Produsage, Generation C, and Their Effects on the Democratic Process

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Perhaps it was after all no more than a stunt – an attempt by a corporate media organisation to reconnect with a section of "the people formerly known as the audience" (Rosen, 2006, n.pag.) which had been increasingly alienated from the mainstream media. Nonetheless, *TIME*'s acknowledgement of the collective "you" in *YouTube* and other collaborative online user-led content production environments as person of the year (Grossman, 2007) provides yet another indicator of the growing importance which observers place on such content production and distribution projects. Creative content sites such as *Flickr* and *YouTube*, collaborative knowledge bases from *Wikipedia* to *del.icio.us* to *Google Earth*, the user-led deliberative environments of *Slashdot*, *OhmyNews*, and the decentralised discussions of the wider blogosphere, as well as the software development communities of the open source movement, all serve as examples of this now well-established trend towards the development of new production, business, governance, and community models which is significantly aided by the simultaneous deployment of increasingly sophisticated social software and Web2.0 tools.

Indeed, it is gradually becoming clearer that there *does* exist a more general trend behind these individual examples, even in spite of the vastly different domains and disciplines within which they operate, and of the significant degree of variation in their institutional affiliations, processes of operation, and ideological allegiances. Early attempts to describe the underlying framework within which these examples operate include Lawrence Lessig's work on the intellectual property approaches which underlie such collaborative work (2002), Yochai Benkler's study of the economics of such "commons-based peer production" (2006), and Eric von Hippel's examination of the trend of such productive user communities to "democratize innovation" (2005), as well as Henry Jenkins's work in describing the overall "convergence culture" which provides a backdrop to these user-led spaces (2006). Further, we might also note some similarities between these newly empowered productive users and Alvin Toffler's expert consumers or "prosumers" (1971), or Charles Leadbeater and Paul Miller's description of some such user-led production efforts as "pro-am" enterprises (2004).

However, it is also necessary to question some of the language which is still customarily used to describe such "peer-production" efforts. Terms such as 'production' and 'product' may themselves be too inherently associated with industrial production processes to be fully applicable and useful in the description of user-led content creation efforts. To what extent, for example, is a *Wikipedia* user correcting some spelling errors on one of its pages consciously engaged in the 'production' of *Wikipedia*? How aware are users of Amazon, or

indeed content providers on the overall Web, that their actions contribute to incremental quality improvements in Amazon's recommendations service or Google search results? Similarly, what is the 'product' of a distributed discussion in the blogosphere or a debate thread on *Slashdot*? What is 'produced' when users collaboratively annotate satellite images through *Google Earth*?

It can be argued that 'production' describes a very specific process of creating, in the first instance, a tangible, physical 'product' a process by which raw materials are transformed into a final outcome which is then delivered to customers through specific distribution services. This production → distribution → consumption value chain describes very effectively (if necessarily simplistically) the standard practices within an industrial economy, and even translates reasonably well to the "industrial information economy" (Benkler, 2006) of the mass media age, which is characterised by an industrial-style media structure comprised of powerful media production and distribution entities and relatively disempowered consumers. This industrial mass media structure relies on the predominance of one-to-many, broadcast media forms (whether in print or in electronic media) which support the linear and mainly uni-directional orientation of the standard production value chain.

The move from broadcast to network – or, as Benkler describes it, from the "industrial information economy" to the "networked information economy" –, however, and the increased availability of access to the network for a broader range of participants (including 'average consumers'), offer a significant challenge to this production value chain; where previously, consumers were forced to resort to auxiliary media forms in order to attempt to reverse the flow of information from audience to consumer, networked media level the playing field by offering an opportunity for audiences to become content creators in their own right, and by eroding the ability of the distribution stage to act as an impassable bottleneck for user-created content.

In itself, this does not yet undermine the industrial production value chain, of course; it merely presents the possibility of having producer/consumer relationships reversed and duplicated to the point where multiple such relationships describe the interconnection between any two nodes in the network. Two bloggers reading each other's posts, for example, could be described in turn both as producer of content and as consumer of their counterpart's work. However, when such networked content creation becomes implicitly or explicitly collaborative, it begins to further differentiate itself from traditional modes of production: when it becomes, in Benkler's terms, "commons-based peer production", the description of such collaborative processes as *production* begins to stretch the traditional definition of "production" to breaking point.

A Working Definition of Produsage

We will soon describe the collaborative and iterative content creation practices within many user-led environments as a hybrid and often inextricable combination of production and use

which can usefully be termed *produsage* (also see Bruns, 2006; 2007b, c). To begin with, however, it is necessary to outline some of the core characteristics of the collaborative work which takes place in such communal spaces. *Mutatis mutandis*, these characteristics apply to open source software development as much as to *Flickr* photography communities, and to *Wikipedia* as much as to citizen journalism; however, this is not to claim that a number of such spaces can *only* be used by adopting a produsage framework: it is perfectly possible to remain simply a user of *Wikipedia* or a content producer within *Flickr* (even if this means not to utilise many of the available features within either space).

The four core characteristics of produsage, then, are these:

- Community-Based – produsage proceeds from the assumption that the community as a whole, if sufficiently large and varied, can contribute more than a closed team of producers, however qualified they may be.
- Fluid Roles – produsers participate as is appropriate to their personal skills, interests, and knowledges, and may form loose sub-groups to focus on specific issues, topics, or problems; this changes as the produsage project proceeds.
- Unfinished Artefacts – content artefacts in produsage projects are continually under development, and therefore always unfinished; their development follows evolutionary, iterative, palimpsestic paths.
- Common Property, Individual Merit – contributors permit (non-commercial) community use, adaptation, and further development of their intellectual property, and are rewarded by the status capital they gain through this process.

In combination, these four principles also further serve to erode the production value chain. The basis of produsage in communities, and the fluid participation which it offers to individual community members, means that participants are able to switch frequently and repeatedly between acting as producer and as user of the content developed by the community; indeed, this approach to participation is necessary in order to further the produsage process as new contributions by participants acting as producers are tested by other community members acting as users, and may in turn necessitate these members' returning to active producer duty in order to make further changes or report their experiences to the wider community. Whether participating in open source communities, in *Wikipedia* interest groups, or in blog networks, then, community members are never simply *either* producers *or* users, but always potentially or actually both – they are *produsers*. (This is also, and especially, true in environments such as *Amazon* and *Google*, where most users are likely to be unaware than through the very process of using such sites they are indeed feeding directly into the algorithms which produce the content that is displayed to themselves as well as to any other visitor of these sites.)

