

**Welcome to 1927:  
The Creation of Property Rights and Internet Domain Name Policy in Historical  
Perspective**

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## Welcome to 1927: The Creation of Property Rights and Internet Domain Name Policy in Historical Perspective <sup>1</sup>

Consider, if you will, the story of a young medium. The medium has fantastic potential to connect us in a vast network across great distances. The medium allows us to communicate in ways that have never before been possible. As a new medium, it seems wild and untamed, new and different. Only the young generation and the technologically-inclined seem to be able to fully understand it. The government has asserted that development of the medium is a national priority. The medium seems to hold great promise in advancing education— with increased availability of the medium, the average person will have access to a wealth of information never before seen. No one is sure how to make money from the medium, but many are trying. As a communication system, it has both military and commercial applications, but the bulk of users seem content to just roam around: exploring, learning, and entertaining themselves.

The medium is radio, the site: the United States, the year: 1920— although this description could also be of the Internet today. Both early radio and the present-day Internet share the characteristics above. By understanding the development of broadcasting in the U.S. seventy years ago, we can gain insight into the issues currently pertinent to the Internet today as a communication system. This paper will specifically focus on the creation of *property* in early radio and Internet, and how the creation of property rights functions as a system of control.<sup>2</sup> Both radio and the Internet rely on the commodification of valuable resources, and both systems utilize the marketplace to allocate these resources. The policy decisions surrounding each of these two periods are often unnecessarily constrained by the marketplace, and indeed the choice to use a marketplace model to allocate these resources seems to be not the product of intentional thought with due consideration for the consequences which might result, but merely the

unquestioned, default system. This paper will show through discussion of two instances that the unquestioned, unmediated incentives of the market in each case can lead to outcomes inconsistent with initial goals and place long term constraints on the system's development in the form of property rights. This results in the disenfranchisement of those without the necessary property or capital to participate.

### **A technical system built with non-technical decisions**

The activity of broadcasting in the United States, first systematized in radio and then later inherited by television, can be best understood not as a technological breakthrough, but as a political struggle that defined a scope and a structure for the technological breakthrough. As a series of historical analyses have explained, the early period of radio broadcasting leading to government regulation is one marked by a struggle between competing visions of what "radio" was to become (Douglas, 1987; McChesney, 1993; Smulyan, 1994). This paper will discuss the creation of property in early radio broadcast policy, then use this framework to analyze the creation of property currently occurring on the Internet.

Systems of communication are considered here first and foremost "... as economic entities with both a direct economic role as creators of surplus value through commodity production and exchange and an indirect role... in the creation of surplus value within other sectors of commodity production" (p. 30). As Garnham states, these systems are not isolated in one branch of the traditional trichotomy of relatively autonomous economic, ideological, and political spheres. These systems are economic, but fundamentally constructed through a political process with ideological baggage throughout.

Perhaps contrary to expectations, comparisons of the Internet as a medium to radio (or television) broadcasting are only slightly limited by the differences in the technical

characteristics of each medium. Each medium has some degree of structure that is technically imposed— an example would be the propagation characteristics of radio waves or the (currently) maximum transmission capacity of a fiber-optic cable. As many have noted, atop this base structure of technology lies a framework of decisions often made in deference to technical necessity— but within which, in reality, there is considerable leeway (cf. Hughes, 1983). An example would be the specific size of spectrum dedicated to one AM radio channel (or the specification for the length of a datagram on the Internet). The degree of leeway can vary, by decision, from small to large. Some decisions may be heavily influenced by current technological limitations (or perceived limitations), while others are more clearly political choices. Political, economic, and ideological considerations play some role, be it small or large, in each of these decisions.

## **The creation of property in broadcasting, 1920**

### *Commodifying the Air*

Broadcasting is organized in the United States around the commodification of airwaves and audience. This is the structure on which all debates of broadcast policy rest. The government, on the basis of the Radio Acts of 1912 and 1927 and the later Communications Act of 1934, is in the business of creating private property in the form of the broadcast license. Arguments about the value of that property and the rights of property owners are then used in the regulatory system to advance one interest over another. Thomas Streeter's critique of broadcast policy in the United States, *Selling The Air* (1996), provides this rich framework for understanding the creation of property as a key causal agent in defining the resulting structure of the system of communication we know as broadcasting. As Streeter and other historians as have applied this framework to

early radio, property may be *the* most profound form of control over commercial broadcasting.<sup>3</sup>

