

Personal Knowledge Publishing and Its Uses in Research

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In this two-part document, I analyze an emerging form of knowledge sharing that I call **personal knowledge publishing**. Personal knowledge publishing has its roots in a practice known as "weblogging" that has been rapidly spreading on the World Wide Web over the last three years. It is a new form of communication that many expect will change the way people work and collaborate, especially in areas where knowledge and innovation play an important role.

If you are a researcher or knowledge worker who is not very familiar with weblogging and personal knowledge publishing, reading this document should help you grasp the significance of this practice and better understand how you might benefit from getting involved in personal knowledge publishing. Although the emphasis is on research work, most of the ideas generalize to other kinds of creative knowledge work where knowledge sharing plays a role.

In the [first part](#), I describe what weblogs are, and explain how they are altering communication patterns on the Web. The [second part](#) focuses on personal knowledge publishing and similarly describes the new patterns of communication that this practice is giving birth to. In particular, I explain how these patterns can facilitate the emergence of new communities of knowledge. I also point out the current limitations of personal knowledge publishing. I review the most important points in the [conclusion](#).

Part I. Weblogs

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1. Defining the term

Weblogs may be viewed as an evolved form of personal Web pages, or "home pages". The term, coined by Jorn Barger in 1997, refers to a web site that is a "log of the Web", indicating a record that points to material available on the World Wide Web. A weblog editor is often called a *weblogger*. The shorthand terms *blog* and *blogger* are also commonly used; usage of the word "blog" has become so common that it has recently been [drafted](#) for inclusion in the Oxford English Dictionary.

Before I get into the full-blown definition, you may want to look at figures [1](#) and [2](#) as indicative examples.

Many definitions of the term "weblog" have been proposed. Since the genre is evolving quickly, there is currently only a rough consensus on what properly constitutes a weblog. However, a number of features

are commonly agreed to be defining characteristics of the genre. In what follows, I will use the term weblog to refer to a web site that exhibits those features:

1. Personal editorship

The content of the site is under the responsibility of a single person (although visitors may post comments in designated sections) and to some extent reflects this individual's personality. Whereas the creation of web pages may be outsourced, you cannot have someone else run your weblog, because then it would no longer be *your* weblog.

2. Hyperlinked post structure

The site's contents consists in typically short posts that feature hypertext links referencing material outside the site. These may be links to news items from sources such as CNN.com or the New York Times Online, or to other weblog posts. The selection of links is entirely up to the editor, who may link anywhere on the web. There is also no prescribed length for a post - some posts simply consist of a single link to content elsewhere, but most often they also include additional information and/or personal commentary on the issue under discussion. The presence of links is what distinguishes the weblog from the *online diary*, in which an author mostly recounts personal events and thoughts, and which is not especially relevant to anyone outside the author's circle of friends.

3. Frequent updates, displayed in reverse chronological order

A weblog is a continuously-running publication, much like a daily or weekly newspaper. The latest posts (hence the freshest content) appear at the top of the weblog's main page, and older content appears further down. This characteristic creates an expectation of updates that incites readers to visit the site on a regular basis. A relationship is established between author and reader and strengthened with each visit, just as happens with other regular publications. This probably marks the most fundamental distinction between weblogs and personal web pages or "home pages", the latter often being seen once and seldom revisited.

4. Free, public access to the content

The site's contents is freely accessible via the World Wide Web without restriction such as payment or membership. (This is often taken for granted on the Web, but it distinguishes weblogs from commercial forms that make sharing more difficult.)

5. Archival

While older posts may disappear from the front page, they are archived and may be accessed elsewhere on the site. Each post is assigned a permanent hyperlink or *permalink* which makes it possible to reference older material.

Setting up a website and following the basic template above is all it takes to become a participant in the weblogs community.

2. A brief history of weblogs

In this section I very briefly sketch how weblogging has come about and become a widespread practice on the Internet. More detailed accounts have been written; see [this list](#) for references.

Early years

The first weblog was Tim Berners-Lee's "What's New?" page at <http://info.cern.ch/>, which pointed to new Web sites as they came online. The second weblog was Marc Andreessen's "What's New?" page at the National Center for Supercomputing Applications (archived [here](#)), which performed a similar function until mid-1996.

