FCJ-066 The Future Is User-Led: The Path towards Widespread Produsage

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Introduction: Towards Produsage

2005 and 2006 saw the popular recognition and commercial embrace of a phenomenon which is set to deeply affect the intellectual life of developed and developing nations for years to come. Yahoo! bought Flickr. Google acquired YouTube. Rupert Murdoch purchased MySpace, and declared the future of his NewsCorp empire to lie in the user-led content creation spaces of such social software Websites more than in its many newspapers, broadcast channels, and other media interests (Murdoch, 2005). Finally, TIME broke with its long-standing tradition of nominating one outstanding public figure as 'person of the year', and instead selected 'you': all of us who are active in collaborative online spaces (Grossman, 2006).

However, the significance of the user-led phenomenon lies not in such (ultimately hollow) honours, or even only in the central spaces of YouTube and Flickr – instead, true to its underlying principles (which will be further explored in this paper) it is found dispersed across the World Wide Web; what is important about the new phenomenon is not only the success of its most visible exponents, but instead also the 'long tail' (Anderson, 2006) of other user-led spaces which have emerged at every juncture of cyberspace, and are beginning to spread into offline worlds.

But it is not these spaces alone which have driven the rise of user-led content creation approaches: just as crucial has been the emergence of a new generation of users who have the skills, abilities, and above all the interest and enthusiasm to use them. PR industry watchdog Trendwatching.com has described this new generation of users as 'Generation C' (trendwatching.com, 2005a) following previous constructs such as X and Y but adding its own unique attributes to the mix. 'C', in this description, stands in the first instance for 'content' and 'creativity' – but as a result of the models of content creation and content sharing employed by this new group of users also contributes to the 'casual collapse' of established media and other industry models (from Murdoch's NewsCorp to the proprietary software production models increasingly under threat from open source projects, or to the bitter rear-guard action fought by the Encyclopædia Britannica against its upstart rival Wikipedia (Giles, 2007)). As old models decline, then, their absence presents opportunities for Generation C to exercise their own 'control' over content, and gain 'celebrity', as well as – as Trendwatching adds in a 2007 update to its original descriptions – generate 'cash' from its activities (trendwatching.com, 2005b).

The social dimensions of the Generation C idea are mirrored on the technological side by another recent buzzword – 'Web2.0′ (O'Reilly, 2005). While accusations of boosterism may be levelled against both terms, it is nonetheless true that like Generation C, Web2.0 describes the technological framework for a notable (if perhaps more gradual than implied in the '2.0′ version numbering) shift from static to dynamic content, from hierarchically managed to collaboratively and continuously developed material, and from user-as-consumer to user-as-contributor. Tim O'Reilly, originator of the term, offers this definition for 'Web2.0′:

Web 2.0 is the business revolution in the computer industry caused by the move to the internet as platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effects to get better the more people use them. (This is what I've elsewhere called "harnessing collective intelligence.") (O'Reilly, 2006).

Neither Web2.0 nor its chief users, Generation C, should be seen as having emerged suddenly and without precedent. Instead, they are in line with a long tradition of models which describe the gradual rise of the informed and active consumer or user, a line reaching back at least as far as Alvin Toffler's work in the early 1970s on the 'prosumer' (Toffler, 1970) who utilised the increased amount of information and advice at their disposal to become an expert consumer, and touching on Charles Leadbeater and Paul Miller's description of the 'pro-am' phenomenon, which highlighted the increased advice and feedback of consumers on the production of goods and ideas (Leadbeater and Miller, 2004) and John Hartley's focus on the 'citizen-consumer' (ARC Centre of

Excellence for Creative Industries and Innovation, 2007) exercising their citizenship through the process of active and informed (media) consumption. Most recently, the work of Yochai Benkler on 'commons-based peer production' must be noted, which outlines in detail the environment in which today's Generation C participate in content creation (Benkler, 2006).

8 However, it is arguable that none of these models fully and sufficiently describe the collaborative content creation undertaken by Generation C members in Web2.0 environments. The core problem in this context is the persistence of a description of this work as content production in a traditional, industrial-age sense; the suggestion that this term may no longer be applicable is best demonstrated using the example of open source software development or of Generation C's foremost achievement to date, Wikipedia.

Wikipedia **is not a product**

9 Indeed, it is useful to contrast the process of content production in traditional encyclopaedias with the collaborative processes in Wikipedia. While tracing their origins to pre-industrial times, the former are firmly built on industrial-age approaches to the production and distribution of goods, regardless of whether such goods are physical or informational (that is, tangible or intangible) in nature – a one-way value chain from production through distribution to consumption which at best allows for explicit (through direct responses) or implicit (as gathered through market research) feedback from consumer to producer (fig. 1).