Missing from policy discussion about broadcasting is the acknowledgement that the commercial constitution of broadcasting as a property issue is fundamentally artificial—which is to say, political. While popular conception holds that governmental control is in opposition to some “natural” state of the uninhibited market, through a focus on property it can be seen that the “natural” state of the broadcasting market is no such thing. The creation of private property in the spectrum, the audience, and the broadcasting license is an extremely powerful form of control, and one that has created the broadcasting industry in the form that we know it. Control need not mean the control of a central body or the subjugation of the medium to a cogent master plan. Structuring broadcasting in terms of property is controlling because it sets the scope of the industry and the framework within which we consider the broadcast media. The discursive structure of broadcast policy does not acknowledge this form of control, but assumes it as a foundation.

The assignment of value to the electromagnetic spectrum and the licensing/trustee relationship that emerged in which audiences were bought and sold within a governmentally-imposed framework stands out clearly as an artificial system, and one which imposes a structure with far-reaching effects. In the tumultuous world of early radio, circa 1920, the primary participants in the spectrum were amateurs who sought to use the medium for entertainment, military interests who sought to coordinate the fleet, and businesses— which initially only saw radio as a means to relay point-to-point messages. Amateur interests had been severely curtailed the decade before by the Radio Act of 1912, and there was rising commercial interest in radio as a mass medium (Douglas, 1987 p. 236). However, in the twenties the final framework that radio would take was far

from certain. Broadcasting stations were spreading, despite having “... little idea of how to finance either their program needs or operating costs” (Smulyan, 1994 p. 40).

*Goals set and abandoned*

From this uncertain chapter in the life of radio as a new technology, clear instances of legislative intent and words of caution about the direction of the medium stand out. In perhaps one of the most often-quoted statements made about early radio, “... at the Third National Radio Conference [in 1923], Herbert Hoover declaimed that ‘the quickest way to kill broadcasting would be to use it for direct advertising... ’” (Smulyan, 1994 p. 41).

Indeed, “[m]any observers of early broadcast radio... worried about the influence of commercialism” (p. 125). In the wake of the Elk Hills and Teapot Dome scandals involving public resources (e.g., oil on public lands), conservation-minded activists insisted on adding language to the Radio Act of 1927 that explicitly defined the broadcast license to provide “... for the use of... channels, but not the ownership thereof” (Barnouw, 1966 pp. 195-196).

If the aims of the period were to create a medium that was (1) free of direct advertising, (2) not dominated by commercialism, and (3) not based on the private ownership of the spectrum, or “channels,” how did what we presently know as broadcasting emerge? The system that arose from these intentions is (1) dominated by “direct” advertising, (2) almost without exception commercial in nature, and (3) based in action if not in statute on the buying and selling of the broadcast license. It is this system that passed intact from radio to television and is still with us today.

Streeter’s analysis of the political economy of broadcasting rests upon the idea that to locate and understand the creation of property in broadcasting is to make great strides toward understanding broadcasting as a system. Quite aside from the organization of broadcasting as a monopoly, oligopoly, or competitive system are the needs that must be

met for broadcasting to be commercial in any form. Namely, broadcasting must be constituted as something that can be bought, owned, and sold as property.

Streeter refers to this system as “postmodern property,” and it is postmodern in that the existence of the property in question rests solely on our conception of it. We have socially normalized a system wherein the broadcast license, spectrum, and audience are bordered objects. The philosophical urge to view corporate stewardship in cooperation with governmental control as the ideal solution to managing a resource is termed “corporate liberalism” by Streeter. A full review of this philosophy is beyond our scope here, but the key point to note is that the corporate liberal impulse lead to the enactment of property-based policies that, once in place, became normalized, and thus invisible. While contemplating the electromagnetic spectrum as a scarce resource, the government ceded priority to corporate interests because in the face of scarcity they were told that only a well-capitalized private system would lead to full utilization. In this manner the corporate stewards locked out independents and educators.

After the establishment of a fiduciary system of accountability based on a transferable license and a government regulator constrained by property rights, the idea of “owning” a license was normalized. Any backlash against the behavior of business interests was then met by attempts to “regulate the results of the growing commercialism,” rather than to “strengthen the alternatives.” (Smulyan, 1994 p. 126). Policy initiatives such as the radio acts had set up a system wherein broadcasters were to be corporate interests, and their business was to be the purchase and sale of broadcast licenses and audiences. Structurally, incentives were built into the system for these businesses to be responsive to advertisers who funded their operations, and there is ample evidence of this occurring (Ibid. p. 129; Sterling & Kittross, 1990 ch. 4).

