

# Links and Power: The Political Economy of Linking on the Web

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## ABSTRACT

Search engines like Google interpret links to a web page as objective, peer-endorsed and machine-readable signs of value. Links have become the currency of the Web. With this economic value they also have power, affecting accessibility and knowledge on the Web.

## Categories and Subject Descriptors

K.4.m [Computing Mileux]: Computers and Society – *miscellaneous*

**General Terms:** Design, Human Factors, Theory.

## Keywords

Links, power, politics, Google, Blogdex, weblogs, community, theory, accessibility, search engines, knowledge, survival.

## 1. INTRODUCTION

Links have always been fundamental to the web. In the last few years their value has become regulated as search engines and other systems that find and define the structures of the Web increasingly index links and anchor text in addition to keywords and page content. In these projects, links are seen as objective, democratic and machine-readable signs of value. This paper discusses the implications and the power structures inherent in this relatively undiscussed but influential change in the structuring of the World Wide Web.

There has been little or no critical discussion about this aspect of links, though link data is heavily used. This short paper is a first attempt to scan the field from a critical, humanist perspective.

## 2. TRACKING LINKS

A popular though clearly flawed assumption about the web is that all its nodes are equally accessible. It is true that web has no formalized structure or centralized organization other than the rules of the markup and scripting languages we use to write and design web sites. Even those rules are at times disputed: different browsers obey and interpret them in different ways. However, certain web sites have always been more accessible than others.

In the first years of the Web, most surfers used human-compiled directories listing sites by topic, portals provided by ISPs and other

commercial actors, and search engines that indexed keywords and text phrases in web sites. After a while, the extensive commercialisation and the growing public awareness that highly ranked search results could be bought reduced the credibility of these sites [10]. Today Google, a different kind of search engine, has thoroughly taken over the market by using *links* as the primary method of determining the value and thereby the deserved visibility of a web site.

Google indexes links between web sites and interprets a link from A to B as an endorsement of B by A. Links can have different values. If A has a lot of links to it, and C has very few, then a link from A to B is worth more than a link from C to B. The value determined in this way is called a page's PageRank and determines its placement in search results [2, 7, 14]. The PageRank is used in addition to conventional text indexing to generate highly accurate search results. Links can be analysed more accurately and usefully than traffic or pageviews, and have become both measure of success and dispensers of rank.

Links are increasingly being used in preference to content indexing, not only in search engines but for instance to identify communities of web sites [4], or, on a more local scale, to examine social networks and the movement of memes among webloggers [11]. There is an assumption in this work that links provide an objective measure of value and are a sign of peer-endorsement. Though these systems have yielded good practical results, this reductive view of links and its implications should be examined more closely.

## 3. AN ECONOMY OF LINKS

Links have a direct value on the Web and can be seen as a pseudo-monetary unit. A Google search on "currency of the web" shows that this is not a novel idea, though it is little theorised. Conventional thinking has assumed that linking from A to B takes value from B and adds value to A. Lawyers have complained that linking to another site's news items, for instance, may be a copyright violation, and companies have sued against those who link to their site [1]. Though more sophisticated, Ted Nelson's concepts of transclusion and transcopyright belong to a similar paradigm where content is value and links are mere mechanics, an outside vehicle for the transmittal of content rather than the item of value itself. In its fully implemented state, transcopyright sees a link from A to B as A using something owned by B, which readers should pay for in the form of a micropayment. This makes perfect sense in a traditional, product oriented economy where content is king. B manufactured a product which A's readers consumed and should therefore pay for. After Google, it makes no sense at all. The economy of links is not product oriented. It is service oriented, and the service is the link. The link is an action rather than an item; an event, rather than a metaphor [12].

When I link to B, I give B a link. That link translates to a precise (though undisclosed) value in Google's PageRank and in other

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indexing systems like Blogdex. The link has a clearer value to B than the content of B's page has to me or to my readers. I pay B for B's content with my link.

This instrumental view of links does not exclude its other qualities. Many people creating or following links on the Web link generously, carefully or haphazardly, but without thinking of the economy of links and their value. Some choose to ignore the mercantile qualities of links; many more are unaware of this aspect of links. Even links created solely to increase a page's placement in search engines may have or acquire other meanings or functions as well. This is the excess of the link, which can also be seen in relation to Bataille's concept of a general economy [13]. Yet even if we are unaware of or refuse to participate in the economy of links, the pervasiveness of link indexing and valuation in search engines and other mapping strategies makes it impossible to entirely avoid this new restricted economy.

Google has not published the most recent algorithms behind their search technology, but the basic system is more or less known (or surmised) by search engine optimisers and manipulators. One striking effect of the PageRank system is *link drain*. Each webpage passes on a percentage (85% in prototype, possibly the same now) of its own PageRank score to other pages it links to, and this percentage is shared equally between any pages it links to, whether they are on the same site as the first page or on other sites. In addition PageRank allows feedback loops between pages, so a link from A to B gives B a higher rank, and a link back returns some of that score to A [14]. Some people believe that linking to certain sites, or participating in link farms, can reduce the anchor sites' PageRank as well [5]. This means that to "optimise" my ranking with Google, I need to be very aware of how I spend my links.

If links are the currency of the Web, what is the exchange rate? Though links clearly have a value that is internally important on the Web, and that can have external real world implications (in sales for commercial sites and cultural capital and reputation for other s) there is as yet no standardised exchange rate between links and real world currencies. Affiliate programs and banner ads could be seen as establishing an exchange market, but these are based on more than the presence of a link. Most banner ads pay only for click-throughs and affiliate programs run by Amazon and others only pay when a link-follower makes a purchase. Though using ebay as an exchange booth, as Everquest citizens do, is only a gimmick as yet [9], this kind of sale and the sale of links rather than click-throughs in advertising could in time permit us to see links as an independent and real currency. As Castronova has demonstrated of the massive multi-player online game Everquest, non-tangible worlds can have real economies [3].

Though open exchange of links for real world money is as yet infrequent, there is a black market for links. You can pay dollars or kroner or yen to buy links to your site from link farms, circles of sites with nothing but links. There is also a common law perception of link prostitution, *link slutting*, shamelessly selling one's integrity for links. Though these practices are not yet illegal in any nation state, they are in practice outlawed on the Web. If Google discovers such attempts to manipulate a site's PageRank, the site is penalised by being given a PageRank of zero. Due to Google's high level of control of access to web sites, this is equivalent to exile.

The more common form of trade in this economy of links is barter exchange. Reciprocal linking and link exchange are common practice, and are loosely organised as favours or more systematically in web rings and blogrolling. Link slutting can be a consensual exchange of favours rather than a sale. These informal exchanges

and the prolific linking in certain communities, especially among weblogs, may be a method of subverting Google's objective measurement of links [8].

#### 4. POWER AND KNOWLEDGE

Links have value and they give power. Power and knowledge are intimately connected: "There is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations." [6] There is no moral high ground here where we can ignore the political economy of links and remain pure and clean, thinking only of the felicity of links, their usability or functionality or beauty. We are participants in this power structure whether we like it or not. We can criticise it, reflect upon it, approve of it or try to subvert it. We must not ignore it. This standardisation of links and their value will shape what the future finds. It defines what can be found. It defines knowledge.

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