Produsage, then, can be roughly defined as a mode of collaborative content creation which is led by users or at least crucially involves users as producers – where, in other words,

the user acts as a hybrid user/producer, or produser, virtually throughout the production process. Produsage demonstrates the changed content production value chain model in collaborative online environments: in these environments, a strict producer/consumer dichotomy no longer applies - instead, users are almost always also able to be producers of content, and often necessarily so in the very act of using it. More to the point, to speak of a linear value *chain* in the traditional sense is now no longer appropriate: instead, produsage takes place in environments within which the community acts as a foundation for the distributed, networked accumulation of value through incremental, iterative, and evolutionary processes. While traditionally "produced" content might be appropriated and incorporated into such produsage projects, and while the artefacts created by the produsage process can be used (or "consumed") in a relatively passive sense by users outside of the produser community, the rise of produsage-based content creation models to greater success both gradually reduces the need to rely on produced work as a starting-point or catalyst for produsage, and increases the likelihood that "end users" will feel encouraged to become active produsers, thereby drawing further resources and contributors directly into the produsage environment. (Such tendencies are visible for example in the ability of open source projects to develop industrial-strength software from scratch, and in the continuing growth in the number of active contributors to *Wikipedia*.) A produsage-based alternative to the linear production → distribution → consumption value chain of industrial production, then, is shown in figure 1 (also see Bruns, 2007c).
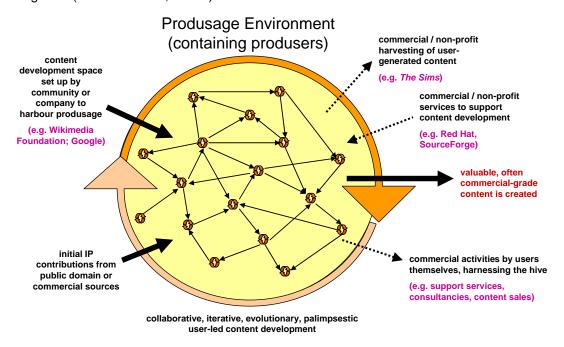
Produsage Environment (containing produsers)

content development space set up by community or company to harbour produsage

(e.g. Wikimedia Foundation; Google)

initial IP contributions from public domain or commercial sources

collaborative, iterative, evolutionary, palimpsestic user-led content development

commercial / non-profit harvesting of user-generated content

(e.g. *The Sims*)

commercial / non-profit services to support content development

(e.g. Red Hat, SourceForge)

valuable, often commercial-grade content is created

commercial activities by users themselves, harnessing the hive

(e.g. support services, consultancies, content sales)

Fig. 1: The Produsage "Value Chain"

Further, it does remain possible at any point to extract the currently available artefacts of the produsage process and to use or "consume" them much in the same way as traditional products (even if the term "consumption" is necessarily inaccurate for the use of informational resources, of course, which are never actually consumed – that is, exhausted –

in the process). However, to do so is possible only if the user ignores for the moment the fact that the artefacts of produsage are not "products" in a traditional sense: because of the iterative, evolutionary, and palimpsestic processes which underlie produsage, what is available from a produsage project at any one time only ever represents a temporary stage of development which is liable to be replaced by an updated revision at any time. To use such artefacts effectively, it is necessary also to have an awareness of the development process from which they have emerged, in order to be able to evaluate whether the current artefact represents what in open source terms could be described as a "stable build", or whether it contains rogue changes likely to be removed again in further revisions.

Industrial products, on the other hand, exist in fixed, apparently complete versions which are packaged and distributed often quite literally with the producer's seal of approval, indicating that the product is internally consistent and represents the current state of the art, only to be surpassed by editions yet to be developed in the future; this is true even where – as in the case of informational products – a model of distribution based on rapid and continuous updates is technically possible and could provide more up-to-date products to end-users. (Indeed, hybrid solutions which ship software such as Microsoft Windows in distinct versions every few years, but provide service packs and bug-fix updates more frequently, can be seen as attempts to overcome the limitations of the product versioning cycle, but – because for commercial reasons they embrace neither model completely – tend to frustrate rather than satisfy users.)

In contrast to the products of the industrial process, then, the outcomes of produsage are only temporary artefacts – and thus, for example, in contrast to its venerable rival *Encyclopaedia Britannica*,

> Wikipedia is not a product, it is a system. The collection of mass intelligence ... unfolds over time, necessarily. Like democracy, it is messier than planned systems at any given point in time, but it is not just self-healing, it is self-improving. Any given version of Britannica gets worse over time, as it gets stale. The Wikipedia, by contrast, whose version is always the Wiki Now, gets better over time as it gets refreshed. This improvement is not monotonic, but it is steady. (Shirky, 2005, n.pag.)

Wikipedia is indeed both system and process, therefore – and this shift from a focus on the (apparently) finished product to engagement with an ongoing, never-complete process comes easy neither for participants in the process itself nor for those who choose to remain "users" of its artefacts only; it requires a very different understanding of how to approach process and artefacts, how to evaluate their quality, authority, and veracity, and how to understand the conditions under which they occur. For better or for worse, users of the artefacts produced by *Wikipedia*, open source software development, citizen journalism, *Google* and *Amazon* search algorithms, and many other produsage processes must relate to these artefacts differently in order to be able to use them effectively – and where this different approach,

which understands at least in broad principle the strengths and weaknesses of the produsage model, is not employed, they are likely to experience frustration: with temporarily defaced *Wikipedia* pages, with suboptimal *Google* search results, with non-systematic *del.icio.us* folksonomies.

Towards Generation C?

Those participants who are able to use the systems and processes of produsage effectively and efficiently, and especially those who are active contributors to these collaborative projects, are now beginning to be described in popular as well as scholarly work as a new generation of users – they are *TIME*'s "you", and what marketing watchdog site *Trendwatching.com* has described as "Generation C" (2005; 2007). While such descriptions are necessarily no more accurate than earlier generational constructs such as Generations X and Y, and at any rate do not strictly describe a generation of users born between specific dates, they are nonetheless a useful shorthand to define a new population of expert produsers who are at the core of the user-led, produsage phenomenon.

For *Trendwatching.com*, the C in 'Generation C' stands for "the broad theme – content creation – and four other 'C's: Creativity, Casual Collapse, Control, and Celebrity" (2005, n.pag.). Content creation and creativity are perhaps obvious in the present context, and celebrity is also easily explained by noting that some produsers who are seen to be particularly active or expert contributors – such as Linux originator Linus Torvalds, for example, or *Flickr*'s Stewart Butterfield and Caterina Fake – can also emerge from their communities as minor or major celebrities (indeed, in 2007 *Trendwatching.com* released an update on "Generation C" which highlights the ability of key contributors to directly profit from their work and join "Generation C(ash)"). What is less obvious is where control and casual collapse enter the picture – but these aspects of Generation C are particularly important for the present discussion.

For *Trendwatching.com*, control refers to participants' increasing ability to remain in control of the content they contribute, at least on a collective basis. While individual contributors do of course allow their work to enter the shared commons of content which provides a necessary precondition for produsage to be able to operate, this voluntary rejection of certain of the privileges of ownership which are granted by standard copyright (such as the right to prevent others from using and modifying one's work without explicit permission) at the same time serves to strengthen those privileges which are explicitly retained, and which are defined on a communal basis – in most produsage environments, this includes for example a limitation on commercial use of the artefacts of produsage, a requirement that all contributing produsers continue to be acknowledged, and a requirement that any further updates remain available under similar terms of access and use. The licences which enshrine such arrangements (for example, the GNU public licence, the open source licence, or creative commons licences) have already been tested in a number of legal cases,

and for the most part appear to be able to do the work of protecting these principles; this documents the fact that produsage communities now *are* in control of the work they do. Indeed, the licencing arrangements used here are self-perpetuating – once under a produsage licencing scheme, it is very difficult to remove content from it once again; this ensures that as long as there is an active community of produsers contributing to a given project, the project is able to continue.