*Lessons Learned from Early Broadcasting*

What could have changed this situation to bring the results in radio in line with the three expectations for the medium proposed earlier? Clearly, a greater attention to the creation of property during the policy process would have been a great step forward in allowing the architects of modern broadcasting to understand the system they were constructing. The policy process at the time, however, was confused by the aura of expertise surrounding key decisions. Radio was little understood, and the majority of the experts available represented business interests. In hindsight, it is hard to accept that policy-makers did not see that the creation of transferable license properties would tend to systematically push out non-profit, non-commercial, alternative interests. In fact, they may have realized this, but they felt that commercial interests could somehow “rise above” the system of incentives present in the structure. As there were feelings in Congress that educational broadcasting was important and that “direct” advertising was a mistake, this was thought to be the direction that broadcasters would voluntarily choose, although these goals were never clearly codified in law and broadcasters would not be forced by explicit legislation to follow them (cf. Barnouw, 1966 p. 200). We see today that these were not reasonable expectations— in the years of broadcasting since the structure was established that would favor only commercial participants and reward them for commodifying mass audiences, the broadcaster that spurns these incentives to promote diverse programming (and as a result, forsakes profits) is rare to nonexistent. The early expectation that broadcasters, despite the market structure’s reward system, would somehow choose to ignore the profit motive is not sound logic. Let us turn now from the past to the present and examine the communication medium of the Internet with property in mind.

## **The creation of property on the Internet, 2000**

There is no direct parallel to licensing on the Internet, as you do not require government permission to transmit, and there is no license to obtain. The case of domain name registration examined here is not meant to *exactly* parallel the fiduciary license system of radio. It is, however, illustrative of the foundation of assumptions about how a communication medium should work that can be inherited across history. There is still little awareness of the forces and incentives unleashed by the creation of a property right.

At the time of early radio broadcast regulation during which this system was established, there was little to no awareness of the future audiences radio would reach. Decisions made very early in the process of radio broadcasting had large consequences as the decades passed. In the current excitement surrounding the Internet, we have the opportunity to discover and address the marketplace as an assumption relatively early in the medium's development process. Domain name registration is useful, then, as an example of a system for the allocation of resources that is still young and very much in flux. It allows a case where (like radio broadcast licensing) control was ceded to the marketplace with little reasoned discussion, and it allows us to see how little, in many respects, our approach to new media has changed over the last seventy years.

### ***The Early Domain Name System***

Briefly, the story of the domain name as property begins twenty years ago, when the Internet consisted of about 20 interconnected research networks, of which ARPANet was the oldest (Leiner et al, 1998). As the fledgling network continued to expand and add nodes, it became clear that for each computer to have a unique name was impractical as the words left available for new nodes became scarce. In 1981, a system of "name domains" was proposed (Mills, 1981).

Only the features of the domain name system and surrounding debates that are salient to this analysis will be discussed here. For a broader overview and background, see Mills (1981), Su & Postel (1982), Mockapetris (1983, 1987), Postel (1983, 1994), and Postel & Reynolds (1984). For a discussion of Internet histories, see Guice (1998).

In 1983, the engineers under government contract to develop the network proposed the establishment of six top-level domains (TLDs). “The motivation,” explained a memorandum, “is to provide an organization[al] name that is free of undesirable semantics.” (Postel & Reynolds, 1984 p. 1). All addresses on the network would be divided into six domains: government (gov), education (edu), commercial (com), military (mil), organization (org), and older DARPA hosts (formerly “arpa”). If an organization had over fifty computers, and could demonstrate that it possessed the technical ability to manage its own network address table, it could register with the publicly-funded Network Information Center at no charge (p. 5). The organization would choose one of the six TLDs, and pick a unique word within that domain to identify itself (e.g., “stanford” within the TLD “edu”).

Provision was also made at this time for the use of two-letter TLDs based on the International Standards Organization Codes for the Representation of Names and Countries: United States = us, France = fr, Japan = jp, etc. (p. 7). These domains, later called “geographic” or “country code” domain names, represented an additional hierarchy within which organizations could list themselves, but this second system tied to physical places would prove slow to develop, and comparatively unpopular. It may be that as the Internet promised to make geographic distances irrelevant, referents to geography went against the grain— from the early pioneers to the users of today. Restricting the Internet to geographic addressing boundaries may make it seem less potent; as historian Carolyn Marvin stated of past communication media, “The more any medium triumphed over distance, time, and embodied presence, the more exciting it was” (Marvin, 1988 p. 194).

