



ELSEVIER

Research Policy 32 (2003) 1287–1291

research
policy

www.elsevier.com/locate/econbase

Research note

Gift economies in the development of open source software: anthropological reflections

David Zeitlyn*

*Department of Anthropology, Centre for Social Anthropology and Computing, Eliot College,
The University of Kent, Canterbury, Kent CT2 7NS, UK*

Abstract

Building on Eric Raymond's work this article discusses the motivation and rewards that lead some software engineers to participate in the open source movement. It is suggested that software engineers in the open source movement may have sub-groupings which parallel kinship groups such as lineages. Within such groups gift giving is not necessarily or directly reciprocated, instead members work according to the 'axiom of kinship amity'—direct economic calculation is not appropriate within the group. What Bourdieu calls 'symbolic capital' can be used to understand how people work in order to enhance the reputation (of themselves and their group).

© 2003 Elsevier Science B.V. All rights reserved.

Keywords: Gift economy; Cathedral and bazaar; Non-economic motivation; Prestige; Symbolic capital

1. Introduction

When approaching the open source software as analysts; in our attempts to understand the 'open source movement' we need to do more than look at the economics of software development and marketing. Eric Raymond's papers (1997, 1998) were among the earliest and most influential examples of using social theory to help us think about the actors, without whom there would be no software, and hence nothing to discuss! This article has been written as a response to these papers which lead to some suggestions about how other parts of anthropological theory may help future research.

In systems not governed by classical economics, time and quantity are not counted. In such systems there are no metrics for these variables. Ideas of own-

ership exist but these are symbolic since, by definition, with open source software possession by one person does not dispossess another—the obvious contrast in this respect is land. Knowledge also has this attribute which is why copyright legislation is more contentious than ideas of ownership of shoes, cars, land and so on.

A gift includes an obligation to make a return presentation. This compulsion to return a gift has special force in a small social world. The public world of the net, especially that of the software engineer is a very small world no matter where they are physically based.¹

2. Metaphors or models?

When thinking our way into a problem we often grab for any idea if it helps us grasp some aspects of

* Tel.: +44-1227-764-000x3360; fax: +44-1227-827-289.

E-mail address: d.zeitlyn@ukc.ac.uk (D. Zeitlyn).

URL: <http://lucy.ukc.ac.uk/dz>.

¹ This is part of ESR's argument and it does seem to be one of the few internet claims where the hype is (not much of an) exaggeration.

the unfamiliar situation. This does not commit us in any way to the actualization of the ideas we are using. But as we come to feel more familiar with the unknown situation questions of realism cannot be kept forever at bay. This is to allude to an enormous and controversial field in the philosophy of science which cannot be properly considered here.² Metaphors help us comprehend. Models often are taken to be (partial or incomplete) representations, hence involve some sort of claim about reality. Metaphors and models do more than help comprehension: they guide action as well. But the distinction cannot be maintained. If the metaphors are productive they get treated as models—they are taken to have identified something about the world which we test by pushing them to extremes, or by looking in different ways. So criticisms are produced, strictly, of a metaphor as if it were a model. In short, good, productive metaphors are used as the basis of model building and hence become subject to criticism for not accurately modeling certain features of interest. Rather than become entangled in philosophical debate, I hope we can admit the conceptual complexity of the enterprise and examine the terms being offered for the case in point.

What are the problems I see in Eric Raymond's metaphors? First, that on my understanding of cathedrals and bazaars Raymond (henceforth ESR) has it the wrong way round. Second, there are better candidate metaphors available and I explore one below which has interesting resonances.

(a) Cathedrals. Microsoft does not build cathedrals. In his introductory and defining remarks ESR implies that cathedrals are built according to a single fixed plan, specified *ab initio* and carried out to completion. To be fair to ESR it must be noted that I am exaggerating slightly and being unfair to him in the process—but I maintain that this is the rhetorical force of his titles and the way he uses the contrast—as a reviewer he says that ‘the evolution of cathedrals is always directed towards a single-point focus, reifying the greater glory of God and the authority of the church.’ This overlooks how divergent are the many different forms of Christianity and their