By using legal licences to protect this self-perpetuating process, then, produsage can also be seen as contributing to the casual collapse of older, production- and product-based models, at least in certain informational industries. For *Trendwatching.com*, "casual collapse" refers to "the ongoing demise of many beliefs, rituals, formal requirements and laws modern societies have held dear, which continue to 'collapse' without causing the apocalyptic aftermath often predicted by conservative minds" (2005, n.pag.), and in a number of industries which are beginning to encounter active produsage communities on their own turf, the beginnings of this collapse are now plainly visible. This is the case for software production as well as the world of encyclopaedias, where some of the attacks against produsage-based models have turned increasingly shrill – from Microsoft's Bill Gates describing open source developers as "communists" (in Kanellos, 2005, p. 4) to *Britannica*'s Robert McHenry comparing *Wikipedia* to a public toilet on the basis of the unlikely argument that (in spite of the fact that extensive edit histories are clearly available for every page) he felt it was impossible to find out "who has used the facilities before" (2004, n.pag.).

Beyond such polemic (described in the open source community as "fear, uncertainty, and doubt (FUD) campaigns"), however, a number of industry players in these and other fields are now beginning to examine new business models based on produsage itself, or combining the strengths of both produsage- and production-based models. Such approaches can be seen for example in IBM's embrace of open source software development, *BBC News Online*'s attempts to interface with bloggers and citizen journalists, or the Al Gore-supported *Current.tv* venture which provides a space for produsers to contribute their videos and harvests the best of these (as rated by other participants) for broadcast on U.S. and UK cable television channels. Indeed, television is likely to experience particularly interesting changes over the coming years, as (illegally or not) users are increasingly taking it amongst themselves to develop alternative channels of content distribution to the standard broadcast and cable models; Australian-based futurist Mark Pesce, in fact, has identified the widespread Bittorrenting of the new *Battlestar Galactica* television series as "the day TV died" (2005, n.pag.). Embracing such distribution models might make good commercial sense for the producers of television content, as ultimately they would be able to bypass the expensive business of maintaining terrestrial and cable broadcast systems altogether – and developments such as the BBC's recent deal with *YouTube* and ABC America's experiments in providing new episodes of *Desperate Housewives* and other popular shows via *iTunes* could well contribute to the casual collapse of the traditional broadcasting industry. (Such

developments cannot themselves be described as produsage, of course, but they do document the impact of Generation C.)

Produsage Politics

Overall, such developments have been seen by some commentators as foreshadowing the potential of wider social and societal change. For Benkler, the newly emerging practices of commons-based peer production or produsage

> hint at the emergence of a new information environment, one in which individuals are free to take a more active role than was possible in the industrial information economy of the twentieth century. This new freedom holds great practical promise: as a dimension of individual freedom; as a platform for better democratic participation; as a medium to foster a more critical and self-reflective culture; and, in an increasingly information-dependent global economy, as a mechanism to achieve improvements in human development everywhere. (2006, p. 2)

While it is important to remain sceptical of the transformative potential of produsage if it is presented as an inevitable outcome of current trends (history shows a number of similarly promising developments which faltered due to political or commercial intervention, or because they exhausted their participants' enthusiasm), it is nonetheless important to investigate the potential shape of a more strongly produsage-based society; for those so inclined, this investigation may also provide a blueprint of changes which can be pursued through political activism and the development of produsage spaces and projects which are constructive of such changed social and societal relations.

As Rosenzweig notes, "those who create Wikipedia's articles and debate their contents are involved in an astonishingly intense and widespread process of democratic self-education" (2006, n.pag.), and similar observations have been made also for other fields of produsage – Douglas Rushkoff, for example, has highlighted the potential for participation on open source projects to affect users' perception of their ability to effect change in their world around them, leading to a new period of societal renaissance and heralding the emergence of what he calls "open source democracy". He believes that "we are heading not towards a toppling of the democratic, parliamentary or legislative processes, but towards their reinvention in a new, participatory context. In a sense, the people are becoming a new breed of wonk [*sic*], capable of engaging with government and power structures in an entirely new fashion" (2003, pp. 63-4).

What, then, does happen if the principles of produsage are applied to the political and democratic process at least in theory? Perhaps it is useful to start by describing the current *status quo*: indeed, mass-mediated politics as it exists in most developed nations bears some strong similarities to the observations made about traditional content industries above. In spite

of the lip-service paid to the principle of democratic consultation of the people in the political process, politics is today based largely on an industrial value-chain model which features clear distinctions between the producers of politics (politicians, commentators, and media advisors); the distributors of politics (journalists, editors, and media organisations); and the consumers of politics (the wider populace). Much as in other industries, too, producers and distributors undertake regular market research of "end user" preferences through polling and focus groups, as well as through elections, and subsequently revise their product accordingly; much as in other industries, such products are mainly targetted either at the largest available market share, or at servicing small but loyal or lucrative minority groups.

Indeed, the global trend towards person- rather than issues-based political campaigning, and the increasing reliance on spin doctoring rather than clear statements of policy differences between political opponents, could be regarded as the logical outcome of a large-scale industrialisation of politics – fierce competition between opponents in a sophisticated industry tends to erode and ultimately eliminate most of the obvious differences between the major competing brands, and therefore necessarily shifts marketing strategy towards advertising based not on such objective differences but based on the appeal of celebrities associated with the product. In politics, party leaders have become such celebrities, and much as a choice between two brands of cola is often simply a choice between the celebrity cachet attached to them, so has the choice between two mainstream parties in many countries become one between the public personas of their leaders more than between clearly distinct policy proposals. At the same time, in commercial industries as well as in politics, minor competitors are driven by their inability to engage with market leaders on equal footing to an embrace of smaller, more clearly identifiable interest communities; in politics this is a driver for the development of issue politics.

Late-industrial politics can be criticised in ways similar to late-industrial production; its main proponents necessarily must embrace middle-of-the-road, lowest-common-denominator political positions in order to attract the largest number of voters. (This tendency may be particularly pronounced in first-past-the-post voting systems like those of the U.S. and the UK, which inherently favour a two-party structure, and less so in proportional representation systems such as those of Germany and a number of Scandinavian countries.) Political deliberation takes place in such environments not in the open engagement between different political points of view as espoused by major parties, but behind the closed doors of the party room, and is driven perhaps just as much by the aim to maintain a majority as it is by questions of what policy is best for the long-term future of the electorate. Much as the shortcomings of mass industrial production have led over past decades first to a strong counter-trend towards customisation and individualisation, and (at least in the informational industries) to the emergence of produsage-based models as an alternative to industrial production altogether, though, it is now possible to outline a potential shift away from industrialised, mass-produced politics and towards a produsage model of political information and deliberation. Similar again to other industries, here, too, this would effect a change from

politics-as-product (to be "purchased" at elections) to politics-as-process (to be participated in throughout the legislative period).