Several new weblogs appeared with the explosion of the web in 1996-1997. Early weblogs include Dave Winer's [Scripting News](#), Jorn Barger's [Robot Wisdom](#), and Cameron Barrett's [CamWorld](#). Although it is now collectively edited, Rob Malda's [Slashdot](#) deserves mention, as it became (and to this day remains) phenomenally popular.

The content of early weblogs was most often a mix of links and commentary that was tailor-made to their editor's taste. Over time, those weblogs built sizable followings because they provided a unique selection of fresh content that appealed to a segment of the online population and because of their personal flavour. The personal nature of early weblogs is captured in Rob Malda's [comment](#), "*Slashdot got successful largely because I was my target audience. I wasn't trying to make a site for someone else, I was creating the site that I wanted to read.*"

Figure 1: Cameron Barrett's CamWorld, 1998.

ENRIL LIST | RANDOM THOUGHTS | WEB DESIGN | NEW MEDIA

CAMWORLD

LINKS | SITES | SCREWED | RANTS | NON-FICTION | FICTION | ARCHIVES | FISH | FEED

<-- May 1998		JUNE 1998				July 1998 -->	
	1	2	3	4	5	6	
7	8	9	10	11	12	13	
14	15	16	17	18	19	20	
21	22	23	24	25	26	27	
28	29	30					

Tuesday, June 30, 1998

A nice piece by Matt Neuman: [The Exception That Proves The Rule](#)

How many bombs does it take to bring down the Internet? The Scientific American [reports](#) that routers are the most vulnerable points.

The Book Report reports in an interview [Stephen King](#) wants to write a book called "On Fiction" which will be an anthology of stories about writing. But, he feels it's risky. No way, Stephen! Damn, where can I pre-order?

From March: Online Press shows us other people's [daily bookmarks](#). Here's a [partial list](#) of mine.

For my local readers: I suppose that everyone has to start somewhere. Watching public television has become a major fascination for me while I work online. Tonight I saw the end of an independent film produced by an outfit called Quickly Produced Television, made up of a few of the local Indie film-makers in the Ann Arbor area. I came very close to changing the channel, but was nicely rewarded for my suffering with a tasty URL. [Click](#).

Monday, June 29, 1998

CamRant: [BULK EMAIL MARKETING WORKS! Spam](#)

What is [community branding](#)?

Figure 2: Dave Winer's Scripting News, 2002.



The beginning of the "weblog boom"

Most of the first weblogs were home-grown by web designers and software developers, who were the most aware of the capabilities of the technology. In the early years, there existed only a handful of them. In 1999, however, several free or inexpensive weblogging services, such as [Pitas](#), [Livejournal](#), Pyra Labs' [Blogger](#) and UserLand's [EditThisPage.com](#), were introduced. As using these systems requires little technical knowledge, the practice suddenly became much more accessible. This resulted in a spectacular growth in the number of weblogs.

There were around a thousand weblogs in mid-2000. As of mid-2002, estimates put the number of weblogs at around a half-million, with the Blogger system alone currently reporting more than 350,000 registered users and creating a new weblog every 40 seconds, or more than 60,000 a month (Steven Levy, [Living in the Blog-osphere](#), August 2002). However, as Rebecca Blood [pointed out](#), many of the new weblogs lean more (if not completely) towards the inward-looking online diary form and would not qualify as weblogs under our definition.

One of the most significant things that happened with the growth of the weblog community is that weblogs became a conversational medium. Many editors would use their weblog to discuss things that had been said by another editor, using links to enable readers to follow threads. Arbitrary numbers of people could participate in such conversations, provided they had their own weblog.

On the surface, this may appear like another incarnation of online many-to-many communication as already implemented in the form of newsgroups or mailing lists. However there is a crucial difference. Since contributions are posted on their author's space, replying to someone else's post does not necessarily mean that the reply will be seen. This has a bearing on the quality of the material that one can find in weblogs, as I will explain shortly.

Another thing that happened during the recent boom was that, as webloggers started reading other people's weblogs, a practice called [blogrolling](#) became widespread. The Microcontent News glossary defines a blogrolling list as "*The section of a weblog that lists the sites that the blogger reads on a regular basis. This is usually located on the side of a blogger's frontpage, or on a separate page linked off of the frontpage.*" A unique aspect of these link lists is that they make explicit the social connections that exist among webloggers.