10 *Figure 1: Industrial Production Value Chain*

11 In this model, control over content rests squarely with the producers: they decide upon the nature of the content itself, including any changes or updates from previous versions of the encyclopaedia, and upon its packaging as a complete product – that is, the definition of discrete (annual, full, condensed) versions of the product, the timing of version releases, and the nature of their distribution to the buying public. (Distributors play a subordinate role in this process – while able to choose whether or not to carry the product, and how to promote its sales, they have no direct influence on content and packaging itself.)

12 Much of this approach was established in direct response to the need to distribute information efficiently in material form (in print, or later also on physical carriers of digital information): in particular, material distribution introduces a need for careful versioning in order to avoid the unsustainably frequent distribution of updates and additions to an existing product, or (worse) costly product recalls to correct content errors. A key downside of versioning, however, is the loss of immediacy: even though the emergence of new information may demand immediate changes to published content, such changes will have to wait until the completion of the current product cycle (e.g. through the exhaustion of existing stock), at which time a new version of the encyclopaedia is released to the public.

13 The introduction of network-based product distribution channels partially addresses such problems: with their help, content updates can now be distributed to registered customers immediately. At the same time, however, such inter-version updates (that is, revisions) also undermine the version system the more often they are offered: constant service updates both undermine consumer confidence in the quality of the originally purchased product, and introduce confusion over how exactly one revision is distinguished from another. (Obviously, this applies just as much in the field of software development, where the need for frequent updates to products such as Windows has contributed to many customers' love/hate relationship with Microsoft.)

14 Further, increased networking also enables consumers to coordinate more effectively. Where traditional distribution networks were largely inaccessible to consumers other than as 'end customers', networks which are used for product distribution and for open communication (such as the Internet) allow consumers more visibly to highlight product shortcomings, lobby for content changes or additions, or dispute the veracity of specific content details, as well as speculate on the nature and timing of future product versions and revisions. In the first instance, this gradually strengthens the feedback loop from consumers back to producers, and in the process undermines producers' control of the overall production value chain. But as users take an ever more direct role in the development process, we will see that it also has the potential of fundamentally shifting the core business of producers away from the sale of copyrighted products, and towards offering value-added services around these products.

15

It is perhaps already obvious that the content creation model of Wikipedia differs in a number of significant areas from the traditional, industrial-age model of production and distribution adhered to by traditional encyclopaedias. To begin with, the role of the distributor has disappeared altogether – the Web and its underlying carrier medium, the Internet, perform this function now. But more importantly, the producer as a distinct category and agent in the value chain has also been transformed – users themselves are now also potentially producers of content in this encyclopaedia (which is why we will soon describe this as a hybrid produser role), and the value chain as experienced by each user has been condensed to a single point (fig. 2), which connects with the experiences of the other participants in the Wikipedia to form a network of collaborative content creation.

Figure 2: The Produser as Hybrid Producer/Consumer

Text Box:

The networked nature of users (and thus, potential producers) of the Wikipedia also means that responses to content are further amplified – and far from struggling to cope with such responses, or actively discouraging them (as may have been the case under a traditional industrial model of content production), Wikipedia has of course introduced the (wiki-, and thus Web2.0-based) means for users to themselves enact their responses and change, extend, and correct existing content where this is perceived to be necessary, as well as to engage with fellow users to discuss and coordinate these efforts.

This, then, fatally undermines what is perhaps one of the most lasting assumptions of the industrial age – that products exist in discreet versions and revisions, able to be controlled by their producers. Constantly updated and revised, to apply the language of versions and revisions to the Wikipedia makes virtually no sense – what is immediately visible to visitors of any one entry in this encyclopaedia is simply the latest edit of that page (with previous edits also available for comparison), and this edit is replaced immediately with the next once any further changes have been made.

In other words, then, a description of Wikipedia (or even of any of its pages) as a 'product' in the traditional sense is no longer appropriate, if by product we understand a distinct, defined, fixed entity which is packaged and distributed to its users as we have discussed it above. Instead, Wikipedia pages and the encyclopaedia in its entirety are at any one moment simply artefacts of their continuing and continuous content development processes, temporary outcomes which are likely to be revised again soon. It is no more appropriate to describe these artefacts as products than it is to describe a single television image as a complete programme. At the same time, however, in spite of its continuing provision of content over time, Wikipedia content is also not a service similar to broadcast content, since the temporary artefacts of the continuing Wikipedia content development processes can be used in much the same way as the products of traditional encyclopaedia production. Thus, Wikipedia content constitutes a continuing process just as much as, when isolated from the process and thus frozen in time, a product-like artefact. Wikipedia content development itself is therefore neither production nor service provision, then, but a hybrid process which – as it is carried out by users who are also producers – can be described as produsage.

