Why Collaboration Is Important (Again)

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No matter how business-like and pragmatic one is, when describing open source software to a layman, after you get past the initial scepticism—"surely such a disorganized system can't work"—there is always a sense of wonder in the listener. It is fascinating, and somewhat mysterious, how a supposed "bunch of hackers" who have never met and are not formally organized have managed to come up with such a powerful system of creating software. Thousands of people organize informally to create single works that can hold their own against the assembly-line software produced by large multinational companies. It seems important to know that this is possible, but it still seems out of the norm, exceptional—as if people would only collaborate in this way for a reason, for some ideology.

Of course, there often is an ideology. Free software, the original term for open source, gets its name not for the price tag but for the freedoms that many software developers believe should adhere to software. But collaboration need not be driven by ideology, and the common, romanticized notion that collaborative ownership and creativity on a large scale requires the involvement of idealists is, to me, rather sad. Humans are social creatures, and our greatest achievements have been collaborative efforts, often vast ones—especially in the realm of knowledge and the mind. That most of us assume creativity as necessarily individual, private and subject to the creative inputs of others only under commercial conditions, is a symptom of the conversion from knowledge and art—whether closely guarded secrets or widely published—to "intellectual property."
The economic basis for intellectual property is nonobvious, to say the least. Unlike most forms of property, intellectual property is almost unique in requiring state support for its very existence. While it is helpful to have state protection for a plot of land, it can also be protected by, for instance, putting a fence around it, and a chair can be protected by sitting on it. Such acts of protection express your possession of your property. Information is not just an extreme nonrival good, in that many people can enjoy its benefits at the same time; information is also unusual in that ownership over it cannot be expressed through a public act of possession. You can possess information if you keep it to yourself—in which case it remains private, and nobody knows what it is that you possess. As soon as you make public the information you claim to own, it is public information that everyone can access since you no longer have any natural control over it. The extreme nonrival nature of information means that any expression of possession you make over it, after publishing it, is impotent, and your “ownership” of published information can only be guaranteed through external support, such as by the state. With more tangible, physical goods, you express your possession over your property by preventing others from taking it from you. After all, when they take your property you don’t have it any more. With information goods, your “property” can be secret and only possessed by you. However, if published—if distributed even to one other person—that information is no longer within your control and is available to everyone.

The external protection of such a hard-to-possess form of property also runs against the gradient of economic sense. Information can be reproduced infinitely with no inherent marginal cost of reproduction—any cost is solely related to the medium of production. Since something with a zero marginal cost of reproduction is clearly not scarce, it also has no value that can be naturally protected. Infinitely copied goods have no inherent value, and even though a single copy may have a value to a single recipient of such goods, there is no rational economic incentive for a recipient to pay for a single copy of information when it is clear that producing that copy cost nothing. I called this the problem of infinity, and its sustainable solution cannot be to use laws and the power of the state to distort the natural functioning of a free market. Despite all the colourful imagery comparing copying information at no cost with piracy—murder on the high seas—implicit violations of intellectual
property claims in fact outnumber violation of property claims of other sorts by orders of magnitude. Indeed, in most parts of the world, respecting intellectual property claims is the exception rather than the norm (while taking over someone's house is abnormal anywhere).

The various legal instruments of state protection lumped casually under the term Intellectual Property Rights (IPRs)—copyright, patent, trademark, and others—were developed with the primary justification of increasing human creativity, increasing the public's access to this creativity, and increasing collaborative creativity—Newton's "standing on the shoulders of giants." However, the single-minded push we see in policy decisions around the world today to strengthen intellectual property rights and make knowledge and art more and more like the physical forms of property they least resemble threatens to undo the very basis for these rights. It threatens to decrease creativity, decrease the public's access to creativity, and worst of all, to decrease collaborative creativity. Newton should have had to pay a license fee before being allowed even to see how tall the "shoulders of giants" were, let alone to stand upon them.

