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New Media Isn't Just Old Media Delivered in a Different Way

WHEN I talk of "new media" or "Web 2.0" I don't mean simply delivering "old" media via the web. By "old media" I don't even mean a particular technology (movies, television, radio, newspapers, magazines, etc.) but instead a particular process. I've worked extensively in "old" media, so to illustrate that process let's look at the creation of one of my commentaries for public radio's popular *Marketplace*.

Typically I pitch a piece to a sub-editor; we'll discuss the piece thoroughly, look for any holes, logical leaps, discuss the news hook for it, and also make a "snapper" for the ending. **How old media works** Together, then, we develop a script. That script goes to an editor or two above my sub-editor for approval. We then make changes, head to the studio, and carefully lay down the audio tracks - re-taping any parts that didn't sound just right. Usually we do the taping the day the piece airs, so a few hours after my studio visit the commentary appears on *Marketplace* and is then heard by six million people. Later, of course, it appears in a downloadable audio file - an MP3 - so it would seem this has a new media presence, yet it really doesn't.

What makes something "old" media is that process I

described of completely polishing a piece, filtering it through many gatekeepers (editors, sub-editors, and the like), carefully editing the final piece, and then offering it to the public. The essential characteristic of old media lies in this model: filter, then publish. The new media inverts this completely: one publishes and then filters. Think of a place - a repository or a searchable, browseable web space - where engineers place their videos reflecting their own interests and their take on engineering. Wouldn't this, just be a free for all -- a mishmash of video?

Isn't "publish, then filter" just a useless free-for-all?

One key to a successful "publish, then filter" site lies in adding a social dimension. If you look carefully at a site like YouTube, the public is able to rate and rank the videos. They do this astonishingly well: highly rated video are indeed interesting and sometimes informative. Or, consider a site like Flickr, which is designed to share photos. Flickr features two billion photos! One of the earliest Web 2.0 applications, it works as a photo repository fueled by social organization tools, which allow photos to be tagged and browsed by "folksonomic"[22] means.

For example, sixteen users pooled 1,712 images of Steuben County in upstate New York, including wineries and lakes, hunting and fishing, dining and shopping. No one person

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[22]What a wonderful word! Here, from *Wikipedia*, is its definition: "Folksonomy (also known as collaborative tagging, social classification, social indexing, and social tagging) is the practice and method of collaboratively creating and managing tags to annotate and categorize content. Folksonomy describes the bottom-up classification systems that emerge from social tagging. In contrast to traditional subject indexing, metadata is generated not only by experts but also by creators and consumers of the content. Usually, freely chosen keywords are used instead of a controlled vocabulary. Folksonomy (from folk + taxonomy) is a user generated taxonomy."

set out to organize such a thing, no media outlet assigned a team to it, yet it does have value. Other members of Flickr sort and rate these photos, allowing a user to look only at the most interesting ones. On Flickr one can find thousands of these groups - the 219 members who took 2,271 photos of the latest Minnesota State Fair, or the 191 people who shared 5,719 images of the "Cans" Festival in London. So, while it seems that Flickr, Wiki, and YouTube have no quality control, in another sense they are completely quality controlled - many videos, wiki entries, or Flickr photos are never viewed, as they are deemed completely unworthy.

For example, someone started a Flickr group for the "British General Electric Company", which has only two members, one of whom contributed twenty-one of the thirty-three photos.[23] Even worse was the "LLI Liberty & Summit Conferences", which had one member who posted fifteen photos.[24] No one participated in these groups and they failed – just two of surely tens of thousands of such failures. So, failure in the "publish, then filter" world is high, but the cost of failure is low. What has changed in the last ten years - due to digital tools for video and sites for sharing with the world - is this dropping cost of failure.

Yet, even this doesn't fully explain the power of "publish, then filter." The descriptions above imply that the procedure works only to find the "hits" that appeal to a mass audience, and while this happens, it represents only half the power of

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[23]For the curious: "This group is about the people, places and products associated with the GEC from its beginnings in 1886 until 1999 when it became Marconi plc."

[24]Also for those with an inquiring mind: LLI is "a group of entrepreneurs and students of personal development who are changing the financial and personal courses of our lives. As part of that journey we attend conferences all over the world in places like Melbourne, Rome, the Atlantis Resort (Bahamas) and Hawaii."

new media.

Beyond mega-hits: the long tail

The web has blurred the line between a private communication and a public broadcast. In the past one would never listen in on a phone call or open someone else's mail, and similarly one knows that a commentary broadcast on public radio's *Marketplace* is designed for all; yet, the web is filled with things like this:

> *A flower vendor was just packing up and he had a very nice, good sized rosemary plant. I was planning to cook a chicken tomorrow and missed the herb plants that I had at home, so I was glad to get a new one. On the way back to the tram stop, I stopped into Wilkinson's where at last I found a wastebasket.*
> [From a blog by Felicita written on September 27, 2008]

What is this? Surely something like this about a visit to the mall cannot replace the "old" media? It cannot, but implicit in this question is an error: Assuming those using new media are trying to find some common denominator to reach a mass audience as old media does. Or, more simply, put, "They aren't talking to you!" And we aren't really talking about audiences.