Produsage

Very similar observations to those made in the context of Wikipedia apply also to informational content creation and development processes in a number of other key areas, ranging from open source software development through to multi-user online games. Indeed, it is possible to outline four fundamental characteristics of informational produsage as distinct from industrial production.[1]

Community-Based

Produsage is based on the collaborative engagement of (ideally, large) communities of participants in a shared project. This represents an important shift from industrial production which mainly relies on the existence of dedicated individuals and teams as content developers. Whether in open source software development, citizen journalism, or creative projects, produsage assumes that the community as a whole, if sufficiently large and varied, will be able to contribute more than a closed team of producers, however qualified. This combines the logic of both Eric Raymond's appeal to

the power of eyeballs in open source software development and debugging (Raymond, 2007), and Chris Anderson's 'long tail' of diverse knowledge, abilities, and interests outside of a narrow recognised mainstream of knowledge workers (Anderson, 2006). The success of this approach can be seen, for example, both in the strong performance of open source software over past years, and in the turnaround from the failure of Wikipedia predecessor Nupedia to the success of Wikipedia itself once its operators abandoned their expert-based small-group quality assurance approach Goetz, 2003).

24 Basing produsage on community does not preclude the participation of corporate or other institutional interests, however – as is obvious from the existence of commercial operators in the open source market (and indeed from the existence of an open source market in the first place). However, to ensure the sustainability of produsage environments requires non-community participants to accept and respect the rules imposed by the community – protracted and significant infringement of these rules is likely to undermine both the organisation's standing with the community, and even the long-term survival of the community itself.

25 **Fluid Roles**

26 The reliance of produsage on (often unpaid) community involvement also creates the necessity to allow for a relatively fluid movement of individual produsers between different roles within the community and the produsage project. Such movement is also predicated by the nature of the produser as a hybrid user/producer in themselves, of course. Ideally, produsers in a community of produsage participate as is appropriate to their personal skills, interests, and knowledges; such participation further changes as current points of focus for the produsage project change. Active content contributors on one aspect of a project may participate in quality assurance processes on another, or may at times act 'only' as users (yet returning to active duty as produsers if in the course of their usage they identify the need or potential for further improvement or extension). Indeed, the very act of usage itself may also make an active contribution to the ongoing produsage project, for example where access statistics are gathered and evaluated in order to draw automatic connections between related content items. (In this sense, users of Amazon or Google act as co-produsers of these services even without having chosen to do so, as their usage generates information which helps to further refine the performance of these sites.)

27 Importantly, then, the community structures upon which produsage is based are usually heterarchical rather than hierarchical – while leaders may exist for aspects of the overall project, or even for the project itself, due to the project's dependence on the community their power is strictly limited, and their roles may themselves shift as project work continues. Produsage is based in the first instance on collaboration and consensus, and rules are generally enforced by the community rather than by individual leaders. Communities are also highly permeable for newcomers with appropriate skills and interests (as long as they are prepared to accept the community's overall rules and values).

28 Again, any offence against these principles of openness and consensus is likely to undermine the standing of the offender in the community, and even the sustainability of the produsage community itself. Community leaders who attempt a too autocratic approach to leadership, or community members who actively work against the established values of the community, are usually ousted very quickly, or (in a number of cases) have led to communities abandoning existing projects to start afresh.

29 **Unfinished Artefacts**

30 As noted above, the artefacts of produsage are no longer products in a traditional, industrial-age sense. Instead, they are thoroughly well suited to an informational age in which distribution is instant and operates on an on-demand, content-pull basis – a model which in the current technological context finds its basis in the database-driven online environments of Web2.0.

31 Open to the input of users as produsers of content, content artefacts in produsage projects are continually under development, and therefore always unfinished; their development does not follow the discrete versioning and revisioning processes of traditional content production, but instead proceeds along evolutionary, iterative paths (often also involving trial and error processes where new iterations are made available – as alpha or beta versions – for community testing and feedback, and are further revised or even revert back to previous iterations if such testing

produces unfavourable results). Content produsage, therefore, is palimpsestic – content artefacts (with their ancillary change histories and community discussions on how further to develop them) resemble the repeatedly overwritten, erased, restored and further overwritten pages of ancient texts which hold both the latest (and most complete) version of the artefact, and the history of examination, discussion, and alteration of the artefact which has led to the present point.