Recent years

In recent years, the weblog phenomenon has continued its expansion, and the population of webloggers has become increasingly diverse. Growing numbers of [professionals](#) have started weblogging and use them "to reflect upon their work, to follow developments in the field, and to publish ideas" ([Mortensen and Walker, 2002](#)). Apart from software developers and web designers, the [most well-represented professions](#) in the "blogosphere" are information architects, journalists (starting in the fall of 2002, UC Berkeley is offering a journalism [course](#) on weblogging), librarians, lawyers, and education specialists. Knowledge management specialists, information technology consultants and researchers are also increasingly using the medium to engage in conversations about the problems they are trying to solve in their work.

Weblogs are even making incursions in politics. For instance, Tara Sue Grubb, a U.S. politician running for Congress, [started a weblog](#) in August. Grubb uses [her weblog](#) to enable people to ask her questions about her views on topics important to them, and periodically posts short commentaries, essays or questions to readers. In a sense, her weblog thus provides a space to host a permanent virtual press conference to which everyone is invited.

3. How weblogs foster quality

At this point you might ask yourself, "If there are no reviewers and anyone can write anything in their weblog, how is it then possible to find high-quality content in weblogs?". The answer is that quality emerges in weblogs largely as a result of the web of hyperlinks that is weaved by the community of editors. Although it is true that there is no review process prior to publishing, one definitely occurs immediately after publication.

As people read others' weblogs, they link selectively to the content that they find interesting. Content that has been referenced more often directly obtains more visibility. But this effect is amplified by search engines such as Google that rank web pages according to the number of pages that link to them. As a consequence, when people search for a term, the pages that turn up first are the ones considered most relevant or authoritative by the overall community of editors. The relationship between Google and visibility is further discussed in Cory Doctorow's [How I Learned to Stop Worrying and Love the Panopticon](#) and John Hiler's [Google Loves Blogs](#).

Note that these dynamics mirror those of academic publishing: articles that are cited more often are more visible and are read more. This is useful in two respects: it encourages quality, and it makes it more likely that people will find the most relevant documents. Obviously, in both cases, relying on the number of citations as a reliable indicator of quality requires that one trust the community. Further note that insofar as references yield visibility, they carry to some extent the power to structure knowledge, a connection that is further explored from a critical humanist perspective in Walker's [Links and Power: The Political Economy of Linking on the Web](#).

The other factor that helps quality emerge in weblogs is personal ownership. Although webloggers participate in a community, the contents of a weblog *is not a communal space*; it is under the sole responsibility of its editor. Now, most people write in order to be read, to engage other minds. As with any

publication, the best way to build and keep a readership is to have an output of consistently high quality. As each individual makes personal decisions as to what to read, higher quality weblogs are read regularly by more people, and thus are linked to more often and appear in more blogrolling lists.

Personal ownership makes weblogs different from other electronic forums like mailing lists. In a mailing list, anyone can write anything and it will automatically end up in everyone's mailbox (unless a moderator is introduced; but this kind of centralized management does not scale easily). By contrast, although a weblog editor may say anything he pleases, in order to be read widely, he or she must build a reputation over time. In [the words of David Walker](#), *Weblogs' users don't vote within the site; they vote by choosing the site as a reliable source of guidance. In effect, they say to the site's author: "you make the choices I'd make if I had time"*. Also, as a weblog keeps all of a person's writing over months or years in a single place, people tend to care more about what they put in it.

To summarize the above two points, quality content is found in weblogs in spite of the absence of centralized control because of the continuous post-publication review process and because good contributions can be published, read, and linked without being bundled alongside lesser quality content.

4. Uses of weblogs

In this section, I explore how weblogs serve a number of important functions for the people who use them.

Selection of material

A tremendous amount of content is published daily, in print as well as on the Web, piling on top of an already enormous amount of literature. As it is impossible to read even a fraction of it, people need means of filtering this output to find the material that will be most relevant to them.

Specialized publications, focusing on a particular domain of interest, provide one such means. A weblog operates in much the same manner. By reading a weblog that is edited by someone with interests similar to yours, you obtain a view of possibly relevant material without having to scan that person's sources. By combining the output of several chosen weblogs, you obtain a tailor-made publication that gives you more "personal relevance per unit volume" than any news source that caters to large demographics.

Since weblogs offer reviews of other material, they give an informative perspective on this material. Especially noteworthy material gets several mentions in different weblogs, along with views from each of their editors. This helps a reader gauge the significance of a particular document before even having to look at it. (This process is called triangulation.)

