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Data Systems and the social aspects of Scientific Research

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Modern epistemology describes Science as a social construct. It is based on a collective negotiation of conjectures that are supposed to be tested against facts but where confutations have meanings which are not only logic but also “socio-”logic. This means that, within scientific research, information systems should not only provide facts (data) but should also support the social aspects of collaborative work. Let us consider, for example, the case of an innovator that, to test his ideas, asks to a data provider the use of a subset of his database. This, from the data owner point of view, immediately raises the question of balancing intellectual property protection and sharing. Various paybacks can be obtained opening an archive. These could be of course economic but also scientific. Data providers are often not aware that data control gives them a considerable leverage in the development of the ideas of the external data seeker, which eventually results in publications, contacts and rating within the reputational system. This goal can be achieved if the latter is allowed to access data only through a collaborative project in which the owner itself is involved and which lives in his information system. Summing up, Computer Supported Collaborative Work (CSCW) toolkits need to be integrated in scientific data systems. These systems should be based on a mixed server-side/client-side paradigm where sensitive data need to be stored and processed in the server while non sensitive data can be sent to the client and there rendered. Such integrated system can also avoid the intrinsic limits of e-mail used as a collaborative tool. If this practice is adopted by the members of a scientific community a network can be created that motivated by data sharing, broadcasts knowledge and ideas through CSCW integrated information systems.