- * RDFweb and FOAF development: <http://rdfweb.org/>
- * Geowanking - An important mapping list
<http://lists.burri.to/mailman/listinfo/geowanking>
- * !TheMuteMap - Semantic Web/ SVG development space
<http://themutemap.3d.openmute.org>
- * The Locative Media Lab: <http://locative.org/>

ENDNOTES

1 Download source09/12/2003 code and find more information about Edd Dumbill's FOAFbot at <http://usefulinc.com/foaf/foafbot/>.

2 See <http://www.schneier.com/crypto-gram-0010.html>.