It is important to stress that as this process developed, it seemed to be a clear-cut technical matter. The network continued to grow over the next decade, and after the advent of the World Wide Web in 1992, it began to creep into the public's awareness. Over time, two additional TLDs were added: "net" for computers of network service providers, and "int" for organizations "established by international treaty" (Postel, 1994 p. 2). The DNS architects perceived that everything had been resolved, permanently. In 1994, an engineering document proclaimed boldly, "It is extremely unlikely that any other TLDs will be created" (p. 1).

### *Privatization and Commercialization*

During this period, military sites spun off the publicly-accessible network (to become "milnet"), DARPA ceded control to the National Science Foundation (NSF), and the NSF began to implement policies for commercialization (Hart, Reed, & Bar, 1992). NSF prohibited commercial traffic on the "backbone," or long-distance portion of the network, but actively encouraged it on the local and regional hubs. By blocking business from the NSF backbone, this strategy successfully stimulated private investment by companies such as PSI, UUNET, and ANS CO+RE in long-distance network capacity to get around the backbone restrictions, as hoped by the NSF. Later, the NSF ceased to underwrite the backbone network entirely and turned its attentions to issues of interconnection, among others.

In January of 1993, NSF privatized the domain name system by granting little-known Network Solutions, Inc. a five-year contract to provide registration and other DNS-related services (Network Solutions, 1993). Network Solutions was to administer domains under the "generic" (or non-geographic) TLDs "gov", "edu," "com," "net," and "org." Although Network Solutions was initially paid directly by the NSF for these services, a

cost-plus-fixed-fee price for the registration of a second-level domain name was eventually introduced to defray costs (Network Solutions, 1995). Effective September, 1995 all would-be registrants must pay \$50 per year, with two years payable upon initial registration. Procedures to transfer the domain names between parties had been in place for some time, cementing the nature of the names as commodities— if something can be exchanged, it can be bought and sold. At the time, no one predicted that this somewhat arcane technical addressing system, government contract, and its related fee would soon become so important.

### *A New Real Estate Born*

The popularity of the Internet rose dramatically in the mid-nineties. Commercial enterprises began to pour onto the network, and every business wanted a name for itself. Unwilling to be associated with the geographic hierarchy, businesses sought second-level domains like “cbs” under the only generic TLD of the possible seven provided explicitly for commerce, “com”. By 1997, one million unique words (or combinations of words, like “americascheeseexperts”) were registered as second-level domains under by Network Solutions. Three years later, ten million domains have been registered (Network Solutions, 2000).<sup>4</sup> While the fairly arbitrary \$50 fee per year of registration had seemed reasonable in 1993, with the large increase in demand, Network Solutions’ projected revenue under the NSF contract went from \$6.5 million in 1995 to \$44 million for 1996 to a projected \$70 million in 1998 (Clausing, 1998b).

Industry began to realize the value of these domain name “properties,” in a marketplace that was termed “cyberspace real estate” (Aguilar, 1996). Corporate interests with deep pockets began to buy not only a domain name for every product line they carried, but also any word they might conceivably have need of in the future. In one

example, consumer-product giant Proctor & Gamble “... launched a flurry of domain name registration[s]... that included not only many of its prized brand names, including clearasil.com and charmin.com, but also a host of generic names, like babydiapers.com and cough.com” (Dunn, 1996). The company collected over 100 names in all (including “diarrhea” and “pimples”) in a manner that the press termed a “land grab” (Aguilar, 1996).

Smaller entrepreneurs were not to be left out. Any far-sighted individual with \$100 could profit if he could think of a name anyone might need in the future. Entrepreneurs set up domain-name “brokerage houses” where pooled capital allowed the purchase of thousands of names, with the profits split among investors.<sup>5</sup> Domain name speculation has even spilled over into the geographical hierarchy, with brokers purchasing the names of cities. When a non-Internet-savvy municipality awakens and attempts to establish a presence on the network, it found its name already taken, and held by a party looking to sell to the highest bidder (Silberman, 1997).