views of church building and authority. Once you start investigating the single mindedness of (at least) older cathedrals problems with the metaphor become apparent. Consider Canterbury Cathedral which is old by British standards but only middle-aged for Christians. The building loved and inspired by generations is, frankly, a hackers paradise. There is a bit (dare I call it the core?) not much changed for the last 500 years but everything else has evolved as a vast band of loosely co-ordinated engineers have worked on the structure over the generations (how long is this in web years?).³ It may be that commercial software projects resemble modern cathedrals, for example, those constructed post 2 WW in UK such as Coventry or Liverpool or the Basilique de Notre Dame de la Paix in Yamoussoukro, Cote d'Ivoire. These are recent and had single architectural inspirations and in this they resemble any modern building, the Sydney Opera House or the Pentagon alike. But the metaphor does not work for old cathedrals that have grown with their congregations over the centuries. The flooded crypt of Winchester Cathedral provides a further and more extreme example (<http://www.winchester-cathedral.org.uk/crypt.html>): standing in the middle of the flooded crypt is a sculpture by Anthony Gormley designed especially for that space, but not as an explicitly Christian image.⁴ It takes the flooding and uses it to make art: a ‘bodgers’ approach, asking ‘what else can we make with this?’

(b) Bazaars. ESR also talks of agoras, using the Greek for ‘meeting place’ to make it clear that he is talking less about small scale informally organized market places than a meeting place in which like minds congregate and talk—and through that do business, especially by enabling rapid

² Some starting points are Lakoff and Johnson (1980) and Harré (1986).

³ What was first a small missionary church serving a small discriminated against minority gave way to an Abbey Church serving the cloistered monks—who, in England, were Roman Catholic until the dissolution of the monasteries and the foundation of the Church of England, at which point the Abbey Church became a Cathedral and was further extended. But in the crypt some of the original stones survive now enclosed by a structure far removed from the intentions of the masons who laid them.

⁴ So the cathedral becomes an art gallery, just as the Hagia Sophia in Istanbul started (532) as a Byzantine orthodox cathedral then (1453) became a mosque but since 1934 has been a museum.

dissemination of important information. The coffee houses in which the London insurance market was formed are a case in point (the original Mr. Lloyd ran a coffee house). I find this too vague. Markets are connected by (more or less formalized) communication channels so that prices are affected by supply and demand. This is true of bazaars in the literal sense of the word. But gift economies are not bazaar-like—their information chains are different and they work to different purposes (as ESR describes in his ‘Homesteading the Noosphere’). The maximisation that occurs is not of profit.

In summary, I think both of ESR’s metaphors are problematic, and hence the opposition between them.⁵ However, he has latched onto important phenomena which we need to comprehend. The combination of ‘gift economies’, ‘symbolic capital’ and ‘kinship amity’ provide other conceptual tools for thought on this subject.

3. Gifts

As described originally by Marcel Mauss in *Essai sur le Don* (1923–1924), translated as *The Gift* (1954) the point about gifts is that, despite appearances, the givers are *not* completely divorced from the things given. Something of the giver adheres to the gifts we give (Mauss uses the Maori term *hau*) and this is what compels (in social terms) a return presentation. So, even in cases such as charitable giving, there is no such thing as a ‘free gift’. Moreover, the reciprocal relationship engendered by gift giving forms the moral basis for society. Sahlins (1974), and more recently Parry (1986), Davis (1992), Strathern (1988) and Godbout (2000) have discussed many of these issues so I will not explore them here. I note that this account helps explain the stress and complexity of arranging X-mas presents, bridal showers and dinner party invitations—the anxiety of choosing an ‘appropriate’ gift granted the type of occasion and the relationship between you and the recipient. Less obviously, but convincingly, it can also explain the

giving of alms and charitable contributions. And, of course, contributions Hubert and Mauss (1964) to open source software projects. Claims of disinterestedness are misleading—by giving code ESR creates the obligation on the recipients of his gift to give back other code (note that to return the original gift itself is not a return gift but an insulting refusal to accept). This is parallel to what ESR describes in terms of ego boosting (to which I return below when discussing symbolic capital). Having given, having made a contribution, you are *owed*. Repayment is not direct or immediate—this distinguishes rejection or economic transactions from gift giving. Gift giving and acceptance establish moral lasting relationships between the parties. And giving to God establishes a relationship which can end with you in heaven, God with a new church (and so is not clearly self-less) but a relationship modeled on those with ordinary people (see Parry, 1986).

One implication of Mauss’s thesis is that the *giver* and the *object given* cannot be completely separated; an element of the donor’s personhood inheres in the gift object. This has been used both in the discussion of the ‘social life of things’ and in the comparative study of social identity or ‘personhood’ (Strathern, 1992). In summary: being owed is better than owing; you are a better person, so by giving generously you become a better person. On the one hand you think better of yourself *and* so do others! Hence the success of *Potlaching*—conspicuous consumption and destruction can create power and influence (Madonna’s wedding being a recent example in another cultural milieu). Only a very ‘big’ person can afford to do this (using the words ‘big’ and ‘afford’ both economically and morally). It is a claim to largesse in all senses of the word.