32 Such artefacts, then, require not so much a different approach by their user – after all, the products of traditional production processes should also be seen as unfinished, temporary approximations of the ultimate goal of content development (whatever it may be), even though industrial producers do their best to avoid this perception of imperfection at least until the next version of their products becomes available. Instead, they simply make visible and accountable the content development processes which have led to the present artefact, enabling the user to review the choices made by the produser community in the process, and inviting them to participate in the continued further development of the artefact. This is an extension of open source philosophy to areas other than software development.

33 **Common Property, Individual Merit**

34 The community-based development of any form of content necessarily requires members of the produsage community to adopt more permissive approaches to legal and moral rights in intellectual property than is the norm in traditional, corporate content production. While content producers by legal default hold copyright in their work, this is not feasible for content produsers, who after all are participating in a collaborative, ongoing, and iterative process of content development which explicitly requires its participants to work on the content already contributed by their predecessors.

35 In other words, a palimpsest cannot be created on the basis of existing, standard copyright law, unless extensive permissions for re-use and redevelopment are granted by each participant. In most produsage environments, such permissions are instead handled on a generic basis through the adoption of open source- or creative commons-based licence schemes which explicitly allow the unlimited use, development, and further alteration of each user's individual contribution to the communal project. Often, contributors in such environments give away the rights to non-commercial use of their intellectual property, yet retain the rights to direct commercial exploitation, and the right to be attributed as the originator of a specific contribution.

36 As we will see, such schemes are not in place in all environments which could otherwise be said to operate under the principles of produsage, however. In some environments, intellectual property rights remain largely ignored, raising a risk of potential legal action in the future; in others, the operators of the produsage environment have instituted blanket licence agreements which explicitly or implicitly require participants to sign away their rights well beyond what is required for produsage itself, thus opening a pathway to the commercial exploitation of intellectual property without remunerating or otherwise acknowledging the produsers who contributed to it. Neither model is likely to be sustainable in the long term, and Second Life operator Linden Lab's decision to break with standard industry practice in allowing its community to retain copyright over its contributions is a first sign that such issues are beginning to be recognised.

37 Where intellectual property rights have been sufficiently addressed, on the other hand, the community model generally operates on the basis of merit rather than remuneration: users' motivation to participate as produsers is found in the community recognition of individual participants (sometimes explicitly calculated in user statistics or 'karma' scores) more than in the generation of income through participation in produsage. However, especially in those produsage projects which are by now well-established, recognised contributors have now also managed to generate income from merit by offering their skills and knowledge, as developed through long-time participation and documented by their merit scores, to commercial clients. Where such commercial activity does not otherwise infringe against community rules and values, it should be seen as benign – and indeed, such indirect income from produsage participation can now also be seen to subsidise the produsage communities themselves.

A Produsage Value Chain

38 In spite of the community-based, open source-inspired principles of produsage, the ability to develop commercial activity around produsage projects is nonetheless likely to be an important

factor in ensuring the long-term viability of such projects. Indeed, the emergence of an open source software industry even in spite of the fact that open source is of course freely available to users and developers clearly shows that produsage and commercial activity are by no means mutually exclusive; at the same time, however, the nature of possible commercial activity will necessarily also depend on the object of the specific produsage project. It is useful, therefore, to examine the produsage 'value chain' once again in some more detail. In the first instance, it is important to distinguish between the value chain as it may be experienced by the individual produser, and a value chain which recognises the produsage environment as a whole. As noted above, for the individual participant, the traditional value chain of producer-distributor-consumer has condensed to a singular point, the produser, interacting with and potentially enhancing existing content (fig. 2). A multitude of these individual produsers, however, combine to drive the overall produsage process, interacting with one another in fluid roles as described in the previous section; for this overall process, a different value chain with a variety of potential inputs into and outputs from the produsage environment can be described (fig. 3). This value 'chain' does not necessarily substitute directly for the traditional production value chain; indeed, in some cases its internal processes may well be sufficient to sustain the produsage community without a need for the existence of prior or subsequent links in the chain at all.

39 In the first place, then, produsage takes place simply and obviously within the produsage environment itself, according to the principles outlined in the preceding section. This describes the inner workings of the Wikipedia as much as it does the open source software development communities from Linux to Firefox, the community discussions, deliberations, and publications of Slashdot, Kuro5hin, and many sections of the blogosphere (Bruns, 2005), or even the collaborative storytelling and virtual reality development of many multi-user online gamespaces.