If the core characteristics of produsage are translated to the political process, then, this would lead us to the following principles:

- Community-Based – political produsage proceeds from the assumption that the community of informed citizens as a whole, if sufficiently large and varied, can contribute more than a closed team of politicians and policymakers, however qualified they may be.
- Fluid Roles – citizens participate in political deliberations and policymaking processes as is appropriate to their personal skills, interests, and knowledges, and may form loose sub-groups to focus on specific issues, topics, or problems; this changes as the produsage project proceeds.
- Unfinished Artefacts – political positions and policies as artefacts of the political produsage project are continually under development, and therefore always unfinished; their development follows evolutionary, iterative, palimpsestic paths.
- Common Property, Individual Merit – contributors permit community use, adaptation, and further development of their political and policy ideas, and are rewarded by the status capital they gain through this process.

Perhaps these principles appear relatively modest at first glance, and perhaps they appear not to extend much beyond the bounds of citizen consultation in the political process as it has been practiced more or less effectively (and honestly) for some time already. However, at closer inspection they signal a major departure from the late-industrial model of politics.

In the first place, the shift to a community-based model of political produsage would mean that policy no longer emerges from the think-tanks and party rooms associated with political parties, but may originate just as well from citizen communities themselves. Further, the fluidity of roles in this process indicates that in order to see policy adopted by governments it would be no longer necessary for such citizen communities to align themselves with political parties, or seek election to office in their own right; instead, they would work with and alongside governments in order to gain broad acceptance of their policy suggestions. In effect, this changes both the procedures for policy generation and the ownership of political and policy ideas: where in the present late-industrial system, political positions are generated and "owned" by specific parties, and adoption of the opposition's policy suggestions is frequently highlighted as a sign of weakness, a produsage-based system of politics would be more permeable to new ideas once they have been sufficiently vetted, debated, and deliberated on by the community of informed citizens. Put another way, where presently, political parties have a tendency to pass off new policy ideas as their own once they have incorporated them into their political agendas, in an open system based on

produsage political capital is generated not mainly from being the originator of new ideas, but from the ability to identify and implement them.

This is analogous to the shift of parts of the software industry from closed to open source production models: for companies which have embraced open source, the business model is based not on developing new technologies exclusively in-house for later commercialisation as products (whose inner workings are highly guarded trade secrets), but on allowing staff programmers to freely contribute to collaborative open source projects, thereby both building a better understanding of what users want and need, relying on a much larger community of developers, software testers, and users than is available in-house, and identifying further potential for offering commercial products and services around the free resources created in the produsage process. Produsage politics would similarly shift from the in-house production of policy, which suffers from a limited understanding of citizens' lived experience, hopes, and expectations of government, to an open and collaborative engagement with informed citizens in developing policy, and from a "business model" based on outdoing the opposition through surprise policy announcements and government spending in swing electorates to one where approval is gained and maintained by providing the best "products and service" around the collaboratively produced policy initiatives – that is, approval is gained from demonstrating faithful and efficient implementation and management of produced policy initiatives (thus translating the "common property, individual merit" principle to the political realm).

Finally, produsage politics like all artefacts of produsage projects must also be seen as inherently unfinished and ready for further improvement; this means that a politics based on produsage is, while not opposed to participants with strongly-held ideological positions, then certainly inaccessible to those who are unwilling to engage in open and meaningful political deliberation which may ultimately change their minds. Produsage-based politics would open the pathway to a political structure where there are constant small, incremental changes to policies and political positions rather than lengthy periods of limited change punctuated by (apparent) political paradigm shifts when government and opposition exchange place. This constantly adjusting model of politics may also be what Pierre Lévy has in mind when he writes that "we can't reinvent the instruments of communication and collective thought without reinventing democracy, a distributed, active, molecular democracy. Faced with the choice of turning back or moving forward, … humanity has a chance to reclaim its future ... by systematically producing the tools that will enable it to shape itself into intelligent communities, capable of negotiating the stormy seas of change" (1997, pp. xxiv-v).

Such politics, and such democracy, is molecular, then, because it no longer relies on the large and (without lengthy periods of socialisation and apprenticeship) relatively closed bodies of political parties to contain the majority of the political and policy-making process, in much the same way that software and encyclopaedia users now no longer need to rely on the large and closed enterprises of Microsoft and *Britannica* and their various commercial competitors to produce the products they require. Instead, the molecular approach

decentralises and distributes the process of development into a wider, broader, and deeper network of contributors to the overall project (respectively, groups of informed citizens, open source software development communities, and the interest groups attached to any page or collection of pages in the *Wikipedia*), and from out of this network emerge the evolving and gradually improving artefacts of the process which can be used in place of traditional industrial products.

Moving towards Molecular Democracy?

The application of produsage principles to the political process remains a largely utopian project at present, particularly in the face of recent throwbacks to highly autocratic leadership regimes especially in countries such as Australia, the United Kingdom, and the United States. Nonetheless, and to some extent perhaps prompted especially by such setbacks for deliberative democracy, it is possible to identify some tendencies towards a more "molecular" style of political engagement. Such tendencies remain limited at present still to particular geographic regions, political topics, or communities in the public sphere, but they may point to the slow emergence of a wider trend in which political audiences who are now used to acting as produsers in other domains of their lives are beginning to ask the question of why such active and productive engagement should not also be possible in the field of politics.

One such development exists in the field of journalism, which itself is closely related to politics, of course. Here, the emergence of political and news bloggers and citizen journalism Websites (such as *Daily Kos* or *OhmyNews*) already provides key spaces for the community-based, distributed debate and deliberation on the political dimension of news reports; in doing so, they have significantly weakened the mass media's existing dominance on the mediated discussion of political issues in the public sphere, and in effect "molecularised" political deliberation to the point where there are a number of overlapping realms for political debate. Such realms include the remaining mainstream media environments where political debate is staged for and in front of viewers and readers by documenting the encounters between a selected handful of politicians, journalists, and pundits who are claimed to represent wider public opinion, but importantly also the produsage-based, open environments of online blogs, discussion sites, and collaborative citizen journalism publications which directly involve informed citizens in the political debate itself (see Bruns, 2005, 2006a).

Another example which is more immediately located in the political realm itself is *MoveOn*, a community for the produsage-based development and running of political campaigns. While involving some 3.3 million signed-up members (*MoveOn* 2007, n.pag.), *MoveOn* campaigns are neither closed to those who are non-members, nor necessarily binding for those who are members; instead, *MoveOn*'s membership is in the first place the foundation for the produsage of political action ideas which are relevant and feasible in the current political climate of the United States. Contrary to political parties, in other words,

MoveOn does not work from a stock of approved core policies which it uses to distinguish itself from political rivals, but instead actively works to have its political views adopted by as many major players in U.S. politics as possible; its members need not sign up to a party ideology, but select from the campaigns on offer those which they feel most deeply about. Again, this is a molecularisation of political participation, but at the same time also counteracts a fragmentation of citizens into hermetically separate issue politics groups. In *MoveOn*, as elsewhere in produsage environments, participation is fluid and changes with the object of the produsage project.