Social networking sites like MySpace and Facebook have millions of accounts, yet the median number of friends on MySpace is two, whereas the average is 55 - although the distribution isn't bell-shaped, it skewed toward lower numbers. This means that social networking is largely done pairwise: One person communicating with another. A blogger like Felicita is one of millions of pairwise (or perhaps tertiary or higher) interactions. So, from an "old" mass media viewpoint, an audience of tens or hundreds is a failure

of sorts - yet audience is the wrong word to use. What Felicita has is a "community", a community in which she, for whatever reason, resonates. It is a secret of Web 2.0 (social networking) sites that one doesn't need professional quality in video, or narrative technique, or performance to be successful. The success of a content-rich site would be much like a dinner party: it isn't important what's on the plates, but instead what's on the seats. The social networking of Web 2.0 allows people to choose what appeals, rather than sit and receive coarse marketing messages, with a global communication cost so low the lowest common denominator in communication can be overcome. This means the tyranny of the most popular has been defeated by the long tail, a concept outlined in a popular 2006 book by Chris Anderson:

> *The theory of the Long Tail is that our culture and economy is increasingly shifting away from a focus on a relatively small number of 'hits' (mainstream products and markets) at the head of the demand curve and toward a huge number of niches in the tail. As the costs of production and distribution fall, especially on-line, there is now less need to lump products and consumers into one-size-fits-all containers. In an era without the constraints of physical shelf space and other bottlenecks of distribution, narrowly targeted goods and services can be as economically attractive as mainstream fare.[25]*

The long tail means that we can now serve previously under-served audiences. Prior to the Web it would have been extremely expensive to reach small audiences, but businesses like Amazon find that everything in their offerings is sampled once; perhaps not more than that, but at least once.

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[25]Anderson, Chris, *The Long Tail* (New York: Hyperion, 2006).

The same applies to the engineering profession and its content. One may well ask who would want to hear an engineer talk about "plate efficiency" in a chemical engineering unit operation or listen to the details of how fiber optics work. Yet like Amazon.com and their infinite bookshelf, each of these videos would likely get at least one pairwise interaction because the topic resonates with someone. And that is precisely what engineering's long tail should do: match up interests and entries. This moves the mass media component of engineering outreach from an emphasis on big media hits - a television show or a *New York Times* article - to a world where, instead, 1,000 bloggers discuss in detail some aspect of science or engineering. What, then, are the details that make a social networking or wiki-style model work?

Wikis work! Within academia the Wikipedia model gets little respect, yet for many subjects it works very well.[26] I use the site frequently and am often startled by the quality of information.[27] As of August 2010 Wikipedia has a bit over three million articles and is the third most popular site on the web behind Google and Facebook; the other top ten are all commercial.[28] So, Wikipedia's utility for millions of users has been settled. The interesting questions

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[26]See The Chronicle of Higher Education's discussion among academics about Wikipedia at http://chronicle.com/live/2006/10/halavais/

[27]Errors, of course, occur, but that isn't unique to Wikipedia and new media. Recently I was reading John Hale's majestic *The Civilization of Europe in the Renaissance* (1994) - a 20th century masterpiece of history and a sterling example of "filter, filter more, then publish." On page 86 it announced that Francis I took over from his father Louis XII as King of France. Alas, Francis was a distant cousin. Unlike Wikipedia, this error will last for years and years.

[28]See *http://toolbar.netcraft.com/stats/topsites* for the most current statistics.

are why it works and how it can be used elsewhere.[29]

Four observations shed light on how the wiki model works -- whether it be text-, still-photo-, audio- or video-based. These observations are key to making an engineering new-media outreach project work.

- **Process, not product.** The key idea to keep in mind is that something like Wikipedia is not a product. Although the *-pedia* suffix makes one compare it to an encyclopedia, it is instead a process. A wiki doesn't work by collectivism but by continual and unending argumentation and emendation.

- **Centered on a debatable question.** A good wiki usually focuses on a question of the form "How does this work?" about an activity that its users want to engage in. For example, Flickr has a lively forum on HDR. Photographers make these High Dynamic Range images by combining three different exposures. This desire to do it oneself drives the forum.

- **Accommodate different levels of contribution.** Unlike a corporation, not all people who contribute to a project need to contribute equally. Some (many, in fact) do little, but a few do a lot. Why does this work here, but not in corporations and businesses? A car company, for example, must a) make cars and b) be a company. It takes a lot of work to be a company. Wikipedia, in contrast, doesn't need to be sure its employees show up. A company needs to ensure all workers are interchangeable and do the same amount of work; but Wikipedia contributors come and go. Return for a moment to the photos of Steuben County I mentioned earlier. As is typical of

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[29]To test whether Wikipedia truly works, in October 2008 I created a short entry for a person worthy of inclusion: Professor Frances H. Arnold of the California Institute of Technology. I never edited the entry again, instead just letting it sit there. Others found it, added her correct birth date, inserted details of her work, and listed references.

a sharing site like Flickr or Wikipedia, the effort shows a skewed distribution: user *pawtrait04* contributed 1,547 photos, *kpmst7* 70, *danie.roman* 29, *Heron Hill Winery* 12, and *grockwell61* contributed 9 photos.

- **No experts.** Designating experts means no one writes an article. In a wiki, more people are likely to start a bad article than polish a good one. One must truly trust the "publish, then filter" model and let the filtering remove the most atrocious ones.

Still the writers need guidance. Jimmy Wales, one of Wikipedia's co-founders, notes:

Any company that thinks it's going to build a site by outsourcing all the work to its users completely misunderstands what it should be doing. Your job is to provide a structure for your users to collaborate, and that takes a lot of work.

Not providing sufficient structure is the reason an experiment that *Wired* magazine carried out in "crowdsourced" journalism ended in failure.[30]

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[30]Assignment Zero was an experiment in "pro-am" (professional/amateur) journalism, in which journalism is run by the public rather than the media. Assignment Zero was an attempt at journalism without strings — one might call it an audience-run newsroom. In the Assignment Zero project, stories were thought up, then chosen and researched by "citizen journalists," rather than designated by editors. The aim of this experiment was to promote social democracy — rather than the anarchy that one assumes would naturally result — and worked to employ a crowd model that allowed several contributors to shape a story. It failed.