It is important to note that this filtering is a *post-publication* process, in sharp contrast to traditional publishing, where some content is culled at the source, never to be seen by anyone other than the editors. Thus this process can produce obscurity, but not censorship.

Personal knowledge management

A weblog that you edit also serves as a chronological record of your thoughts, references and other notes that could otherwise be lost or disorganized. When the need arises, you can either look up the weblog's contents using a search engine or visit it chronologically. Links between different posts that were put in by the author help trace threads of thought. Further discussion of this aspect can be found in [My Blog, My Outboard Brain](#) by Cory Doctorow and the next section on personal knowledge publishing.

Conversation

As I have already mentioned above, weblogs have evolved to become a medium for public discussion, in the process making the two-way nature of the Web much more prominent. A custom has evolved of linking to sources, paralleling the academic practice of citing other works. As a result, outsiders can more easily track the conversations and get involved in them.

Social networking

Weblogging affords an opportunity for social networking. Over time, weblog editors come to be known quite well by their regular readers; these personal ties may prove invaluable in giving them opportunities that they would not have had otherwise. For instance, it is not uncommon for a weblog editor to ask for, and receive, advice or help from his readers.

Networking among weblog editors is most evident in two aspects. First, hyperlinked conversations can be found everywhere and attest to the existence of a web of relationships. Second, blogrolling lists go further, essentially asserting that a particular weblogger has enough interest in another to regularly read what he or she has to say.

By collecting and examining data on what pages linking into their weblog were used to reach it (commonly known as referer lists), people often find like-minded people by following the links in the other direction. Thus they can connect with "who found them". Sam Ruby provides an account of this in [Manufactured Serendipity](#).

Information routing

Taking a bird's eye view, we can see that the global system of weblogs has the beneficial effect of letting information circulate more freely across communities. The reader and editor of a weblog often do not belong to the same community or organization. Nothing prevents, say, an european architect from reading and quoting from an american gardener's weblog. Ideas, information and inspiration at the intersection of architecture and gardening can enter a community of architects thanks to such a relationship, which could be hard to establish and maintain outside the system of weblogs.

5. The technological evolution of weblogs

Weblogs evolve quickly

The technologies and practices that underlie weblogs and the resources which complement them evolve very quickly, on a timescale of months if not weeks. This owes to several facts:

- **The weblog community is decentralized.** In other words, its operation does not depend on a single piece of software or specification that is under the control of one particular organization. Individual participants are free to experiment with their own weblog, modify its layout, work new features into it, etc., without requiring the sanction of any official body and without threatening the overall system. This loose coupling means that many innovative features can be tried simultaneously and independently in a way that does not endanger the overall system.
- **There is a large and diverse population of users** who are willing to experiment with the medium, give feedback, and learn from one another's experiences. Since weblogs implement a communication network, the word about an interesting innovation circulates very easily.
- **Many editors of weblogs are also web software developers.** Having first-hand experience as webloggers makes it easier for them to identify new features that could improve the experience. Having knowledge of web development enables them to craft tools for themselves.

- **A philosophy of sharing generally prevails in the weblog community.** Many tools are freely distributed by their authors, so good ones can get widely adopted quickly, and people can build upon them.

Examples of innovations in weblogs

Here I give one-paragraph descriptions of two innovations that have been successfully deployed in the weblogs community. Although there is a lot more to be said, I will not go into any further depth on the technological aspects of weblogs. One of the best resources to follow this evolution is [Jon Udell's Radio Weblog](#). I note in passing that, although weblogs generate tremendous interest, by and large, academics have not been involved in technical innovation in this area (one notable exception being [Cameron Marlow](#)).

Content syndication and aggregation

The idea of syndication in the context of weblogs is to make the content of individual posts available on the web in a standard format known as Rich Site Summary or RSS. The combined availability of RSS feeds and software known as [personal news aggregators](#) makes it possible for you to select the sources you are interested in and subscribe to them. Subsequently, your aggregator automatically retrieves content from all selected sources and displays them together on your screen, which means that you don't have to actually visit any of these sites to look for new content. It is possible to subscribe or unsubscribe from any particular source at any time. Nowadays most weblog tools offer the possibility of publishing an RSS feed, and a lot of people publish such a feed and use aggregators to make more efficient use of their time.

Social networking tools

Together, the millions of links present in weblogs form a giant, visible web of affinity, which provides fertile new ground for studies relating to social networks such as Flake *et al.*'s [Self-Organization And Identification Of Web Communities](#). Several people have created [systems](#) that collect weblogs' inbound and outbound links and in some cases compute a "weblog neighborhood", that is, a list of other weblogs whose content appears to be related. This information is used by webloggers to find other people with similar interests that they may not already know about.