Such molecular, produsage-based politics, then, shifts the pressure points of the political process in much the same way in which citizen journalism has undermined the gatekeeping role of the traditional journalistic industry. As Benkler points out,

> the networked public sphere, as it is currently developing, suggests that it will have no obvious points of control or exertion of influence — either by fiat or by purchase. It seems to invert the mass-media model in that it is driven heavily by what dense clusters of users find intensely interesting and engaging, rather than by what large swathes of them find mildly interesting on average. And it promises to offer a platform for engaged citizens to cooperate and provide observations and opinions, and to serve as a watchdog over society on a peer-production model. (2006, p. 177)

In essence, then, in this model the intelligence in the system shifts from the core to the periphery – as it does in many other produsage environments. Rather than relying on the intelligence of a select few central controllers of the system, the system is collaboratively managed, watched over, and filtered for quality ideas and content from the periphery, by participants acting as produsers. This proceeds along the same logic as that which Shirky identifies when he writes that "the internet is strongly edited, but the editorial judgment is applied at the edges, not the center, and it is applied after the fact, not in advance. Google edits web pages by aggregating user judgment about them, Slashdot edits posts by letting readers rate them, and of course users edit all the time, by choosing what (and who) to read" (2002, n.pag.); in the examples of molecular, produsage-based political engagement above, this same logic is applied to the political deliberative process. For Lévy, the shift implied in this is one towards collective intelligence, and is crucial: "if our societies are content merely to be intelligently governed, it is almost certain that they will fail to meet their objectives. To have a chance for a better life, we must become collectively intelligent" (1997, p. xxviii).

Such collective intelligence, then, does much to undermine the traditional party-political model as it continues to dominate political processes in a large number of countries. In a molecular model of politics, parties become just one community of political produsers amongst many others, and must interact and interface with others in order to compare their suggestions for political action with those of others and develop a shared approach through further, constructive development. In the process, they are likely to lose membership as

participating citizens can now avail themselves of a much wider range of (non-exclusive, membership-based as well as open to all) options for political action. Ultimately, political participation is carried back out of the party rooms and once again permeates society. Thus,

> in a system organized around molecular politics, groups are no longer considered as sources of energy to be exploited for their labor but as collective intelligences that develop and redevelop their projects and resources, continuously redefine their skills, and attempt to enhance their individual qualities indefinitely. ... Molecular politics, or nanopolitics, enhances the very substance of social relations at the finest level of detail and on a just-in-time basis. … It engineers a social bond that integrates and creates synergy between creativity, the capacities for initiative, and the diversity of skills and individual qualities, without circumscribing or limiting them through the use of categories or *a priori* molar structures. The goal of such a micropolitics is not to model the community according to a preestablished plan. ... Rather, it brings into being an immanent social bond, one that emerges through one-to-many relations. (Lévy, 1997, pp. 53-4)

Much as it is in other areas of produsage, however, the internal structures of the individual groups, communities, and projects which take place in this network of political produsage remain as yet unclear. Not unlike political parties, many produsage projects from Linux to the *Wikipedia* continue to emerge and galvanise around charismatic leaders acting as catalysts for community formation and holding a significant degree of more or less explicit influence over the future direction of the project: Linus Torvalds, for example, continues to have final say over what changes make it into the Linux kernel, while Jimmy Wales still holds ultimate power over the *Wikipedia*; both are examples of the 'celebrity' aspect of Generation C. At the same time, community members are free to ignore their judgment and pursue other goals than those espoused by the community leaders, either by forming alternative structures within the community itself to the extent that this is possible, or by what in open source parlance is called "forking", that is, the creation of an alternative evolutionary line of development from a common foundation – "individuals can always leave, fork to a new project, create their own. The challenge is to find affinities, to create a common sphere with at least a few others and to create effective use value. Unlike in representative democracy, it is not a model based on a majority imposing its will on a minority" (Bauwens, 2005, p. 3). If leaders in produsage projects are unelected, then this does not only mean that they serve as a kind of "benevolent dictator" chosen by popular acclaim; it also means that they are unelected also in the sense that – different from mainstream democracy – they do not have the ability to point to a popular mandate which even opponents are forced to respect.

The main factor preventing frequent forking even in controversial produsage projects such as *Wikipedia* is that to fork means to leave behind the community buy-in and social capital which one may have accumulated within the existing community – and it is worth

noting that for the same reasons, it is also rare to see political parties split in two. Even where, as for example in the UK's New Labour, there exist significant internal differences over the political orientation of the party on key issues, there has not been a major rift permanently cleaving the party into an 'old' and a 'new' left, because to do so would likely be more damaging to the political fortunes of all involved even than to maintain the *status quo* of internal division but joint participation in elections. Such tendencies to stick together for better or for worse are necessarily more pronounced the larger the party, and thus the more valuable the political capital that would be likely to be destroyed in a public rift; they are also further strengthened in political systems which by design provide better electoral opportunities for a small number of major political parties than they do for a larger number of smaller groupings.

With a move to a produsage-based political system, such hindrances to forking over political differences do no longer exist to the same extent. Here, political allegiances are by definition more fluid, and participants may indeed be encouraged to move through various political communities in order to encounter a wide variety of perspectives on specific problems. Such communities are smaller and both more permeable and less permanent than traditional late-industrial political parties; they demand less buy-in by erecting smaller barriers to entry, and require less allegiance to the common goal by highlighting the need for members to remain active produsers rather than merely "end users" of party policy. Much like other produsage environments (see e.g. Wikimedia, 2006, n.pag.), their processes for arriving at community consensus are deliberation-based, and the influence of individual contributors to the produsage process is determined not by the predetermined and fixed roles they hold within a community hierarchy, but depends on the reputation they have developed through their prior actions within the community.

Intriguingly, Michel Bauwens describes this model as a form of "non-representational democracy": "non-hierarchical governance represents a third mode of governance, one based on civil society rather than on representational democracy; in other words, non-representational democracy" (Bauwens in Poynder, 2006, pt. 1). This also raises questions about its democratic legitimation, however – if such governance is non-representational, how can it accurately execute the will of the people? How can it serve as an improvement over the current late-industrial model of politics which – though flawed, open to manipulation, and frequently privileging lowest-common-denominator policies over more sophisticated, but less electorally "saleable" approaches – nonetheless provides citizens with the opportunity to record their vote on their political leaders at least every few years?

