

PROJECT FINAL REPORT: Summary Report

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¹ Usually the contact person of the coordinator as specified in Art. 8.1. of the Grant Agreement.

The context of the project is the rise of the Web as the most complex informational artefact produced by humanity, and so the task arises to clarify its philosophical foundations. Often engineers are encountering robustly philosophical problems, and philosophical problems are no longer happening in a theoretical vacuum but instead must take into account the increasing ubiquity of the World Wide Web. Thus, the PHILOWEB project was posited a new “philosophy of the web” should be built bring together both philosophers and engineers over this common core of problems. By combining the theoretical insights of French philosophy, in particular Prof. Stiegler, with cutting-edge analytic philosophy and Web research, the project’s objective was to build a firm foundation for the philosophy of the Web.

The PHILOWEB Project hosted a Marie-Curie Fellow, Dr. Harry Halpin from the University of Edinburgh, at L’Institute de Recherche et l’Innovation du Centre Pompidou (IRI) in Paris, France. Dr. Halpin was supervised by Prof. Bernard Stiegler, often acclaimed as France’s leading philosopher of technology. With a background in analytic philosophy and informatics, Dr. Halpin’s goal was to use the Web as a common object of study to draw together an interdisciplinary research community that combined the French philosophical tradition with wider technical Web community. The intellectual focus consisted of two inter-related themes. The first was to bridge the gap between classical philosophical problems in computer science such as “the Frame Problem” and the Web, showing how the Web solves the Frame Problem using search engines and social media. What Sir Tim Berners-Lee, the inventor of the Web, calls the “Open World Assumption” of the Web was compared to the “Closed World Assumption” of traditional computer science and logic. Another theme was to show how the term “collective intelligence” on the Web could be theorized by combining the “Extended Mind” hypothesis of Prof. Andy Clark with the theoretical foundation of tertiary retentions pursued by Prof. Stiegler of IRI.

The project was successful in building these scientific foundations, leading Dr. Halpin to the publication of 12 scientific publication bridging both philosophy and informatics (including a book and an edited volume on the philosophy of the Web), a seminar series at the Sorbonne on the philosophy of the Web, co-charing two workshops on the philosophy of the Web (PHILOWEB 2011 and 2012), co-chairing the ACM Web Science conference (WEBSCI 2013) that expanded the scope of Web Science to include philosophy, and over 20 presentations in many countries on topics as diverse as Facebook and logic. The project was successful at bringing Prof. Stiegler into dialogue with Prof. Berners-Lee: During a research visit at MIT, Dr. Halpin co-authored an article with Berners-Lee, entitled “Defend the Web”, which led to a response by Prof. Stiegler called “Die Aufklarung in the Age of Philosophical Engineering” that he gave as his keynote speech at WWW2012. The final results were presented at the Digital Enlightenment Forum in 2013 to an audience including many policy-makers and officers of the European Commission.

The research methodology pursued was very innovative, combining both theoretical work in philosophy with work over simulated and already anonymized data-sets from computer science (in particular from Yahoo! Research). Two research visits were made by Dr. Halpin to both MIT and Yahoo! Research Barcelona, leading to publications with Sir Tim Berners-Lee and with established researchers (Peter Mika and Roi Blanco) at Yahoo! Research Barcelona. This research led to 12 scientific publications, including a book dealing with the social foundations of search (*Social Semantics*, published by Springer Press) and an edited volume of work on the philosophy of the Web (*Philosophical Engineering*, to be published by Wiley-Blackwell). Another book (*The Open World*) is under preparation by compiling the results of the project. A wider goal was building a community around the philosophy of the web, since the term had only recently been minted by Dr. Halpin and attracted attention from researchers at IRI like Prof. Stiegler and Alexandre Monnin. Thus, two international workshops held, the first PHILOWEB 2011 co-located at the Philosophy

and Theory of AI conference, and the second PHILOWEB 2012 workshop was co-located in Lyon, France at the WWW2012 conference. A seminar series was held at the Sorbonne inviting researchers like Andy Clark to France to discuss their research with French researchers, and the ACM Web Science 2013 conference included philosophical topics in its call for papers and programme. From these events a community, the W3C Philosophy of the Web Community Group, was created with currently 48 members. A website archiving video from the events and interviews over the topic was created, including interviews with both Tim Berners-Lee and Bernard Stiegler. A special issue of the journal *Metaphilosophy* was devoted to the Philosophy of the Web, co-edited by Dr. Halpin, and its foundational edited volume *Philosophical Engineering* (featuring a new text called “Web Philosophy” by Bernard Stiegler, translated by Dr. Halpin into English). The next PHILOWEB event is planned to be hosted by Peter Norvig at Google.

As a Marie Curie Fellowship, the project had as its objectives the further training of Dr. Halpin. In particular, the project gained Dr. Halpin substantial new knowledge of Simondon and Husserl, as evidenced by his publication on “Collective Individuation: The Future of the Social Web.” Dr. Halpin encountered many philosophers, such as Gilbert Simondon and Sylvian Auroux, that are still very new to Anglophone philosophy. Second, Dr. Halpin extended his existing expertise in informatics by taking advantage of this opportunity to further study the relationship of semantics to search and social media, leading to a journal publication with Yahoo! Research staff and a special issue of *AI Review*. Lastly, he broadened his global relationships by giving presentations both across Europe (such as at the Society of Philosophy and Technology in Lisbon, Portugal) and gave presentations in the United States of America. His work attracted the attention of the EC “Collective Awareness Platform” effort, for which Dr. Halpin and IRI hosted an “Information Day” at Centre Pompidou featuring a keynote by Prof. Stiegler. Dr. Halpin now is a much more well-known researcher with an impressive track-record, and Prof. Stiegler is now gaining ever-increasing international attention in part due to the successful conclusion of the PHILOWEB project.

The S&T results have taken place in the realm of academic presentations and publishing. Although the long-term socio-economic impact is hard to judge at this early stage due to the foundational nature of the research, the work has definitely evoked interest from large companies and SMEs. The overarching contribution socially and economically is an improved understanding of Web architecture in order to maintain its core principle and socio-economic advantages in the course of its future development.

As the PHILOWEB project has officially ended, Dr. Halpin has let Alexandre Monnin continue maintenance of the website <http://web-and-philosophy.org/> with the logo. His details are as follows: Dr. Alexandre Monnin 75005, Paris, FRANCE. (aamonnz@gmail.com) 1 ter rue de Navarre, 75005, Paris, FRANCE.



