

Farewell Information, it's a Media Age

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With perfect hindsight, it is clear that the Internet bubble was not an end, but the end of the beginning. The bubble was just a speed bump on the road to revolution, and many of the extravagant 1990s cyber-visions are coming to pass, but late and in utterly unexpected ways. In fact, as economist Brian Arthur has so eloquently pointed out, bubbles mark the beginning of new industries, not their ends and this revolution is just gathering speed.

Against this backdrop, the Web is not so much maturing as mutating into a new form, driven by the relentless advance of underlying technologies and exponential growth in the population touched by the Internet. The economist Joseph Schumpeter's elegant concept of "Creative Destruction" was both misunderstood and overused during the dot.com bubble but it nonetheless describes precisely what the web will be for at least the next decade: an expanding, complexifying environment in constant change and turmoil, punctuated by a wild and exuberant species radiation of business models, user experiences and technological forms. The next decade is the Cambrian explosion of cyberspace, and like the Cambrian explosion 4.5 million years ago, most of these novelties will go extinct as quickly as they arrive, but the minority that survive will have a disproportionate impact on the shape of the web – and our lives – in the years to come.

Forget "information": Media is the organizing principle

The Web's growth seems as predictable as tracing the airborne fragments fleeing outwards from an explosion, but fortunately there is a larger organizing principle: the Web is at the center of an emergent Personal Media revolution in the same way TV in the 1950s was at the center of the Mass Media revolution that shaped the latter half of the 20th Century. Mark Twain once observed that history doesn't repeat itself, but often it rhymes, and thus comparing today's events with the earlier mass media order offers a powerful way to order the Web's trajectory.

Table 1: From Mass to Personal Media

	Mass Media	Personal Media
Dominant Medium	TV	The Web
Location	Living room	Everywhere
Experience	Watch Consume	Participate Create
Players	Few and large	Many and small
Business models	Product/Service	Subscription (and more)

One-way to two-way.

The Mass Media revolution 50 years ago delivered the world to our TVs, but it was a one-way trip – all we could do was press our nose against the glass and watch. In contrast, Personal Media is two-way trip and we not only can, but also *expect* to be able to answer back. Blogging, chat groups and adding comments to online articles are obvious examples, but just the beginning. In the TV era, it was hard, if not impossible to participate, but now in the new world of personal media, the exact reverse it the case: it is hard to merely be a bystander.

The soul of personal media lies in a deep collective desire to be heard, and thus novelties like blogs are only the beginning. We will see rapid innovations around clever new ways to scratch this itch, including new kinds of group discussions, new forms of betting, and new forms of news aggregators using blogs as informal stringers. This of course is where Schumpeterian creative destruction comes in, as established media incumbents like newspapers, magazine publishers and broadcasters will stumble over the shift from mass to personal and thus leave the field open to entry by new challengers. At a company level, the competitors to today's media incumbents are not the other big players, but small innovators. Ultimately, the competition is not other media moguls, but twenty-somethings working in today's media establishment who see what their bosses are blind to, and will not hesitate to leave and found new start-ups.

Location, location, location.

Just as mass media came only to our living rooms, cyberspace and the Web originally came only to our desktops. 802.11 and other wireless conduits are changing this, and thus a key trait of Personal Media is that it will increasingly arrive *everywhere*. In fact, within the decade, mobile access to the web will dwarf desktop access, and this will deeply transform the web, creating important new media forms that are not merely personal, but intimate.

Add GPS, Geographic Information Systems (GIS) and other location technologies that give our devices position awareness and things get very interesting. One obvious short-term (and not terribly welcome) innovation is location-based marketing – geo-spam – on our cell phones and PDAs from companies that know where we are and are trying to entice us into their shops. Incumbents like Google understand the importance of the Web's growing geo-awareness and are aggressively spending to buy key players and create new applications. Looking for a Starbucks in San Francisco? Just tap your handheld device to call up a photo-map centered on your location, displaying all the nearby Starbucks, and then as you roll your cursor/stylus over the rooftops, the names of the other businesses appear. Then tap the roof of one and that business's webpage comes up.

Of course wireless geo-search is just the tip of the iceberg, and while it may well make Google even richer, other more exotic applications wait in the wings. For a hint of future mainstream applications, look to today's niche passions. Geocaching is a popular geek-hobby where users track down hidden treasures with GPS units; look for new sport applications of continuous-connection wireless. Dodgeball.com, off and running in several cities, is but the first applications to come that will connect web-users with not just things and shops, but *people* as well. Where twentysomethings are using Dodgeball to track cute friends who they have crush on today; future services built around similar models will connect political activists, and one day may connect business travelers in unfamiliar cities in the future.