However, it is possible to offer strong arguments in favour of such new, non-representational models in which, as Lévy writes,

> everyone would have a completely unique political identity and role, distinct from any other individual, coupled with the possibility of working with others having similar or complementary positions on any given subject, at any given moment. ... We would no

longer participate in political life as a 'mass,' by adding our weight to that of the party or by conferring increased legitimacy on a spokesperson, but by creating diversity, animating collective thought, and contributing to the elaboration and resolution of shared problems. (1997, p. 65)

One answer to the problem of non-representation, then, is that a produsage-based approach to politics and policy-making would provide an opt-in model by which policy outcomes represent those who chose to participate in the political deliberative process, while those who were unwilling to make a contribution are considered to have signalled in this way that they trust in the collective intelligence of those who did participate. This necessarily relies on a conceptualisation of citizens as informed and active on political matters, and by contrast moves away from a citizens-as-audience model, in much the same way that citizen journalism has turned readers into participants in the journalistic reporting and commentary process. A non-representational democracy, in other words, is nonetheless a deliberative democracy, with deliberation taking place between self-selecting, fluid groups of citizens-as-produsers, rather than either necessarily involving the participation of all citizens in the deliberative process at all times or alternatively having political deliberation acted out on the political stage of the mass media by a small number of more or less representative politicians, pundits, and journalists.

Such a move to a non-representational, self-selecting model for a produsage-based democracy (or indeed for a produsage of democracy, by citizens) may contribute to what Lévy describes as

a shift … 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. It encourages real-time regulation, continuous cooperative apprenticeship, optimal enhancement of human qualities, and the exaltation of singularity. Demodynamics does not imply a sovereign people, one that is reified, fetishized, attached to a territory, identified by soil or blood, but a strong people, one perpetually engaged in the process of self-knowing and self-creation, a people in labor, a people yet to come. (1997, p. 88)

Demodynamics vs. Democracy

Any shift from democracy to demodynamics, or even any accommodation of demodynamic forces within traditional democratic structures, is necessarily going to be an uneasy, halting process. The institutions of power in the democratic system are no more likely to give up or reduce their influence than are the traditional industrial leaders of the software, media, or

knowledge industries. Even where hybrid and crossover models building on both forms are theoretically possible, they are as yet untried and open to attack, especially while those experimenting with such models do not yet understand the full implications of their work.

The instability which is likely to characterise this transitional moment is perhaps already visible in a number of as yet isolated examples. Foremost amongst them is the ultimately unsuccessful Primary campaign of Democrat contender Howard Dean in the lead-up to the 2004 U.S. Presidential elections. Dean's campaign was fought on two levels – on the one hand, by using the standard media tools of mainstream U.S. politicians, but on the other also by encouraging a groundswell of loosely coordinated grassroots support especially through what at the time was a relatively sophisticated use of blogs and other online communications and media forms.

Dean's downfall, then – while commonly attributed simply to the effects of the mass media's relentless coverage of the "Iowa Scream" (see *Wikipedia*, 2007) –, can be traced back just as much to his inability to reconcile the industrial mode of production of politics as it was practiced by his and all other mainstream campaigns with the produsage approach which emerged amongst his grassroots supporters beyond the control of his campaign. Excepting the Iowa Scream, Dean publicly portrayed the role of the charismatic leader as proscribed by the standard operating procedures of late-industrial politics; this persona, however, is significantly different and ultimately incompatible with the charismatic leader of produsage projects. Where the traditional political leader must show control and command of the political issues of the day, with any need to defer to outside opinion (especially when coming from non-aligned positions) ultimately seen as a weakness, the leader of a produsage community is in a vastly different position of gaining reputation from listening to alternative views and facilitating the development of a consensus across different political camps; where the traditional political leader stands atop a hierarchy of contributors by virtue of having been elected *a priori* to deal with problems perhaps yet unknown, the leader of a produsage community rises to the top *a posteriori* as a result of the reputation gained by their contribution to the handling of the pressing issues of the moment. Indeed, we might paraphrase Clay Shirky's famous statement that "the order of things in broadcast is 'filter, then publish.' The order in communities is 'publish, then filter'" (2002, n.pag.) for the political context by saying that the order of things in traditional, industrial politics is "elect, then govern", while in political produsage that order reverses to "govern, then elect": leaders arise from within the community based on their contribution to the collaborative building of consensus on current issues.

From this it becomes clear that for Dean to have fulfilled the role of leader in both models would have been a very difficult and perhaps impossible task. Dean would have had to unilaterally set policy in the manner of traditional political leaders, thereby showing his capabilities as a contender for President, while at the same time working in an open-ended manner with his grassroots supporters to facilitate the emergence of policy out of that community. Tending towards the latter strategy would have left him open to attacks from his

political opponents working under a traditional political model, who could have accused him (and indeed, did) of having no strong policies of his own and running a purely populist campaign which shifted its political agendas simply according to what appeared to be the majority opinion amongst his constituency (a misrepresentation of the processes of political produsage, yet one which would have been difficult to fight effectively within the news cycle of Primary coverage). Tending towards a more traditional, hierarchical style of political leadership, on the other hand, would (and did) alienate the community of grassroots Dean supporters, whose enthusiasm for direct and open participation in shaping the policies of the Dean campaign through produsage would have necessarily been undermined by the very obvious presence of a final closed filtering stage of Dean and his staffers selecting only those of the emerging policies which appeared to them to be suitable to their wider political campaign.

Similar problems are faced also by any other leader experimenting with the open consultation of informed citizens as produsers of policy. Where (online or offline) consultative fora are made available to citizens, there tend to be two main reactions: political opponents will accuse the leader of having run out of ideas and playing the populist game of latching on to whatever seems to exercise the minds of voters at present, especially if the mode of citizen consultation is open and does actually lead to the adoption of policy ideas which emerge from it; on the other hand, participating citizens themselves will accuse their leaders of populism for the diametrically opposed reason of not opening up the policy process enough and conducting mere feel-good exercises which *appear* to consult citizens but ultimately do little to implement their ideas. It seems as difficult to overcome this problem as it is for traditional, industrial journalism to both embrace the produsage efforts of citizen journalists *and* maintain the editorial processes of the journalistic industry, or as it is for software producers to harness open source software while retaining a business model built around the sale of copyrighted products.

Nonetheless, some commentators suggest that a gradual transition towards more peer engagement- and produsage-based modes of politics and democracy (or demodynamics) is as unstoppable in that field as it has proven in software, journalism, and many other industries, and that this may occur through a process of osmosis, as it were, by which participants accustomed to produsage in those areas will also increasingly expect to see politics operate according to the same principles. Michel Bauwens, for example, expects that "peer governance within peer communities will co-exist with our current political democracies, and these in turn will be influenced by the P2P ethos, and so begin to adopt more and more multi-stakeholder forms of governance themselves. I would also point out that it is no longer realistic for any political group to claim that it has easy solutions to complex problems" (in Poynder, 2006, pt. 1).

Given the preceding discussion, it is unlikely that such gradual adoption of produsage models will proceed without controversy; at the same time, perhaps it is also likely that it will succeed more easily in some areas of politics and policy where the fact that no easy, populist

solutions are available is most strongly felt. Such areas might include the development of political responses to the reality of global warming, and the international fight against poverty, for example: while in both cases there remain some powerful lobby groups with very strongly partisan political positions, recent years have seen an acceptance by the political mainstream in most countries that solutions to these problems must be found irrespective of one's own political persuasion, and that such solutions are likely to be feasible only if a non-partisan approach is adopted. Thus, while the means of reducing CO_2 emissions or the mechanisms for reducing or cancelling third world debt may continue to be hotly debated, few serious political actors would still argue that there is no need to pursue these actions. At the same time, both fields have also seen the emergence of a diverse range of non-government organisations (some operating already on open models similar to *MoveOn*) who are increasingly accepted as participants in political deliberations, and have formed a loose network of communities which, while differing on individual points, still cooperate in furthering public discussion, debate, and deliberation – *Make Poverty History* is one such coalition.