40 At the same time, however, such produsage environments are also embedded in a wider context of intellectual and commercial (including non-profit) activity: some projects build upon existing intellectual property (such as original content, or the technological framework for their produsage spaces), and from this basis generate intellectual property of their own, adding value to these original inputs. Other projects generate content from scratch, which can itself be directly or indirectly commercialised, and may even give rise to further value-add produsage projects (and between these two points lies a continuum of mixed approaches).

41 *Figure 3. The Produsage Value 'Chain'*

42 **Value-Adding Produsage Projects**

43 Even the Wikipedia is based in part on legacy encyclopaedia content from the late 19th and early 20th century which had already fallen into the public domain; to the extent that its participants have extended and updated such content even Wikipedia could be said to perform a value-adding function. However, better examples of produsage as value-addition can be found in a number of other cases. So, for example, some 90% of content in The Sims has been produced by its users, rather than by game publisher Maxis (Herz, 2005) – this can be seen as a clear instance of produsers adding a significant amount of value to the underlying Sims game platform, which without such produser activity indeed would likely have been far less successful.

44 A further example is provided by NowPublic, which enables its users to highlight news articles from anywhere on the Web which are then listed, with user commentary, keyword tags, and other additions, on its own pages (nowpublic.com, 2007). One of the most distinctive features of the site could be described as 'citizen photojournalism' functionality: here, users extend highlighted articles by adding explanative photo, audio, and video galleries related to the topic of the articles. Indeed, the content for such galleries is in good part also drawn from produsage environments including Flickr and YouTube, and so NowPublic's activity could be seen as adding value to each of the content sources it combines and interweaves on its own pages.

45 What remains questionable in this context, however, is the extent to which such value addition is desired by the original content sources, or is indeed legal. While clearly invited by The Sims producer Maxis, in the case of NowPublic the situation is less obvious, and the site may well operate in a legal grey area at least according to some applicable legislative frameworks – its addition of value to content from produsage environments like Flickr may be acceptable under the content licences applied to their content by Flickr participants, but the same may well not be true where the site deals with articles from the mainstream (online) media.

46

Value Creation and Commercialisation

47 Where produsage projects rely solely on the content created by their own participants, without prior input from commercial or other sources, such considerations clearly do not arise. However, here the question of how the outputs of produsage projects are further utilised, and potentially even commercialised, gains greater importance. As examples from Wikipedia to open source software to the collaborative, folksonomic Web filter del.icio.us show, produsage projects can generate significant and valuable intellectual property in their own right. Such material remains subject to the content licences employed during its development, of course, but this does not necessarily preclude it from being commercially exploited.

48 While some such exploitation is benign, and may even lead to greater exposure for the produsage project, and hence to subsequent growth of the community in numbers and abilities, the extent to which such exploitation is compatible with the underlying characteristics and principles of produsage as outlined in previous sections will ultimately determine its impact on the produsage community and project. Produsers must continue to feel in control of their participation, and in control as participants in the wider community; any perception of undue influence of commercial interests on the produsage project is likely to undermine it.

Exploiting Produsage

49 In an extension and partial reconfiguration of JC Herz's work on The Sims (Herz, 2005), it is possible to identify a number of key models for the commercial (including non-profit) engagement with produsage environments. Each model necessarily exists in a number of variations to account for the specific characteristics of individual produsage communities, but important lessons can nonetheless be learnt from each approach. Any further development and proliferation of produsage approaches across all fields of information and knowledge production will necessarily require commercial organisations to choose amongst these models of engagement – and the future development of produsage ultimately depends to significant extent on choices which are in keeping with the underlying principles of produsage as we have encountered them here.

50 Harnessing the Hive

51 While Herz describes The Sims as a case of 'harnessing the hive' (Herz, 2005), more appropriate examples for this form of utilising of produsage may be found elsewhere. Overall, it describes the non-commercial or commercial use of produsage artefacts by organisations inside and outside the produsage community, while respecting applicable content licences and cooperating with the community.

52 Because of the care for community concerns implied in this description, such harnessing of the produsage 'hive mind' is usually benign in nature; it includes, for example, the increasing utilisation of Linux and other open source software in mission-critical environments. Organisations engaged in such projects often also interface with the produsage community directly, even becoming (or allowing individual employees to become) part of the community themselves.

53 The reciprocal nature of such arrangements therefore tends to benefit both community and company. In some cases, indeed, organisations may even find that due to the strong performance of produsage communities as content producers, their own core business slides further towards the provision of services rather than of products; this has been observed for example by software companies operating increasingly with open source software (here, installation, maintenance, and customisation services often become more lucrative options than the development of proprietary software in competition with open source packages). A related example can be found in the comparison of the Wikimedia Foundation, publisher of Wikipedia, with Encyclopædia Britannica, Inc. – any opening out of the Britannica editorial process to the participation of users as produsers would likely also lead to a gradual shift of that company's core business away from the distribution of contents in various physical and digital formats, and towards the provision of an online space for produsage, much as is already the case with the Wikimedia Foundation.

