

What does it Mean to Be an Information Scientist in the XXIst Century?

In this enlarged abstract (discursive and rather ‘out of the box’) we will try to imagine the practice of information science in one or two generations from now. At the height of 2050, say, what panorama the informational studies will show? In our own time, needless to insist, the renewal of information science is still an enterprise in disarray: most of the conceptual and institutional obstacles already found in the early 90s—merely one generation ago—still persist: flimsy disciplinary conceptual structures, scarce scholarly recognition, disinterest by neighboring disciplines, ‘occupied’ territories, definition obsession (the cottage industry devoted to what is information), excessive bias towards philosophical discussions, lack of empirical research projects, etc.

There are reasons for optimism, however. The stunning success of ‘bioinformation’ and bioinformatics fields, the boom of quantum information science, and above all the fantastic transformative capability that information and communication technologies (ICTs) have reached—together represent strategic forces for a new understanding of information. The ICTs’ accelerated expansion during last two decades has suddenly changed the way individuals communicate, learn, store their knowledge, externalize their memories, travel, socialize, organize their work, and dispose their homes. Changing the ways citizens communicate, modifying the nature and intensity of the information flows around them, impinges on the very fabric of social life. Actually, the most revolutionary inventions in history have been those related to the channeling of social information: tablets, scrolls, and alphabet (Ancient Science and Greek Science); codices, copyists’ schools, universities (Medieval Awakening); printing press, bookshops, and libraries (Scientific Revolution); new energy and production technologies, communication and education systems (Industrial Revolution); engineering, electronics, new materials, and giant corporations (Scientific-technological 2nd Revolution); media, computers, and Internet (Information Revolution). However, we are barely at the beginning of understanding the social history of information, and not too far from the pioneering ideas of W.J. Ong and

H.M. McLuhan. The new, profound, transformational ideas on information are awaiting us yet.

Being optimistic, we can bet that a satisfying intellectual solution will be found to the social, scientific-multidisciplinary, philosophical, hermeneutic, semiotic problems that we now see associated with information. Therefore, we should be capable of building a smooth perspective (based on a new central theory, or alternatively in a new way of thinking?) that will connect the main informational fields and will put, plainly, information science within the center of the 4th Great Domain of Science. Partially following P.S. Rosenbloom, we see the following Great Domains: the physical, the biological, the social, and the informational ('computational' for him).

The information scientist of the 21st Century will understand the 'informational drive' that stimulates every human being and will be able to connect it with the social enterprise of science, and particularly with the mathematical artificial creation of a 'social brain'. This collective organ transforms the individual certainty achieved by the action/perception of each human nervous system into inter-subjective certainty of abstract actions and perceptions of uncanny complexity; its workings represent the very heart of science. Expostulating the informational nature of mathematics will have implications at the scientific level of particular disciplines, and also at the social problem-solving scale. "The Unreasonable Effectiveness of Mathematics in the Natural Sciences" as E. Wigner coined, underlies as an open epistemic problem the information integration from both natural (social) and artificial systems—a brave new world avenue to necessarily follow. The consolidation of a new thinking style, the consensus on the fundamental notions, the adoption of common model systems, the advancement in the comparative studies of informational entities, the development and refinement of analytic and synthetic information methodologies, the new emphasis on the applied dimension (touching on human lives)... will indeed contribute to compensate the social pitfalls of contemporary information technologies. The information scientist will gauge far better the whole ICT effects on learning, cognitive and emotional development, individual time allocation, social bonding, and mental health — scarcely searched today.

Other unwanted effects of contemporary ICT's such as the energetic

burden, the pollution, the waste, the accelerated obsolescence, and the pilfering of valuable (and irreplaceable) strategic resources which are also left outside the “tunnel vision” promoted by information technopians and propagandists of today, will be appropriately tackled. There will be no deep arguments needed making sense on how the micro-rationality of individual decisions in the market-context may conduce, in the aggregate, to utter social irrationalities—and to the “tragedy of the commons.”

Finally, the “Big Bang” of the sciences will be understood cogently. The role of the multiple sciences in social problem-solving will be far better developed, from the new vantage point of information science, in order to participate in the necessary mixing by social agents of a myriad of specialized disciplines. All the economic, social, cultural, political, and environmental problems accompanying the massive human presence in this Planet will have found the counterpart of the massive and perfectly agile participation of all the sciences... the knowledge accumulated by our own species and by the whole biomolecular realms of life.

Is this just another piece of wishful thinking? Time will tell.

Keywords: Information science; Informational domain; great domains of science; ICT criticisms; Science Big Bang