

Issues in Assessing Creative and Scientific Commons¹

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This title is of course inspired by Griliches' seminal 1979 article on assessing the returns to R&D.³ But I make no claim that the discussion here will inspire as much subsequent research or be as influential as that article. The case is also somewhat different, with social returns or benefits being somewhat more to the forefront than in the Griliches article. But some similarities to the problem of measuring returns to R&D will no doubt become evident.

1. Define what we mean by creative and scientific commons. Give examples. Should we restrict the discussion to databases to keep things simpler? Or to scientific commons more generally? One way to view these activities is as IP "pools," that are constructed using some kind of contracting, analogously to patent pools used for standard-setting or cross-licensing.
2. What are the alternative mechanisms for data provision and diffusion? Often there is transitory high economic value alongside permanent archival value as data accumulates. Documentation and archiving is costly – in situations where searchable archives have been created, particularly in chemistry and biomedical research areas, they are often protected and priced far above marginal costs of data search and extraction. Give examples.

What's the goal? For society, diffusion of knowledge and increases in future researcher productivity. For individual producers, reputation, contribution to the public good, etc. Heterogeneous behavior is very important here – some researchers are very public good conscious and others not at all. Therefore free-riding is bound to happen, the question is whether it is important enough to harm the enterprise, and which enforcement mechanisms work best⁴

What's the output? For example, it is possible to measure citations to various databases organized in different ways. This might prove useful if other factors (related to type of data) could be controlled for. David reports that such mechanisms are being created by Science Commons as part of its MTA mechanism, allowing labs to track the use of materials through citations to the papers and patents that the users file and that similar mechanisms are being developed for the SC Neurocommons project.

¹ At the present time, this might more properly be titled "Thoughts on 'Issues in.....'".

² I am very grateful to Paul David for suggesting this topic to me and providing some useful feedback in the form of comments and references.

³ Griliches, Z. (1979), Issues in Assessing the Contribution of R&D to Productivity Growth, *Bell Journal of Economics* 10, 92-116.

⁴ Sioban O'Mahoney of the role of foundations such as Debian, Mozilla in regard to FLOSS (reference from Paul A. David).

What's the cost? Who bears it? What types of licenses are chosen by different types of authors? The role of social norms. Inputs are essentially a byproduct of other activities (joint production) which complicates things. Thinking about databases, there is clearly a separate cost to releasing them to the public, related to support and maintenance (even if provided on an "as is" basis, professional reputation concerns will induce some response to queries and errors).

The goal of the paper is to make a start on answering some of these questions and to point the way to future research that might help to quantify the performance of various types of scientific commons.