54 Harvesting the Hive

55 Closely related to the idea of harnessing the hive is the process of harvesting it: here, the content developed by produsers is collected by a commercial organisation in order to distribute it further to non-participants in the produsage environment. Such approaches are found for example where companies such as Red Hat bundle a number of open source projects for distribution on CD- or

DVD-ROM, or where content from the Wikipedia or other collaborative knowledge management sites is gathered for topical information packages in online or offline versions. In this approach, produsage is used to replace the production stage of traditional industrial value chains.

56 Pace Herz, The Sims can also be included in this category, to the extent that Maxis selects the best of user-contributed content for games extension packs or related products. Similarly, the activities of NowPublic which we have described above can clearly be seen as a form of harvesting the hive (even though this harvesting process is itself again reliant on produser labour). The process of harvesting almost always constitutes an activity which adds value to the artefacts of produsage, often through the very process of harvesting and ordering them for further distribution outside the original produsage environment.

57 However, a consideration of applicable content licences and any other conditions for content re-use established by the originating produsage community becomes crucial here, as well as – beyond such explicit conditions – of their moral rights and of the ethics of content re-use. So, for example, many common content licences in produsage environments preclude commercial utilisation without express permission from the copyright holders; while an argument can be made that, if sold at low cost, 'best of' compilations of produsage content raise revenue not from the content itself, but only from the service of packaging content in a convenient format, questions over the acceptability of such justifications remain especially if the resulting product is distributed in large numbers.

58 Any sense that their moral and legal rights are systematically infringed, however, is likely to lead participants in produsage projects to be less enthusiastic about their participation, and may well undermine the projects overall – harvesters should therefore take great care to work with the community as much as they are working with the community's content.

59 **Harbouring the Hive**

60 While entirely decentralised or itinerant produsage communities do exist (the blogosphere itself can be seen as engaged in produsage, for example; open source software projects may utilise multiple community sites to organise their work), many if not most produsage projects depend on the existence of a central space for community coordination and engagement, and for the development and display of its artefacts. Depending in part on what form of content is the object of the produsage process, and in part on the technology used for the produsage environment, such spaces frequently cannot be interchanged without causing massive disruption to produsage community and project itself; this bestows a significant deal of responsibility and power on the operators of the environment, or in other words, on the entities harbouring the hive.

61 So, although the wiki system and even the current content of the Wikipedia are readily available to any Web user, for example, enabling them to set up a mirror Wikipedia site virtually within minutes, to do so would do nothing to duplicate the community of Wikipedia produsers as well – and without that community, any mirror site would remain only a rapidly outdated snapshot of the encyclopaedia at a random moment in time. By contrast, while it is conceivable – perhaps even likely – that competitors to Flickr and YouTube will offer extended features and additional tools, the amount of content stored on such sites by many users will serve as a strong deterrent against moving to a rival site: to move hundreds of images and gigabytes of videos between such sites would consume a significant amount of time and effort. Other produsage projects have a lighter content footprint, and more mobile communities, but even here, the disruption caused by a change in location may be considerable.

62 **Hijacking the Hive**

63 Harbouring the hive is therefore a critical activity, and produsers (and produser communities) would be well-advised to check closely the credentials and track record of any potential harbouring service. Where such harbouring services abuse the trust placed in them, we may describe them as hijacking the hive: exploiting the lock-in of content and/or community to extract a continuing rent of one form or another.

64 Such tendencies were seen by some for example in recent controversies surrounding the YouTube end-user licence agreement (EULA), which appeared to grant YouTube the rights to commercially exploit the content uploaded by its users, without a need for remuneration (Jardin, 2006); they exist in an even more pronounced fashion in the realm of multi-user online gaming. While many or

most recent games have moved away from the provision of strong quest-based narratives and instead allow user communities to produse their own narrative content, users generally do not gain any benefits from this shift – instead, while their labour has thus become even more central to the success of the game, they continue to have to pay a monthly subscription fee for the privilege to contribute such unpaid labour. Further, the EULAs of some games also prevent users to on-sell the 'tangible' (in the realm of the game) outcomes of their labour through third-party services like eBay (Sandoval, 2000).