**The Exciting Novelty of Collaboration**

This is the context in which collaboratively creating knowledge, something inherently human, comes to be seen as a novelty. Yet novelty excites, and the headlines grabbed by the open source and free software movement have resulted in a renewed public interest in collaborative creation as a whole. Businesses are looking at collaboration, not just in open source software, where the likes of IBM, Oracle, and Sun—otherwise holders of vast intellectual property domains—have investment plans of billions of dollars. The pharmaceutical and biotechnology industry has organized consortiums for genetic information, where individual discoveries are shared in a common pool rather than—as used to be the norm—secretly squirreled away in in-house labs for further commercial exploitation. Commerce matters, for free software has shown that collaboration can be profitable simply by virtue of leading to greater human creativity.

This novelty stems partly from the tools of the free software movement that have been not just technical but legal—the General Public License, or GPL, the most common free software copyright license, requires redistribution of copyrighted free software to be on the same "share-and-share-alike"
terms as the original software. This twists the fences of intellectual property around so that rather than enclosing private spaces out of the commons, the GPL protects the commons and prevents private appropriation.

Novelty is good for exciting interest, and it would be positive indeed if this interest leads to a greater awareness of the importance of collaboration in creativity in all areas of activity. But the novelty itself is misplaced. Humans have been collaboratively creating and owning knowledge for as long as we've been able to communicate, and such knowledge forms the basis of our ability to function as societies today in more or less every field of endeavor one cares to examine.

In this volume, the highly distinguished contributors examine a few such fields. The first part, “Creativity and Domains of Collaboration,” aims to show that collaboration is not so novel after all, and looks at creativity and the collaborative ownership of knowledge in different times and places. Anthropology is one focus here, and the initial chapters look at approaches to collaborative ownership in traditional societies, while the final chapter by Paul David shows how collaborative creativity became an essential in the tradition of academic science, thus underpinning modern civilization.

The second part, “Mechanisms for Collaboration,” examines some of the mechanisms through which collaborative creation of knowledge is taking place today, and the new mechanisms emerging for the study of such large-scale—indeed, industrial—collaborative efforts. The section begins with a look at how benefits are shared when contributors to knowledge do not have control over their implicit collaborative role—as when pharmaceutical firms commercialize traditional knowledge about medicinal plants—and then the issues of identity and trust, so crucial to the “virtual” relationships that are the basis for much collaboration in the age of the Internet. My own contribution and that of Yochai Benkler provide models by which new forms of online collaboration can be studied and explained and—important from an economic point of view—even measured. The final chapter in this section, by Tim Hubbard and James Love, also has an economic approach to a real social problem—how to fund creativity, especially in the area of research and development of medicines where IPRs pose a clear threat to public health in many parts of the world, but abolishing them outright wouldn’t solve anything.

The last part examines the more philosophically resonant issues of “Ownership, Property, and the Commons”—which are causes as much as consequences of collaborative creativity. Just as the first section of this volume

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describes how collaboration has worked, and the second describes how collaboration’s new forms are taking shape today, this third and final section provides visions for the future, and how it may be worse, or hopefully, better, than the past. With the increasingly demanding application of the language of property rights to knowledge and creativity, are we witnessing a second enclosure movement—this time, as James Boyle suggests, an enclosure of the mind? Or might, as John Clippinger and David Bollier argue, the worldwide acclaim for free software signify a renaissance of the commons? The final chapters by Philippe Aigrain and Richard Stallman bring us “down-to-earth” with concrete proposals for a new system of “positive rights” for information, and the very real threats being posed to the knowledge commons and the future of collaboration by current international trade policy.

Open Source Editing

I have taken an “open source” approach to editing this volume. A free software project relies on individual contributions being made by contributors who are good at what they do. With a bit of glue to stick things together, this leads to a combined software system of high quality, even if the individual components are very different—and require very different skills to create. The test of the open source process is if the software that emerges at the end works.

The contributors to this volume are extremely distinguished in their own subject domains, but these domains are so different from each other that their names rarely appear together, let alone all in one volume, to be read together as one work. The contributors’ expertise ranges from anthropology via economics and law to software development. They are clearly very good at what they do. My commentary at the beginning of each section is meant to provide the right sort of glue to put each chapter in a common context. I hope you find that the resulting combination of very different components works.

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