4. Symbolic capital

Successful gift giving accumulates reputation for generosity. The same is true of programmers. As ESR says academe revolves around reputation, but the idea is much wider than that. Not only the so-called ‘Honour’ societies of the Mediterranean but also in finance the reputation of a company (or even the figurehead Director) can count as much as the financial bottom line. The open source movement exemplifies

⁵ See Bezroukov (1999a,b) for further discussion of ESR’s papers.

Pierre Bourdieu's notion of 'symbolic capital'. This was developed when discussing the prestige accrued by Kabyle lineage heads through the marriages they arrange but then also applied to widely, even including academics! Bourdieu extended the notion of capital beyond the purely economic to include cultural and social and 'distinction' or symbolic capital.⁶ Each can be separately accumulated and, in some circumstances, having one can help gaining another. This fits very neatly with ESR's description of reputation and how sometimes this can be finessed into material gain—a programmer can gain consultancies on the basis of work undertaken on open source projects—which is open to inspection and hence easier to evaluate than references written by friends or by managers keen to be rid of a troublesome or incompetent employee!

5. Kinship amity: family relationships as productive metaphor and descriptive model

I suggest that, rather than cathedrals or bazaars, we need to consider family relationships and particularly the idea of 'kinship amity'⁷ to understand the open source movement. Within the family there are no calculated economic relationships: parents do not bill their children for their upkeep and so on. It is a type of gift relationship but one with a different type of symbolic capital accruing to the givers, depending on the variety of kinship system a family belongs to Parents give their children life and for that can never be repaid. Children are eternally indebted to their parents hence the enduring symbolic power that parents have over their children. Parents benefit from the work of their children but also work to support them when small. No accounts are kept. This is as close to a human universal as it is possible to get.

But a rather different picture emerges if we think of relationships between siblings and cousins. For all the *melée* of petty jealousy and competition for the attention of care-givers the relationships between siblings is as untrammled as it gets. Between close kin anyone takes what they need and gives what they can. Work

undertaken to assist fellow kin is its own reward—and is often unacknowledged. Kinship amity provides a summary term for this.

Why is this a good metaphor for understanding the social dynamics of open source software? Relationships are made though action, mutually directed and reciprocal. There is a presumption of equality although some people made be more equal than others. Peers do what they can for rewards' own sake. So my suggestion is that rather than orienting our thinking through the contrast between cathedrals and bazaars we think rather of kinship structures. On this account each software project is a kin group (family) with its patriarch or matriarch—the acknowledged leader of the group or segment. There are larger groupings—lineages as well as a relatively small number of different types of kin reckoning. On this parallel a lineage would be a cluster of related projects such as *emacs*, while operating systems are homologues of different kinship structures (see [Schwimmer, 1995](#)). What is nice about this is that there are potent parallels. For example, there are no exchange or monetarised transactions within a kin group but there are no such restrictions with strangers (non-kin). This begins to be suggestive when you look at Red Hat and its relationship to the individual Linux projects which it distributes, or to software engineers active in open source projects who behave very differently when Sun approaches them with a consultancy. Relations of amity are real and have been achieved with those you have long collaborated with. There are others that you may know about vaguely who are in similar relationships but not with you. Between you, *ab initio*, there is no relationship—you have not worked together. You are not kin. But kinship amity can be created through interaction. And the crucial type of interaction is gift exchange—the gift of code!

My final suggestion is a plea for empirical research. It is one thing to suggest metaphors to help us understand and think better about something. Such exercises may be helpful but can not provide guides for future action unless the metaphors used relate in some systematic fashion to the social processes concerned. In his papers ESR suggests some descriptive metaphors. I am making a stronger claim: that kinship amity and gift relationships actually structure the social webs that link participants in open source development. This is an empirical claim that can be resolved by ethnographic research not through abstract discussion.

⁶ See [Bourdieu \(1977, 1988, 1991\)](#) and [Acciaoli \(1981\)](#) for an introduction to Bourdieu's work.

⁷ A term introduced by [Fortes \(1969\)](#) (strictly the 'axiom of amity').