6. Further reading

I have only presented a succinct overview of weblogs. The phenomenon is big and diverse enough that no one can claim to have an all-encompassing view of it and it is thus advisable to get many perspectives. I have already linked to a few of these in the text above. Among sources that are mainly concerned with weblogs, there are [Radio Free Blogistan](#), [Blogroots](#), and [compendiumblog](#). The [Weblog Kitchen](#) is a collaborative site that explores current research into weblogs and other hypertext systems. I should also mention that several books on weblogs have been published. A list is available as part of the [blogroots resource directory](#). Finally, bear in mind that simply reading about weblogs will not reveal all about them. The best way to really understand the phenomenon is to participate in it.

Part II. Personal knowledge publishing

1. [Defining the term](#)
2. [Examples of personal knowledge publishing](#)
3. [Comparing personal knowledge publishing and other forms of knowledge sharing](#)
4. [The usefulness of personal knowledge publishing for research](#)
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1. Defining the term

"Like most of us, Edsger always believed it a scientist's duty to maintain a lively correspondence with his scientific colleagues. To a greater extent than most of us, he put that conviction into practice. For over four decades, he mailed copies of his consecutively numbered technical notes, trip reports, insightful observations, and pungent commentaries, known collectively as "EWDs", to several dozen recipients in academia and industry. Thanks to the ubiquity of the photocopier and the wide interest in Edsger's writings, the informal circulation of many of the EWDs eventually reached into the thousands."

- In Pursuit of Simplicity: The Manuscripts of Edsger W. Dijkstra

The late mathematician and computer scientist Edsger Dijkstra was a precursor of personal knowledge publishing. Personal knowledge publishing quite simply consists in an activity where a knowledge worker or researcher makes his observations, ideas, insights, interrogations, and reactions to others' writing publicly in the form of a weblog. The current technology obviously makes this much quicker, easier and inexpensive than Dijkstra's methodology.

In contrast to the majority of weblogs, most instances of personal knowledge publishing focus on a particular area of interest, although editors occasionally make detours into other topics that spark their interest.

I wish to make a distinction between personal knowledge publishing and knowledge logging or [K-logging](#). K-logging is actually the more general term of the two. It encompasses personal knowledge publishing, which consists of publishing on the Web for everyone to see, as well as "inward" K-logging, where knowledge sharing is restricted to an organization, and typically supported by an intranet. The distinction has to do with the scope of distribution, but not with the tool itself.

2. Examples of personal knowledge publishing

In this section I document examples of personal knowledge publishing drawn from a number of different areas. Obviously this is a cross-sectional view, but hopefully paints an informative picture of how it is actually practiced. Although personal knowledge publishing is popular with many professions, as has been mentioned previously, my main focus here is on researchers. (Several more weblogs that are edited by researchers are listed in Jill Walker's document [Research Blogs](#).)

John Baez' [This Week's Finds](#)

John Baez is a mathematical physicist who specializes in quantum gravity and n-categories. He regularly writes a column in which he describes papers and books of interest to him, as well as reporting on what's been said at the various conference and scholarly gatherings that he attends. He posts the column to a few USENET science newsgroups, as well as on his website.

Lawrence Lessig's [Lessig Blog](#)

Lawrence Lessig is a professor at Stanford Law School, author of "[The Future of Ideas](#)". He uses his weblog to discuss the legal and political issues surrounding copyright, particularly in the world of software.

Gonzalo Frasca's [Ludology](#)

Gonzalo Frasca does research on the potential of videogames as a medium. His weblog, [ludology.org](#), reports on developments in videogame theory and points to upcoming conferences related to this field. It

serves as a hub for the community of researchers in game studies. Frasca occasionally receives e-mails from other researchers and posts them on Ludology.

Ray Ozzie's [Weblog](#)

Ray Ozzie founded Groove Networks, Inc. in October 1997. Prior to that, he led the development of Lotus Notes. Ozzie uses his weblog to discuss his motivations and the vision behind his company's products and to relate them to other innovations in the area of collaboration software.