Once your phone or handheld knows where you are and is in constant touch, the possibilities for new and stranger applications is endless. Instead of leaving a voicemail at a phone number, how about leaving it at a location like a virtual Post-it instead? Need to give a friend directions to your campsite in a national park? Then leave a voicemail for them at the trailhead, and as they approach, their handset flashes, telling them to have a listen. Or leave a message for anyone who approaches the spot where the message was left, perhaps pointing out a particularly nice view, or warning about a hazard ahead. This idea has yet to appear in an actual product, but similar concepts are already here: Ricoh has introduced a digital camera with a built-in GPS unit that tags every shot taken with spatial coordinates. A traveler thus can load their vacation shots on a computer or webpage and the pictures automatically sort themselves out by location. Instead of flipping through your shots, imagine simply clicking on an interactive map to view your photos.

In the longer term, using wireless to bring the web everywhere does much, much more than just creates a few new startup opportunities. Combine wireless connectivity with position awareness, GIS and other sensor technologies, and it is obvious that the symbolic world of cyberspace and the “real” (physical) world will deeply intertwine. In a decade or so, we will take it for granted that there is an invisible cyberspace overlay atop everything we see in the physical world, and we will count on that overlay to help us navigate through life.

The reverse notion of the physical world penetrating into cyberspace is a bit stranger, but it is already happening. The US military routinely fuses the datastreams from objects moving in the physical world (like helicopters) into virtual simulation environments, and the fusion is so complete that the operator on the simulator often doesn't know whether the helo on their screen is purely electronic or linked to an actual craft. As the physical world intrudes into cyberspace, count on some big surprises that translate into compelling new commercial ideas. But also count on unnerving social surprises.

Business models: from product to Subscription.

Obviously the web's evolution will have a huge impact on business models and in more than one dimension. But one aspect is especially interesting. The seemingly tired 1980s notion of the “service economy” may come to pass in surprising ways as the web enabled a transformation of products into services. An example from the recent past, white goods manufacturer Electrolux teamed up with the Swedish power company Vattenfalls in a test on the island of Gottland to offer web-enabled washer/dryer combos to apartment dwellers. Title to the appliances remained with the company and the customer was charged every time they ran a load of laundry, and the charge appeared on their electric bill.

This is more than a mere shift from product to service; it is a shift from product to *subscription*. The customer isn't buying a washer; they aren't even renting a washer – instead they are *subscribing* to a new way of getting clean clothes. Another web-enabled example of this trend is CityCar and the other car-share startups. Instead of buying a car or renting a car, one subscribes to a car through a service that combines the best features of renting and owning without the downsides. The customer gets convenient use of a car when needed without having to maintain a hunk of metal in their garage, deal with mechanics or trot down to the rental counter.

The subscription model neatly encapsulates what is really going on here. The notion of “service” is as dead because it assumes there is a clear distinction between product and service. In fact, product and service are blending into something new and so deeply integrated that one can no longer tell where the product stops and the service begins. And it is already happening – think about your cell phone: is it a pure product? Hardly, as without the subscription, a cell phone is just a paperweight. But is it a service? Well, not exactly, as one has to buy the physical phone and moreover, people replace their old phones long before they are obsolete because phones have become fashion.

A new relationship with government?

In an age of personal media, terms like “product” and “service” no longer make sense, but we don’t yet have a new vocabulary that fits the landscape. Watch for this vocabulary to emerge, as its emergence will be an indicator that we are beginning to understand the unexpected consequences of the personal media revolution. And the consequences go far beyond the impact on businesses and consumers, for the ability to create intricate, detailed subscription models will create a special challenge for governments. In particular, the temptation to privatize traditional government functions will gain speed, as the new capabilities allow service providers to identify with specificity who benefits from public goods. Electronic road tolls and congestion pricing are examples of this trend that have already arrived, raising the question of whether the notion of the “commons” will survive at all in an age of Personal Media.

From the few and the large to the many and the small.

The shift from mass to personal inevitably translates into big changes in market structures. Historically, new markets are filled with a myriad of small players. Then as the market matures, consolidation occurs until finally a few huge businesses remain, dominating the space. During the dot.com bubble, it became clear that the Internet was giving new muscle to small players. Visionaries spoke of a new economy that would never be dominated by big players.

Obviously this never happened, but we also are not repeating the old big-player structure of the mass media age. We have replaced the big company monoculture with a new creator-centric business ecology in which the success of the big players is directly dependent on the participation and good will of multitudes of small players. Ebay is a particularly dramatic example, as both its size and success is built upon a vast network of small sellers from casual members offering the odd piece of garage junk to full-time “PowerSellers” making a living off of Ebay transactions.

Other web-based companies are also dependent on the many and the small to varying degrees. Amazon relies on user reviews as a key part of its model. Virtual world providers like SecondLife depend on users to create the spaces that attract other players and their Dollars. Social software companies like LinkedIn and others depend on members bring in other members while photo sites like Flickr rely on the traffic of group viewing as a core part of their model. But these examples barely scratch the surface of what is possible, particularly as the Web matures, and it is clear that accounting for the new role of user-creators is a key part of emergent new business opportunities. The way to get big in an age of Personal Media is to aggregate and empower the many and the small.

