

Nielsen assembles a collection of intriguing case studies and makes the claim that online collective intelligence is ushering in the era of networked science, which will be the most dramatic change science has seen in three centuries. Indeed, the taxonomy of problems that lend themselves to large, online, scientist–nonscientist collaborations reveals that the skills solicited of nonspecialists can be efficiently collocated by using the internet. Furthermore, the lower entrance barrier and more convenient ways for amateurs to become involved in online collaborations could become important assets for outreach in exploratory research in astronomy or environmental science. Those assets suggest important opportunities that need to be pursued. However, the author's claim that networked science will redefine the relationship between science and society is an unsubstantiated exaggeration.

Many of the early traits of networked science outlined in *Reinventing Discovery* need to be examined in the context of the recent significant transformations in how we do science. Those transformations are characterized by large interdisciplinary teams of scientists and engineers coming together to tackle mission-oriented goals or “big” scientific questions such as in the hunt for the Higgs boson, which recently celebrated a milestone. The teams share instruments and experimental results, work at large national and international facilities, and in many cases also engage in entrepreneurial and industrial research activities. And yet no viable alternative has been put forward to supplement the traditional academic system that relies on public knowledge, individual tenure, promotion contests, and peer-reviewed scientific papers as the main deliverable of grant money—despite repeated and strong claims that peer review, for instance, needs to be modified or even replaced.

Online or not, large collectives pursuing a common goal can exacerbate the alienation of the individual scientist; in any field, diluting the impact of the individual scientist makes it increasingly difficult to assess his or her contributions. *Reinventing Discovery* lacks a deeper and more nuanced discussion of the traditional academic cultural practices and reward systems, which all break down if we cannot individualize what Nielsen calls “micro-expertise.” Those are less important concerns for the citizen-scientist participating in online research networks. But

even there, personal recognition of the amateurs who provide valuable input, and in some cases make significant scientific discoveries, tends to become part of the historical narrative.

Reinventing Discovery provides an important first sketch of the rapidly emerging networked science and makes it clear that certain fields of discovery can take advantage of an unprecedented acceleration enabled by online networks. Natural scientists, social scientists, and humanists together need to address the near-term demands for open access to data created with public funding. But this book falls short in outlining a strategy to implement what it calls “networked and open science.” Openness by itself will not result in “enhancing humanity's problem-solving ability.” A coherent alignment of many cultural and political processes is needed to advance toward that goal.

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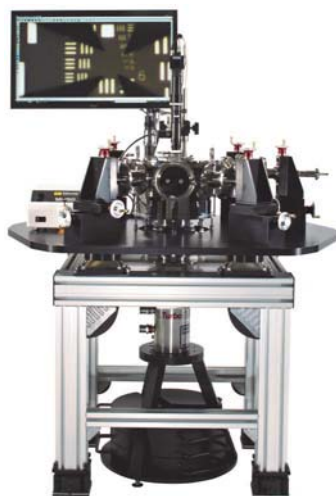
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