

Underlying philosophies of Web technologies and usage

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From protocols to ontologies

Ten years ago in *Scientific American* (Berners-Lee *et al.*, 2001), the inventor of the Web promoted the *Semantic Web*, an extension to the Web in which “information is given well-defined meaning” so that “machines become much better able to process and ‘understand’ the data that they merely display at present”. The authors even envisioned that this “Semantic Web will break out of the virtual realm and extend into our physical world” since “URIs can point to anything, including physical entities”, and that “its unifying logical language will enable [new] concepts to be progressively linked into a universal web”.

In more philosophical words, this scientific program aims at building a ‘language’:

- neither polysemic nor contextual,
- understandable by a computer,
- referential,
- universal because based on logic.

Such a positivistic language theory, by the same man who brought hypertext in every households, could be very surprising. At first, hypertext was indeed invented to turn computers into ‘literary machines’ (Nelson, 1981), i.e. to hack these symbol¹ processors into ways that are compatible with intellectual works done by humans in a historic and comparative approach.

To understand this apparent paradox, one should remember that the innovation of the Web does not rely in its (limited) hypertext features (Nelson, 1999) but in its very well designed protocol (HTTP). Indeed, when Tim Berners-Lee is asked about his philosophical views (Halpin & Monnin, 2010), he exposes himself as a protocol designer, as someone who “defines what words mean”, who “plays God”, who “creates” or “defines the way a new world works”, a world in which “people (...) have to join in, (...) with agreeing”.

Wisdom of crowds

Despite the philosophy of its architects, today’s Web has little to do with Positivism. As Tim Berners-Lee could say, “It’s a platform (...) it should just allow you to build whatever you’d like on top of it” (Ray, 2010).

A paradigm shift seems to have happened at the time of the ‘resurrection of Web’ after the bursting of the dot-com bubble. Tim O’Reilly noted then that several sites based on user-generated content became some of the most visited Web sites. He analyzed what he

¹ in the mathematical sense of ‘forms with no contents’.

called 'Web 2.0' as a tendency to 'harness collective intelligence' (O'Reilly, 2005). Internet participation, formerly reserved to a few specialized communities (open-source software, open directory project, open archives...) has become the major use model.

Compared with 'traditional' Information Technology, Web 2.0 could be characterized by:

- *documents* instead of *data*,
- *interpretation* instead of *inference*,
- *debate* instead of *norm*.

In these characteristics, one could recognize some key aspects of *Philosophical Hermeneutics*, the methods of interpretation proposed by Dilthey (19th c.) for humanities and social sciences as an alternative to Positivism (Ricoeur, 1969; Ricoeur, 1986).

Epilogue

The gap between the underlying philosophies of Web technologies and of Web usage leads to a few questions about the future of the Web:

- If hermeneutic usage succeeded in occurring on the Web, will it continue on the Semantic Web, in which the designers' positivistic assumptions will be 'encapsulated'?
- Shouldn't be a parallel effort to the (Positivistic) Semantic Web be carried on towards a *Social Semantic Web* (Bénel *et al.*, 2010) for hermeneutic usage?

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