Towards Renaissance?

The relatively open debate and deliberation which takes place on a global scale on such issues may point the way towards a produsage-led transformation of political processes. It is perhaps problematic that the hegemony of the industrial model of political production can be overcome at present only in the case of such global issues which clearly overwhelm the individual abilities even of the world's most powerful governments, but it is possible to see these developments as the first cracks in the armour of industrial politics, and the start of a broader trend towards political produsage which will reach further down into the national and local level. (At the same time, it is also likely that there exists a similar but less visible trend upwards from the micro-local and local to the national level.) Again, parallels can be drawn here to other industries which have already faced peer-to-peer- and produsage-based opposition; Bauwens suggests that

> today … civil society is furiously engaged in creating new social practices, which are then attacked by corporate vested interests — for example when youngsters are told that online sharing is illegal.
> In the process, however, these youngsters become more conscious of the issues. It is precisely this evolution that is the basis for the coalescing of an emerging but already powerful movement, with supporters of free/open, participatory, and commons-related ideas joining together and becoming a large self-conscious movement. (in Poynder, 2006, pt. 2)

Attacks by the political establishment on the new grassroots movements which have begun to challenge it, then, may serve only to strengthen these movements by showing that

their work is having a visible effect. If such trends do continue, therefore, we are likely to see the relative weakening of traditional political institutions, and their complementation (and occasional supplementation) by new, produsage-based organisations, much as this has occurred already in other fields and industries. Traditional models of controlling such fields from a position of hegemony over existing hierarchies will struggle amidst an offensive of community- and reputation-based produsage-style alternatives; as Lévy points out, "power in general has no affinity for real-time operations, permanent reorganization, or transparent evaluation" as they are prevalent in such produsage models. "In general it strives to maintain its advantages and preserve its acquisitions, maintain situations, and block circuits, all extremely dangerous attitudes in a period of rapid and large-scale deterritorialization" (1997, p. 87).

There can be little doubt that attempts at reterritorialisation will also occur: leaders of political produsage communities may well be tempted to convert the changeable reputation-based social capital which has propelled them for the moment to the centre of their community into a more constant, permanent, position of power; once permeable produsage communities themselves may solidify (indeed, ossify) into more traditionally structured political organisations and parties by establishing stronger barriers to and statutes of membership, and by developing rules of 'due process' for their internal workings. Such changes would return from the community-based, flat or at most heterarchical structures of produsage to a hierarchical model of production; however, for reasons outlined above, it is unlikely that a complete return to this model will be possible for all of politics: once participation and power has been networked and dispersed through the adoption of produsage-based models, there is no longer any one point of control or leverage for those attempting to again rein in this community- or peer-based mode of interaction. Reterritorialising tendencies are possible for individual groups, or in specific fields, but the vacuum created by the departure of such groups from the produsage model is likely to be filled quickly by those who oppose this reterritorialisation.

More pressing problems for produsage politics, then, are the question of how to ensure that produsage models do provide an opportunity to participate in political deliberation to all those who do want to take part, and the associated question of how to coordinate the consensus-finding processes taking place simultaneously within a large number of parallel political produsage communities. Because much of produsage currently takes place in online informational environments, the first question also particularly relates to the persistence of digital divides at local, national, and international levels along various geographical, economic, and social lines. A produsage politics which involves only the affluent, the educated, the well-connected, or those with sufficient time for meaningful engagement is necessarily fundamentally flawed, and would therefore be ever more problematic if more of politics were to move towards a basis in produsage principles; there is, therefore, a need to provide the access and skills necessary for participation to as large a section of global civil society as is possible, both by enabling them to take part in or develop new online political

produsage communities and by pursuing the possibility of translating produsage models to offline environments. Part of this work must also be done by educators, building the capacities for effective participation in produsage environments in all fields of endeavour in their students (see Bruns, 2007a).

If broad-based political produsage can be achieved by overcoming such digital divides, then, it is further necessary to aim for an interconnection of individual produsage communities and thereby work towards the development of a widely accepted consensus on the issues under discussion. Community-based produsage may be seen at first glance as embodying a tendency towards the increasing fragmentation of the public sphere into separate and unconnected "issue publics", debating specific topics amongst themselves but acting as little more as a continuous echo chamber for the perpetuation of "groupthink"; while this may true of some such communities, however, it does ignore the fact that for most members of any community, their personal experience is not limited strictly only to that community. Instead, we are almost always already members of a variety of overlapping groups based on shared origins, location, socioeconomic status, education, interest, taste, values, or beliefs, and through this overlapping of individual groups their boundaries are made permeable at least to a certain extent. In an online context, such overlapping can be made visible for example through a study of networks of site interlinkage, which do show a clustering of participants around shared aspects of their own lives, but also indicate that there are many other links across group and community boundaries which serve to prevent a complete fragmentation of the online community (see e.g. Bruns, 2007d).

Indeed, while pointing out that "the shift toward 'issue voting' reveals the growing impact of public discourse on voting patterns and, more generally, of public discourse on the formation of 'issue publics'", even Jürgen Habermas, who has adopted a characteristically skeptical position towards modern many-to-many communications media such as the Internet and the World Wide Web, notes that "although a larger number of people tend to take an interest in a larger number of issues, the overlap of issue publics may even serve to counter trends of fragmentation" (2006, p. 422). However, it may be insufficient to rely on the "natural" overlap between issue publics to ensure that produsage-based political deliberation both takes place, and covers and connects the full range of opinions and ideas on any given issue. Instead, in addition to such existing tendencies to overlap, it may also be necessary to deliberately enable, encourage, and facilitate the encounter and debate between different positions, and to guide such debate towards the formation of consensus and the adoption of collaboratively created policies.

This process may involve a number of different stages, as well as the participation of different entities. In the first place, to enable participants to encounter multiple perspectives on any given issue may require a solution partly based on technology, and partly based on the work of individuals and groups providing a handmade alternative to such technology – already, for example, sites such as *Technorati*, *del.icio.us*, and *Textmap* enable interested users to identify the key or most recent blog posts, Websites, and other online resources on

specific topics (as identified through keywords and other means); in turn, such sites crucially rely on the distributed work of millions of bloggers, Web users, and Web publishers which is aggregated, evaluated, and digested by their various automatic algorithms. The availability of such sites (and of many others like them, as well as similar issue digests which are not created by automatic aggregation but through a gatewatching process conducted by a large community of human contributors – see Bruns, 2005) is only a necessary precondition, however, but not sufficient to ensure that actual Web users will indeed encounter the variety of views and opinions available in such online produsage communities. Beyond enabling Web users, therefore, it is necessary also to *encourage* them to seek out and engage with other participants debating the issue at hand. This is a task both for society at large, as well as for education and other specific social institutions, and again relates to the task of capacity building outlined above – in addition to the mere building of produsage capacities, then, it is also necessary to provide users with the motivation to exercise their capacities for produsage (in the political as well as in other realms of human endeavour).