6. Further research

What sorts of research can help clarify these issues? Some of the ways in which these questions can be resolved are as follows. A database similar to that established by the FLOSS project (Ghosh et al., 2002), which records those who have participated in the open source movement, can be used to chart patterns of association among those writing code and resolve the questions of whether there are groups that resemble larger kin based groups (e.g. families, lineages or clans). Consideration of schisms and political (using ‘political’ with a very small ‘p’) divisions within the participants in the OSM might reveal clusters of ‘like minded’ collaborators whose mutually trust is ‘kin like’ particularly if it resembles nothing as much as another similar group with whom there is reciprocal distrust.⁸ Finally, the comparative study of software engineers some of whom do, and others who do not participate in the open source movement might reveal differences in orientation towards success, towards different types of success specifically where reputation or the accumulation of ‘symbolic capital’ is more highly prized than material success as measured by money in the bank and the promise of revenue secured through the establishment of copyright.

References

- Acciaoli, G.L., 1981. Knowing what you’re doing: Review of P. Bourdieu’s Outline Canberra Anthropology 4, 23–51. Available online <http://era.anthropology.ac.uk/acciaoli> (last accessed 16 November 2002).
- Bezroukov, N., 1999a. Open Source Software Development as a Special Type of Academic Research, Critique of Vulgar Raymondism, First Monday, vol. 4 (10). URL: http://firstmonday.org/issues/issue4_10/bezroukov/index.html (last accessed 16 November 2002).
- Bezroukov, N., 1999b. A Second Look at the Cathedral and Bazaar, First Monday, vol. 4 (12). URL: http://firstmonday.org/issues/issue4_12/bezroukov/index.html (last accessed 16 November 2002).
- Bourdieu, P., 1977. Outline of a theory of practice. In: Cambridge Studies in Social Anthropology, vol. 16. Cambridge University Press, Cambridge.
- Bourdieu, P., 1988. Homo Academicus. Polity Press, Cambridge (in association with Basil Blackwell).
- Bourdieu, P., 1991. Social Space and the Genesis of ‘Classes’. In: Language & Symbolic Power. Harvard University Press, Harvard.
- Davis, J., 1992. Exchange. Open University Press, Buckingham.
- Evans-Pritchard, E.E., 1940. The Nuer. A Description of the Modes of Livelihood and Political Institutions of a Nilotic People. Oxford University Press, Oxford.
- Fortes, M., 1969. Kinship and the social order: the legacy of Lewis Henry Morgan. Aldine, Chicago.
- Ghosh, R.A., Glott, R., Krieger, B., Robles, G., 2002. Free/Libre and Open Source Software: Survey and Study. FLOSS. Deliverable D18: Final Report, Part IV: Survey of Developers. International Institute of Infonomics, University of Maastricht and Berlecon Research GmbH <http://www.infonomics.nl/floss/report> (last accessed 16 November 2002).
- Godbout, J., 2000. The World of the Gift (trans.) D. Winkler. McGill-Queen’s University Press, Montreal.
- Harré, R., 1986. Varieties of Realism: A Rationale for the Natural Sciences. Blackwell Scientific Publications, Oxford.
- Hubert, H., Mauss, M., 1964. Sacrifice: Its Nature and Function. Cohen & West, London.
- Lakoff, G., Johnson, M., 1980. Metaphors We Live By. University of Chicago Press, Chicago.
- Mauss, M., 1954. The Gift. Forms and Functions of Exchange in Archaic Societies. Cohen and West, London.
- Parry, J., 1986. The gift, the Indian gift and the ‘Indian gift’. Man (n.s.) 21, 453.
- Raymond, E.S., 1997. Revision 1.5124, 24th August 2000. The Cathedral and the Bazaar <http://tuxedo.org/~esr/writings/cathedral-bazaar> (downloaded November 2001).
- Raymond, E.S., 1998. Revision 1.2224, 25th August 2000. Homesteading the Noosphere <http://tuxedo.org/~esr/writings/homesteading> (downloaded November 2001).
- Sahlins, M., 1974. Stone Age Economics. Tavistock Publications, London.
- Schwimmer, B., 1995. Kinship and Social Organization (revised January 2001). An Interactive Tutorial <http://www.umanitoba.ca/anthropology/kintitle.html> (last accessed 7 February 2002).
- Strathern, M., 1988. The Gender of the Gift: Problems with Women and Problems with Society in Melanesia. University of California Press, Berkeley.
- Strathern, M., 1992. Reproducing the Future. Anthropology, Kinship and the New Reproductive Technologies. Manchester University Press, Manchester.

⁸ This is to parallel Evans-Pritchard’s description of Nuer segmentary politics (1940).