65 The logic of this approach is obvious, then: produsers are drawn into the produsage hive by the quality of content and community, and develop strong relationships with both, investing significant amounts of labour in their maintenance; this investment is hijacked by the provider of the hive space by locking it into that specific space, enabling the provider to extract continuing access fees from the produser community. Though perhaps legally acceptable, the morality of this model must be questioned in strong terms.

Pathways to Produsage

66 In the face of such potential disruption from deliberate exploitation or misunderstood attention, then, it becomes particularly important to examine some of the key issues for produsage, and to outline what are the most important conventions to be observed by produsers, produsage communities, and those who engage with them (possibly for commercial or other gain) from the outside.

67 To begin with, it is particularly important for organisations working with produsage communities to understand and respect the characteristics, principles, and conventions which apply to produsage processes, as they have been outlined here. While some of the fundamental aspects of produsage make short-term exploitation of produsage processes possible and perhaps even attractive and lucrative, it is important to understand that to engage in such actions must eventually have negative consequences in the long term – both for produsage communities and content, which are discouraged and undermined by such interference, and for the offending parties themselves, whose actions are likely to become well known throughout produsage communities (quick damage control by the likes of Microsoft, Sony, and YouTube in response to various controversies with their produsage communities is instructive here).

68 But produsage communities themselves must also strive to better understand the processes by which they operate, and by which they generate content. While open source has begun to theorise its software development processes, Wikipedia has developed detailed guidelines on content creation and editing, and a number of others have instituted strong intellectual property management mechanisms, such normative projects have yet to be generalised across the wider realm of produsage environments; especially in more recent produsage projects, the very act of participation in collaborative content creation remains critically under-theorised.

69 This, then, is also a crucial task for individual produsers themselves, who must develop a better understanding of what, how, and why they contribute as individuals to produsage projects, as well as of how and why such projects operate on a larger scale. The growth of Web2.0 as a general model will certainly help generate a broader technical understanding of how Web-based produsage environments work, and those produsers who are already members of Generation C are likely to have a working understanding of the motivations for Web2.0 and produsage environments in opposition or as an alternative to Web1.0 and traditional industrial content production. However, if communal produsage is indeed seen as a worthy alternative to industrial production, the aim must be to encourage more participants to become deliberate – not just accidental – members of Generation C. (The very question of whether produsage should be encouraged, and whether participation in produsage environments creates tangible beneficial outcomes both for the community at large and for individual participants, also remains open for debate, of course: however, convincing arguments from both social – Lessig (2002), Jenkins (2006) – and economic perspectives – Benkler (2006), von Hippel (2005) – which indicate the benefits of engagement in produsage are now readily available.)

Educating Produsers

70 Much as they have played a crucial role in preparing citizens for their participation in the post-industrial economy by developing their technology and information literacy skills, then,

educational institutions must now also take up the challenge of developing produsage skills. This requires a focus on what can be described as the C4C (Bruns et al, 2005): the capacities of graduates to be

- creative – gaining the ability to act as collaborative co-creators in flexible roles, participating as one amongst a number of creative produsers rather than as a self-sufficient creative producer;
- collaborative – being able to collaborate effectively and understand the implications and consequences of collaboration;
- critical – maintaining a critical stance both towards potential collaborators and their work as well as towards one's own creative and collaborative abilities and existing work portfolio;
- communicative – engaging in effective and successful communication between produsage participants, and of ideas generated in the exercise of one's capacities as a produser.

71 To develop such capacities in their graduates, educators and educational institutions must necessarily themselves embrace produsage, for example by simulating real-life produsage environments or by participating in existing produsage projects. (In this context it is worth noting that produsage-style educational projects need not run into the same problems with rewarding contributions and avoiding freeloading as have past forms of student group work: some of the key tools of produsage in online environments, such as the wiki, also provide detailed information on the contributions made by each student, enabling a very direct assessment of individual work even within a collaborative context; see (Bruns and Humphreys, 2005) for a practical example. This, of course, is simply a reflection of the 'common property, individual merit' principle outlined above: that principle necessarily requires produsage environments to provide the means of assessing the merit of individual contributions and contributors, and wiki spaces, for example, do so by providing page edit histories which make visible the individual contribution of each produser.)

72 Beyond this, and as a further extension of this approach, it may also be necessary to investigate the potential for a reconfiguration of education itself along more strongly produsage-based lines – in essence, transforming the overall system from teacher-led and teacher-generated to user-led and user-generated education (see Bruns (2007) for a more extended discussion of this question).