Scarcity has drastically inflated prices above the \$50 fee initially charged by Network Solutions, if inflation is even a reasonable construct to use in this situation— as the concrete value of a second-level domain name is arguable. Brokers often set “minimum bids” of \$500, while at the upper end of the spectrum, several agreements have been reached for amounts over \$1 million. Table 1 lists a sample of domain name sales reported by the press that were considered noteworthy at the time reported.

*Table 1. Sample domain name sale prices considered noteworthy by domain brokers at the time of offering.*

<b>Year</b>	<b>Domain</b>	<b>Price</b>
1996	slate.com	\$10,000
1996	television.com	\$50,000*
1997	business.com	\$150,000
1997	porno.com	\$42,000
1998	altavista.com	\$3,300,000
1999	business.com	\$7,500,000
1999	wine.com	\$3,000,000
1999	wallstreet.com	\$1,030,000
2000	loans.com	\$3,000,000

\* Price offered, not taken.

*Note.* Figures from Hakala & Rickard, 1996; “.com,” 1996; Wingfield, 1996; Lee, 1999; Pollack, 1999; Associated Press, 2000.

### **Normalizing the DNS, With Property Comes Power**

During the explosion of “cyberspace real estate,” it was clear to some that there was little reason for the present scarcity of the ethereal domain names. A monopoly by Network Solutions on the basis of a U.S. Government contract seemed increasingly absurd in the context of a global Internet. A consortium of companies and user groups secured a partnership with the World Intellectual Property Organization and the International Telecommunications Union and formed an international body that planned to introduce several additional top level domains.<sup>6</sup> Confusing the issue slightly was the fact that the international body had no authority to do so, but the counter-argument made was that Network Solutions also has no justifiable international authority over a global infrastructure to register domains (Harmon, 1998a). Still, the technical function of translating domain names to the IP addresses that allow data to be routed to the appropriate computers would need to be performed and integrated across these groups.

In the controversy that ensued at the end of the 1990s over the control and organization of the domain name system, the ending of Network Solutions monopoly and

protection of the rights of property owners took center stage.<sup>7</sup> Although this was surprising to many, it is entirely consistent with the history of radio policy.

*Playing for the “Control of Cyberspace”*

While the ending of scarcity by increasing the number of available TLDs seemed to many to be of paramount importance (Froomkin, 1999), in February, 1998 the Clinton administration issued a proposal to introduce only one new domain name, and forced the international consortium to back down by refusing to acknowledge its authority to participate in the naming system (U.S. Dept. of Commerce, 1998). It is extremely illustrative that the debate surrounding this issue was phrased as a battle for “the control of cyberspace,” although control over the handful of generic top-level domain names does not imply actual control over the network— only over the ability for data to reach hosts registered under those domains (Harmon, 1998b).

The discursive framework surrounding property rights is so prevalent in our culture that this issue seems to be one of crucial control, even in it is of less technical or practical significance. In examining the case of the Internet’s DNS, we see another example of the largely unintended creation of property on a grand scale, and then surprise being expressed by many parties at the actions of actors in the system who are merely following incentives set up by the system. Reliance on property as a model is so naturalized to us that it permeates our lives and we immediately consider speculation in Internet address codes to be “real estate.” These domain name registrations are merely agreements to direct data to specific computers upon receipt of a series of words and punctuation characters. They have no physical form, and are transferred among owners by asking the registering body that they be transferred. Yet the price of the registration fee (which, even when set at today’s price of about \$30, some have described as arbitrarily

high considering the actual work involved by the registrar) is multiplied many times because of the evocative, symbolic, or connotative meanings corporations hope these names will bring them. By instituting a structure for these names based on a property system of commodification, just as occurred in radio, non-profit, non-commercial users are relegated to second-class Internet addresses because first, they are priced out of the system of value and second, those who secure a domain name first can reap the monetary rewards as value accrues to the name due to scarcity– all reminiscent of the radio broadcast license.

At the beginning of the century, corporate liberalism lead legislators to assume that full utilization of a scarce resource could only be realized by sufficiently capitalized and expert private entities. At the end of 1998, U.S. officials had reached the same conclusion about a new medium: the private sector would administer name registration, as envisioned by a Department of Commerce (1998) proposal (also see Clausing 1997a, 1997c, 1998c; U.S. House of Representatives, 1998 pp. 203-300). In 1998, the director of the American Intellectual Property Law Association testified approvingly before congress that:

any effort to design the Internet of the future should involve... a recognition that the private sector is best equipped to administer and maintain the domain name system... we are pleased that the [Department of Commerce] Green Paper is largely consonant with [this] principle... (U.S. House of Representatives, 1999a p. 236)

The creation of an impartial international body (The Internet Corporation for Assigned Names and Numbers, or ICANN) was advanced to organize the system that would evolve, but the primary goals of the system would be to protect two property interests: the property rights of current domain name holders, and the property rights of those who hold another type of property, the trademark.