From Consumer to Creator.

The advertising potency of the 1950s mass media world of TV led to a retail revolution that not only turned us all into consumers, but also made consumers the most important players in sustaining the economy. The message to viewers was very much one of shut up and watch – and then go buy what you see. Consumption remains hugely important today, but the two-way nature of personal media is turning once-passive consumers into active creators as well.

Blogs are but the most prosaic indicator of this trend, with more interesting examples elsewhere. Once upon a time, encyclopedias were written by professional writers and editors; today they are created by amateurs logging into wikis like Wikipedia. Consider also the massively multiplayer role-playing startup, Second Life. Second Life is an online environment where members can hang out, socialize, buy and sell things, and also create their own virtual spaces. And create they do: according to the company, Second Life's members account for over 40,000 user-hours per day, and 30 percent of that time is spent creating! Places to live, places to shop. They are even creating new brands; one brand, "Pixel Dolls" has a level of brand recognition that would make a Madison Avenue type faint with envy!

The societal implications of the shift from consumer to creator are dramatic. Richard Florida has noted the rise of the "creative class" as crucial to the health of economies, but this may just be the beginning of an even more profound shift from consumer to creator as the fundamental unit driving the new economy. "Creatives" is a fine term for the elites of this new economy, but the impact of personal media goes much deeper. All of us will be creators to a greater or lesser degree, whether it is creating a family blog, posting photos on Flickr or creating an on-line scrap book.

The economic implications of this shift are vast and uncertain. Once upon a time economies were built on production because physical goods were expensive and the demand was greater than what could be produced. Then in the middle of the last century, ever more efficient production led to a situation where consumption mattered more than production because production costs had dropped and volumes had increased to the point where companies could make more than the markets could absorb. During the two World Wars, patriots were exhorted to produce and ration. By the height of the Cold War, the patriotic thing was to consume. Consumers displaced workers as the primary engine of developed world economies.. Now, the cumulative impact of the information revolution plus the rise of personal media is creating a new kind of economic actor who does not merely consume, but also creates. Not just Florida's Creative Class, but all of us as creators will assume the central productive role in an economy where people do not merely work and consume, but also create.

Personal Media's dark side – loss of a social commons?

Nothing new comes into our lives without a hidden curse, and personal media is no exception. Personal media presents many risks, but the most troubling is social and intellectual isolation. Mass media gave societies shared media experiences; for example, in the TV age of the last century, Americans all watched the same evening TV news, the same prime time programs, and read print publications with substantially overlapping

coverage. This common pool of information gave citizens a shared experience and shared perspective. Most importantly, mass media forced people to be aware of information and news that differed from what they believed and already knew. In the mass media age, it was very, very hard to read only things that reinforced what one already believed.

The situation is dramatically different in today's personal media age. Individuals can select from a vast cyber-sea of media and utterly saturate their information space exclusively with information sources that reinforce existing world-views. Each of us can create our own personal media walled garden that surrounds us with comforting, confirming information, and utterly shuts out anything that conflicts with our world view.

This is social dynamite, for shared knowledge and information is the glue that holds civil society together. It is the stuff that causes people to change their opinions and to empathize with others. Exposure to unexpected --and sometimes unwelcome-- news and information is crucial to democratic processes. Traditional mass media is a center-seeking centripetal force: it nudges society together, back towards a middle ground. Personal media is the opposite, a center-fleeing centrifugal force that inexorably pulls us away from the center.

The rise of personal media already is severely eroding our shared information space. For example, in the personal media blogosphere, there is almost no overlap between the blogs read by liberals and conservatives.¹ The same pattern is showing up in traditional print media as well, where as Juan Enriquez notes, there is almost no overlap between readers of the best-selling Left Behind books and readers of the best-seller, The Da Vinci Code. Valdis Krebs² documents a similar divide in what liberals and conservatives read in 2003 and the results were stark, with only one book overlapping, Bernard Lewis's What Went Wrong.

It of course is no coincidence that that most media-oriented area of American politics is now defined by the near-complete absence of a center, and that centers are disappearing from one area of society after another touched by personal media. The dark side of personal media thus lies in the erosion of the intellectual commons holding society together. The danger is a society where in the words of the old Emerson, Lake & Palmer song, "everybody came, but they all sat alone." Instead of engaging in a common conversation around a steady stream of information from the outside, we risk huddling into tribes defined by shared prejudices, co-conspirators in shutting out unwelcome reality. Let us hope that this is just a passing phase in a still-infant personal media revolution, but the center-finding compensating force is not yet visible on the horizon. But let us also hope that it appears soon, for a society with no center, no commons is a society that cannot survive.

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¹ See Lada Adamic and Natalie Glance, "The Political Blogosphere and the 2004 U.S. Election: Divided They Blog" <http://www.blogpulse.com/papers/2005/AdamicGlanceBlogWWW.pdf>

² See <http://www.orgnet.com/leftright.html>