

Toward a New Science of Information

Dail D. Doucette

1737 Q Street, N.W., Washington, D.C. 20009-2407. E-mail: daild@earthlink.net

Abstract:

Over the last 50 to 100 years, several major disciplines have developed an informational element as a part of their theoretical base. This third meeting of the FIS and the first two meetings, as well as the online discussion, present papers and discussions outlining the fundamental concepts of various traditional disciplines' information elements. In addition, over the last twenty years a number of interdisciplinary and transdisciplinary subjects have emerged connecting and elaborating information elements arising out of traditional disciplines' research. These trends lead to a suggestion that information is beginning to emerge as an independent transdisciplinary concept, based on its own merits and theories.

Hans von Baeyer, one of Monday's speakers, noted in his 2003 book that information is the new language of science, and that it is poised to replace matter as the primary stuff of the universe. This begins to place information in the center of new science development.

In the modern development of science, there is a recognition that the boundaries between various disciplines are permeable, and that the new thrust in science is to develop more interdisciplinary approaches. The 2004 meeting of the AAAS included a paper by Arizona State's Ed Hackett et al that included three ideas about how science groups develop and work: (1) groups are socio-technical entities, building and continuously improving ensembles of technological research; (2) researchers aim to not only answer questions but also to use these ensembles to open a realm for continued research; and (3) new research organizations are continuously forming that transcend individual research groups. This transcendence is the result of their spanning boundaries to shape new actions and theories. This is essentially how science has spawned new fields in astronomy, physics, chemistry, biology, etc. Recognizing the importance of these opportunities, the AAAS in its 2006 annual meeting is looking for presentations built around new cross-disciplinary developments in science.

These developments give the information community, and FIS in particular, an opportunity to play a major role in establishing a new science built around information. I suggest that those assembled here and the FIS accelerate their development of a coordinated, integrated transdisciplinary theory structure for a new field of Science of Information. To this end, I have organized a discussion group following the close of FIS 2005. Friday morning, July 8, starting at 9:00, the group will meet, in this same facility, to discuss what international organizations are now active in the information field, and how FIS could fit into the international collaboration of professional societies. I am proposing an international science of information institute to help facilitate and promote the coordination of activities around a formal field of "the science of information." I hope all those interested in our field's expansion and cohesion attend that follow-on meeting.

Keywords: science of information; interdisciplinary.