David Gurteen's [Knowledge-Log](#)

David Gurteen is a knowledge management consultant. Gurteen describes himself as "*an independent thinker, researcher, consultant, author, and speaker*". He edits a Knowledge-Log and distributes a newsletter monthly to over six thousand people across the world. He writes: "*I log (blog) items of interest that I have found on the web, experiences or insights that I think you will find useful mainly but not strictly limited to the area of knowledge management and learning.*" Gurteen's knowledge log often sparks illuminating conversations between other webloggers with an interest in knowledge management.

Jill Walker's [Jill/txt](#)

Jill Walker does research on digital narrative and is also a weblog and hypertext theorist. Quoting from her site: *I started blogging to keep notes and keep track of stuff I found on the web, and to make myself formulate opinions and voicing them in public. I now use my blog to catch and try out ideas. Writing my dissertation I now find that I often use blogposts to build a chapter, and that a lot of my blogging is directly moved into my dissertation, and edited there.*

Stephen Downes' [Web](#)

Stephen Downes is a researcher in online learning. Every weekday he issues the OLDaily, a publication where he discusses new developments in the field, and puts them in context for the benefit of his readers. The OLDaily appears on the web, but email subscriptions are also offered. Downes has upwards of a thousand regular readers. He also posts longer essays at a rate of about one per week.

The better part of Downes' research output is actually distributed over this informal channel. Downes hypothesizes that this form of contribution is more useful to the growth of knowledge than reviewed academic publications: *A professor reads an article, published in a (free online) journal, and reacts: this reaction is typically the source of valuable insight. Combined with some sort of knowledge management and discussion tool, a personal blog is probably more useful to researchers than a slew of academic papers (or so I will find out, I guess, as my newsletter production vastly outpaces my academic paper production).*

Downes recently [asked](#) his readers, "*Would you rather I spent the same amount of time producing a half dozen publishable quality academic papers a year, or would you prefer to see the newsletter continue? Which would be more useful? Which would provide a more lasting contribution to the field?*" Seventeen people took the time to post responses to his website. All of them said he should go on with the newsletter.

3. Comparing personal knowledge publishing and other forms of knowledge sharing

Knowledge can be shared in many ways. Where does personal knowledge publishing fit in? What does it offer that more common practices do not? Let us compare it to speaking and engaging in conversations in conferences, and circulating article preprints on the Web (a practice that is becoming common among researchers).

Consider first the case of conferences. As a speaker, you typically get a few questions and a little feedback after your talk. However, practical time and space limits mean that you can't go past your time slot, nor engage in long exchanges with members of the audience. Personal knowledge publishing is like a permanent conference without those constraints. People can read your words long after they have been written, and have conversations about them for as long as they like.

Face-to-face conversations in small groups can go on longer than the exchanges that follow a presentation, but they still require that everyone be present at the same place (which physically constrains the number of people who can gather), and more importantly, at the same time. They have a limited radius of influence - you cannot link to a face-to-face conversation. By contrast, weblogged conversations can be picked up by anyone, at any time. They can be revived by newcomers months after they have seemed to die down.

Pushing papers out onto the web is another way to share your knowledge, and indeed it is the form of communication that is closest to personal knowledge publishing. There is a close correspondence between weblog posts and assorted hyperlinks, on the one hand, and papers and assorted citations on the other. However, the article format does not lend itself to informal discourse. You don't see people posting papers to reply to one another at anywhere near the rate that is seen in personal knowledge publishing communities. Dropping the traditional length and formality conventions, however, would yield something that is very close to personal knowledge publishing. In this light, personal knowledge publishing appears as a direct descendant of traditional scholarly prepublication.

I must be quick to point out that personal knowledge publishing has limitations of its own. For instance, it is technology-intensive, it does not convey body language and other visual cues, and it does not enable rapid exchanges the way face-to-face or telephone conversation does. What this means is that personal knowledge publishing is not in direct competition with other forms of knowledge sharing. Rather, it fits in a niche of its own, filling a space not adequately covered by the other available means.

4. Uses of personal knowledge publishing for research

Here I explain how personal knowledge publishing may enable researchers to satisfy a number of needs that the other available forms of communication do not serve very well. I note that a number of these needs have been singled out by John W T Smith in his lucid paper "[The Deconstructed Journal - A New Model for Academic Publishing](#)".

Helping in selecting material

Perhaps more than anyone else, the contemporary researcher is suffering from information overload. More than a [million scientific papers](#) are published yearly, and the output rate doubles every 15 years. By the nature of their work, researchers must closely follow developments in his area and hopefully keep an eye on closely related fields. As a result, there is an increasing demand for reliable cues in selecting material.