Finally, then, there remains the question of how to facilitate this encounter and engagement with the views and opinions of other participants, and of how to move beyond 'mere debate' towards the facilitation of a consensus-oriented deliberation and towards the development and adoption of feasible government policy. Here, perhaps, we see the potential for suggesting a new role for journalists and politicians, whom a move to produsage-based approaches dispossesses of their previous positions as gatekeeper and policymaker, respectively. Much as the rise of produsage-based citizen journalism necessitates "a shift from the watchdog to the 'guidedog'" for journalists (Bardoel & Deuze, 2001, p. 94), for politicians it may similarly mean a move from policy maker to policy facilitator and implementer: their role would now be to identify the key policy ideas in any one specific issue as they emerge from a variety of political produsage communities, to facilitate further (broad as well as deep) deliberation of these suggestions, and to guide participants towards the development of a consensus which incorporates elements from many such suggestions and thereby is acceptable to most, though perhaps a perfect solution for none.

In other words, much as produsage-based citizen journalism breaks with the standard journalistic pattern of pitting against one another the opinions of diametrically opposed parties and reporting on the clash between them, and instead covers the many nuances of opinion which exists in between the central rallying points of opposing ideologies, so would a produsage politics move away from an oversimplified choice between the rigid political solutions to an issue which are offered by the left and the right, and instead re-open debate and deliberation on these ideas as well as many others which may exist in between them, with the aim of finding a middle ground that is acceptable if not to all, then at least to as wide a range of citizen participants as possible. Politicians facilitating this consensus-building process would no longer be in a position to claim that the solution eventually adopted was their (or their party's) idea, with an aim to generate political capital from being seen as 'strong' on the issue at hand; instead, they would now gain in political reputation by openly

acknowledging the contributions made by all, and from the expertise they have shown in guiding all parties to reaching such widely acceptable consensus. Their role would be one of peacemaker rather than of partisan.

As noted throughout, such changes would certainly be in line with the emergence of produsage-based models in many other industrial as well as non-industrial fields of human endeavour. As Benkler notes, with the emergence of produsage or commons-based peer production "we have an opportunity to change the way we create and exchange information, knowledge, and culture. By doing so, we can make the twenty-first century one that offers individuals greater autonomy, political communities greater democracy, and societies greater opportunities for cultural self-reflection and human connection" (2006, p. 473). The path towards such changes will not be easy or straightforward, and it is likely to see many missteps and rear-guard actions from those established institutions who stand to lose authority and power from a move to produsage. Such disruptions to the *status quo*, and the as yet only sketchy nature of what form a more strongly produsage-based society and democracy might take, may be seen as reasons not to begin the journey in the first place; however, it is important to keep in mind that the present model of democracy, as well as – more to the point – the present actual practices of democracy in many nations, are by no means ideal in their own right, and are perhaps increasingly out of step with the wants and needs of the *demos* which they govern.

It is interesting to note in this context that von Hippel's description of the inefficiencies of traditional, industrial innovation systems can be used almost verbatim also to describe the inefficiencies of the political system, which after all is similarly concerned with the development of innovative approaches to addressing social problems. As he notes,

> the traditional pattern of concentrating innovation-support resources on just a few pre-selected potential innovators is hugely inefficient. High-cost resources for innovation support cannot be allocated to "the right people," because one does not know who they are until they develop an important innovation. When the cost of high-quality resources for design and prototyping becomes very low ... these resources can be diffused widely, and the allocation problem then diminishes in significance. The net result is and will be to democratize the opportunity to create. (2005, p. 123)

In a political context, it is perhaps just as difficult to identify *a priori* which political leaders will be the most innovative in finding social solutions, and history is littered with cases of politicians who failed to deliver on their promise as innovators after they were elected to office. At a time when access to the resources for policy-making (that is, to information, research, and bureaucratic reports on issues to be addressed by government policy) was costly, the existing model of democracy may indeed have been the best amongst a number of sub-optimal solutions to selecting policymakers; today, however, in the context of a vastly improved access to informational resources and in the face of a large number of issues which

are better dealt with at a global or local than at a national level, this may no longer be the case. It is interesting, then, that the diffusion of resources and the distributed approaches to innovation, which von Hippel outlines, are described here as democratising the opportunity to create (or to innovate) – by extension, then, distributed approaches to political deliberation as we have described them here should be considered to present a potential of democratising the opportunity to create policy, and perhaps even as democratising democracy itself.

While such produsage-based democracy may take the shape of a non-representational democracy, as Bauwens describes it, "where an increasing number of people will be able to manage their social and productive life through the use of a variety of networks and peer circles" (in Poynder, 2006, pt. 1), this is nonetheless a highly participative model of democracy. Amongst its main departures from late-industrial democratic practices is the fact that such produsage-based democracy relies less on the regular but highly limited participation of citizens in their democracy through the act of casting a vote (a practice which must necessarily condense a universe of small and nuanced policy options on a vast variety of political issues into a simple choice between a handful of candidates); instead, it relies more on the continuous engagement, between elections, of informed citizens in the deliberation of policy decisions which interest and affect them.

Thus, the shift from industrial politics to produsage politics is therefore not at all unlike that from purchasing every few years the latest version of a given software package or encyclopaedia, which is updated in between these points either not at all or through opaque mechanisms which are largely inaccessible to the customer, to using such software or knowledge whenever necessary as well as participating as an active produser in the continual maintenance, development, and improvement of this shared resource. To participate in this manner may be more time-consuming than it is to make a simple choice of purchase or political preference, and to rely on the quality of the product or person thus chosen in between the times when such a choice is required, but it also opens up the process to greater participation by users as active produsers, and therefore holds the potential of steering the ongoing produsage process towards outcomes which are more closely aligned with the individual needs and wants of the participant. It is likely that for a variety of reasons, not all consumers or citizens may choose to participate as active produsers – but it is certainly possible to present the argument that industrial as well as political systems must at least provide them with an open opportunity to do so, if their aim is to serve the interest of their constituencies.

Perhaps, then, Rushkoff is right to describe the rise of what we have here called produsage, and its impact on society as a whole, as

> an opportunity for renaissance: a moment when we have the ability to step out of the story altogether. … Renaissance literally means 'rebirth'. It is the rebirth of old ideas in a new context. A renaissance is a dimensional leap, when our perspective shifts so

dramatically that our understanding of the oldest, most fundamental elements of existence changes. The stories we have been using no longer work. (2003, pp. 32-3)

A reconfiguration of the democratic process in line with the principles of produsage which can already be seen to affect a great many other areas of human social, commercial, and intellectual endeavour may as yet seem a utopian vision – but experience from other fields shows that the collapse of existing social institutions brought about by Generation C and its predominant practices of engagement may not be so casual after all. For democracy, such practices present a challenge: a threat to the existing structures of power, to be sure, but also an opportunity to explore new models which may offer pathways towards more participatory, deliberative forms of political engagement.

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