73 On a smaller scale, produser education must also address a number of other, more specific aspects of produsage processes. Chief amongst these is the need to provide graduates with a strong and nuanced understanding of intellectual property regimes: graduates must be able to both track and where necessary defend their own intellectual property, and respect the intellectual property of others, as these become part of larger produsage projects. They must also be able to identify and understand the overall intellectual property schemes (if any) which are applied to the content collaboratively developed by produsage communities, and be able to make an informed choice on what content licencing schemes to choose for their own work.

Intellectual Property

74 The question of intellectual property also raises more fundamental problems, however. Modelled on physical property, intellectual property legislation has long struggled to encompass digital content which does not obey the laws of traditional physics (its use is non-exclusive, and it is not depleted through consumption, for example); many copyright amendments, and indeed the alternative licencing schemes of open source and creative commons (amongst others) have been developed to address such problems.

75 However, for the most part, copyright law also continues to assume the existence of a single originator of the work; where copyright content is the result of a collaborative effort, common solutions are the assignation of all contributors' rights to a single representative entity (such as corporate holdings or royalty collection agencies), or the institution of licence contract schemes which grow in complexity proportional to the number of contributors. Copyright in a Western legal framework has no means to deal with truly communal content ownership (in Australia, this has been demonstrated repeatedly also by cases dealing with the communal ownership of ancestral designs by indigenous groups, for example).

76 Key to this problem is an equation of intellectual property with intellectual products in copyright law. The idea of content as a product no longer applies in the context of produsage, however, as we have seen here – it may therefore be necessary to develop a fundamentally different form of intellectual property legislation able to cope with collaboratively produsedd, always unfinished,

evolving and palimpsestic content. Such legislation would need to be able to account for and balance the rights of individual contributors and those of the overall community, assigning for example the right to attribution to individuals while empowering the community in toto to prevent or legally respond to the unauthorised exploitation of its work.

Produsing Democracy

77 The balancing of individual and community rights in such a revised model of intellectual property legislation has overtones of the balancing of individual and societal interests in democratic systems of governance, too. Indeed, this points to the potential which produsage may have to revitalise democratic processes overall.

78 The decline of popular participation in Western democracies has been long lamented. As we have seen here, on the other hand, public participation in other collaborative projects is growing, and it is possible that this newfound enthusiasm for making an active contribution to the common good can also translate to a reinvigoration of political processes. However, this is likely to lead to substantial changes to those processes as well.

79 A first glimpse of such changes may have been seen in the campaign of Democrat candidate Howard Dean in the 2004 U.S. primaries: Dean managed to generate a significant public following through his blog campaign, with supporters produsing the campaign as much as media advisors producing it. (Dean's subsequent demise also demonstrates the strong hold which industrial production-style political models still exercise over U.S. politics, however.) Other social movements, from the world-wide opposition to the war in Iraq to the 'Make Poverty History' campaign, are now similarly harnessing and harvesting the produsage hive, and some suggest that we are on the brink of the emergence of a new 'collective intelligence' enabling the introduction of more direct-democratic models [27]. As Pierre Lévy describes it, this could constitute a shift

80 > from democracy (from the Greek démos, people, and cratein, to command) to a state of demodynamics (Greek dunamis, force, strength). Demodynamics is based on molecular politics. It comes into being from the cycle of listening, expression, evaluation, organization, lateral connection, and emerging vision. … Demodynamics [implies] a strong people, one perpetually engaged in the process of self-knowing and self-creation, a people in labor, a people yet to come. (Lévy, 1997: 88)

81 This is thus a people, as we might say, continually re-produsing themselves and their democratic environment. Even in the absence of truly fundamental changes in the immediate future, however, it is very much possible to suggest that like other areas dealing with content and ideas, politics too is shifting from an industrial production to an informational produsage model. In the age of mass media power, the political system was organised along industrial production lines: politicians, media advisors, and journalists produced the content of politics, which was distributed to the masses by way of the media. In spite of standard rhetoric, audiences as consumers of political content had little role other than to consume – much as in other forms of industrial production, the feedback loop back to the producers of politics was relatively poorly formed.

82 This has changed with the rise of networked, peer-to-peer media, however, which have enabled the consumers of politics to respond to the producers at an unprecedented degree. As this trend continues and the balance between mass and networked media shifts further in favour of citizens, it is increasingly likely that the traditional model of politics is no longer sustainable. Instead, citizens now have a chance to claim a greater share of participation – they have a renewed chance to become active participants in the produsage of democracy.

Author's Biography

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Peter Lang in February 2008. More information about the book and other work can be found on Bruns's Website at https://snurb.info/

Note

[1] These characteristics represent a further extension and clarification of the key characteristics first outlined in Bruns (2006).

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