Researchers already rely in a large measure on personal recommendations coming from a network of people they trust. The personal knowledge publishing network is a public extension of this mechanism. Sooner or later, noteworthy material gets mentioned in one or the other of the weblogs that one reads. The usefulness of publicly reviewing content for a researcher should not be overlooked, as it enables him to get credit and visibility, and to have a certain measure of impact on the thinking of others.

Visible web of interpersonal trust

The identity of leaders is usually known pretty well to people within a field, but outsiders frequently have a harder time pinpointing who is who in a community. Weblogs, and blogrolling lists in particular, enables one to see quickly whose viewpoints are more widely regarded. Blogrolling lists implement a public web of trust that can be navigated to find other competent people with relevant work.

Managing personal knowledge

As has already been mentioned earlier, weblogs provide a quick-and-dirty way to keep tabs on one's reading and thinking.

Obtaining speedy feedback on ideas

It often happens that one has an idea but doesn't quite know who would happen to be interested in it. Personal knowledge publishing enables a researcher to "throw ideas up in the air" and see where they will fall. With a little luck the idea is picked up by a reader and illuminating discussions may ensue in a short amount of time. Since people quote one another, the potential reach of an idea is not restricted to immediate readers. Moreover, the public and immediate nature of the feedback makes it easy to discover connections with previously unknown people. In this sense, personal knowledge publishing is a way of [cultivating serendipity](#)

Facilitating connections between researchers

A personal knowledge weblog is a kind of supercharged [global business card](#). By going well beyond one-paragraph descriptions of research interests and lists of publications, it tells a lot about a person and their current interests, much more so than typical researchers' home pages. Publication lists lag research activities in a fundamental way, because they are based on what is already published, rather than on what a researcher is currently pursuing. A weblog makes it possible for a researcher to indicate what he is reading and what he's inquiring into in a timely manner. It thus serves as a good vehicle for establishing meaningful collaboration relationships.

Clustering content relating to emerging fields

A common problem with emerging disciplines is that one does not know where to look for content related to that discipline, because articles are usually spread over many journals in different areas and publications specifically devoted to the subject do not yet exist. This has been called the "scatter problem". Using a weblog, a researcher with a particular interest can easily chart out an area of interest by pointing to relevant content as he encounters it. If the material is available online, he can link to it; the result of this selection is a fine-grained "virtual journal" that other people with a similar interest can use to get what they're looking for more quickly. Such virtual journals are also catalysts for forming new research communities.

Fostering diversity

In research, to make your work visible traditionally requires that you get it refereed and published. However, ideas that are very original (especially new theories or paradigms) are less likely to get published (Schauder, 1994). In a personal knowledge publishing network, it can be easier to push out such ideas and get feedback on them. I have argued above that the people who read a weblog typically trust its author to a certain extent. They may be more willing to examine and comment on his/her radical new ideas instead of dismissing them out of hand as they would with an unknown author. Personal knowledge publishing thus may better enable such ideas to be acknowledged, circulated and discussed, and gives them a better chance to be taken seriously.

An additional problem with traditional publication is that negative results, accounts of blind alleys, and results obtained in reproducing experiments are seldom seen as publishable. However they carry valuable information. The informal medium of personal knowledge publishing enables researchers to let others know about such things, so that effort will not be wasted.

Opening up windows in the Ivory Tower(s)

Academia is often criticized for being too closed upon itself. One reason for this is that many academics spend the bulk of their time communicating amongst themselves. Further, learned societies have traditionally organized informal communication within their individual fields with little attention to contacts with other fields. One consequence is that people are often not aware of developments happening in other fields, even when there are close connections to their own work. Lessons learned do not travel very far; the wheel is reinvented too often.

Personal knowledge publication is unencumbered by disciplinary or institutional boundaries: anyone can, and does, link to anyone. The medium enables relatively persistent contacts to be established between people in different fields, who otherwise would never have found about each other, or would not have kept in touch because of the inherent difficulties. Thus there is increased potential for ideas to make it out of the community they originate from. Communities become more permeable, socially and intellectually.

Let us quote Douglas C. Bennett, who wrote in [New Connections for Scholars](#) about the potentialities of electronic communication: *"Scholars need not confine themselves to one or two established networks in which to participate, but rather can tailor their sources of information and networks of colleagues to suit their particular and evolving interests. Scholarly identities may become much more varied as a consequence."*

Although this particular impact of technology has been conjectured for a long time, it can be argued that this did not quite happen as quickly as it could. We see it emerging now in personal knowledge publishing networks. Each participant builds his or her own personally customized social network, of which he or she is the center, based more on intellectual affinity than common disciplinary affiliation.

5. Limitations of personal knowledge publishing

I have discussed the potential of personal knowledge publishing for knowledge sharing at length in the previous section. Here I provide a critical assessment of this potential. There are a number reasons why many researchers are unlikely to adopt this technology in the short term.

First, it represents a break from usual social and cultural practices. Many researchers are used to seeing informal communication as a private or semi-private thing. Voicing out personal ideas in a public (and recorded) manner is something new for many. (Regular users of mailing lists will however find the transition more natural.) Moreover, in the case of science, review is traditionally private and publicly criticizing others' work is not a systematic practice; thus there may be a reluctance to do it.

Second, there is not presently a critical mass of researchers who engage in personal knowledge publishing, so many won't find compelling reasons to participate, and will be content with the usual forms of communication. The early adopters are those who stand to gain the most from getting involved: young scholars with a social network that is not fully developed, and interdisciplinary researchers who need to reach out. As established researchers in established fields already have good communication channels at their disposal, they might not be so prone to embrace the tool. Obviously, a [network effect](#) is present here; the value of the practice can be expected to rise in an accelerating manner as more people jump in.

Third, finding weblogs that one likes takes time. The space of weblogs has grown anarchically and is not well-organized. Although several [weblog directories](#) exist, they are hopelessly incomplete. Moreover, it is often next to impossible to adequately classify weblogs, because people's interests seldom fall within a well-defined category. A recent initiative aims to develop a metadata standard to allow authors to describe their weblog in a single place, which could help in locating them - although it is not clear whether everyone will use the standard.

Fourth, there are the issues of competition and secrecy. Knowledge sharing is arguably not the goal of every researcher. Many can be expected to exercise caution towards publishing preliminary ideas for fear that others may work them out before they do. In many circles the norm is to restrict sharing to the people one knows and trusts. However, as the network grows, disclosure may actually become a better strategy. As Phil Wainewright [writes](#): *in an extensive open network, the one thing you can be sure of is that someone else already has the same idea as you. If you deny that fact, you relegate yourself to coming in behind them.*

Finally, as useful a contribution to the growth of knowledge as it might be, this activity cannot be expected to be readily recognized as scholarship by academic instances, at least not in the short term. Personal knowledge publishing is done at the expense of formally recognized activities, although, just as other kinds of informal communication, it may have a positive impact on research activities.

6. Further reading

While there is a large amount of literature about weblogs, few documents have been specifically concerned with personal knowledge publishing. Torill Mortensen and Jill Walker provide an interesting perspective in [Blogging thoughts: personal publication as a research tool](#) (pdf). Chapter 8 of the book "We blog", [Using Blogs in Business](#) has related content, although it does not focus on knowledge sharing.

Other sources that relate to personal knowledge publishing include the [K-logs discussion group](#), [KMPings](#), Phil Wolff's [A Klog Apart](#), and my own weblog, [Seb's Open Research](#).

Conclusion

In this document I have tried to convey an understanding of what personal knowledge publishing is, where it comes from, and what it can be used for in the context of innovation-related work.

Personal knowledge publishing has grown out of weblogging, an increasingly popular and quickly evolving practice that enables people to communicate publicly and establish relationships without suffering the inconvenience of other means of public discussion. It is a different way to share knowledge, which has distinct advantages compared to more traditional ways, and has limitations of its own. I have pointed to examples of personal knowledge publishing to enable readers to go beyond the abstract notions presented here.

Personal knowledge publishing is still in its infancy, but it fulfills many needs that are not adequately satisfied by other means of communication. This suggests that, just like weblogs three years ago, it is at the beginning of a growth curve that could make it an important vehicle for sharing knowledge and fueling innovation in years to come.

Up to now, informal communication between innovators has had a limited radius of visibility and influence, and this has shaped to a certain extent the accessibility of knowledge, giving a definite edge to insiders and people in their immediate social network. What will happen if such communication is increasingly carried out on a widely accessible public record, and if personal networks start to extend in previously unavailable directions? Although I won't do it here, I believe the implications of such a shift are worth thinking and writing about.

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