*Trademark Law: Accelerant of the Tendency Toward Corporate Control*

Trademark law provides a form of property ownership that overlaps the ownership of domain names in the DNS. Although this has no clear parallel in radio broadcast licensing, it is of sufficient relevance as an intervention for property rights to address here.

Trademark concerns grew in the late 1990s to consume more and more domain name policy attention. After the heady speculation of the early days, courts of many nations have begun to apply trademark rights to the DNS, ICANN implemented a dispute resolution policy to address claims by trademark owners, and in the U.S. a 1999 amendment to the Lanham Act provided statutory relief for “bad-faith” registration of trademarked names. Further, concerns of trademark holders are often cited to quash proposals to introduce additional TLDs to alleviate scarcity (U.S. House of Representatives, 1999a p. 216, 258; 1999b p. 213).

In this manner, a major goal of domain name policy has been the protection of trademark property rights; yet this goal as it has been addressed is irrational when considered in a broader context. First, direct conflation of trademarks and domain names makes little sense: domain names have fallen into the role of a directory system, and this combined with scarcity drives much of the inflation in value noted earlier. In even a small local area, company and service names are not expected to be unique (Mitchell, Bradner, & Claffy, 1997 p. 264), this is why trademarks are justifiably limited to geographic areas and (ideally) particular product types. Generic TLDs, on the contrary, are not limited by product domain or by geographic area. More important, however, the Internet has more than one function. While it may be an emerging electronic marketplace, it is also a medium for a broad range of other forms of communication, and these different forms of communication imply different policy goals (Heiskanen, 1999 p. 34). Even if we acknowledge that the protection of intellectual property rights such as trademark is a

legitimate goal of government regulation of the marketplace, the Internet can be more than a marketplace. Any given word or string that might be registered as a domain name might be conceptualized in a commercial context, but it might also be used in another way. In the U.S., when policymakers assign trademark rights priority in discussions of domain names, this conflicts with the freedom of speech right of those who do not own trademarks and non-commercial communicators.

We can see, then, that the trademark property right in this instance only accelerates the force of the marketplace to consolidate control among those with capital—the capital and legal resources to register trademarks in many countries and enforce them through lawsuits. Although early radio had nothing comparable to trademark, trademark as applied to date on the Internet reinforces the notion that this is a medium for commerce and a place for commodification of the audience.

While we imagine that the Internet is not like the one-way media of the past, the dominant frame of policy debate to date places the user of the Internet as a consumer of commercial messages, exactly like television and radio.<sup>8</sup> As the President of the International Trademark Association testified before the U.S. congress:

The fundamental question... is how to protect consumers' interests in locating the brand or vendor of their choice on the Internet without being misled or confused, and how to protect companies from having their brand equity eroded or commandeered in an electronic environment. (U.S. House of Representatives, 1999a p. 243)

Alarming, even those on the opposite side of the debate from corporate interests use the language of consumerism (e.g., Ralph Nader's objections to ICANN; see U.S. House of Representatives, 1999b p. 134). Broadly, many objections to a corporate agenda are more often phrased in terms of consumerism than as appeals to the interests of "citizens" or "the public."

## Conclusion

In the 1920s, property rights were constructed in the ether, and any policy debate about radio is now constrained to what these rights allow or do not allow. Today, property rights have been constructed in the domain name system of the Internet, with preference is being given to those that own another form of property– trademark. Yet the grand hopes many have held out for the Internet’s future do not seem compatible with a network where participation devolves quickly into a questions of what properties you own.

Surely the NSF did not intend to exclude those with less financial resources from prime addresses on the Internet, just as it seems the U.S. government did not particularly intend to produce the system of broadcasting we have today when constructing it in the 1920s. The power of grand assumptions about the marketplace and property is great, particularly in the United States– it is an imperative that we now learn to step outside these assumptions. Our goals should drive the structures that constrain our plans, and not vice versa. As Streeter states,

At this point in history, the principal question for media policy in the United States should be, How do we, as a matter of democratic choice, want to organize our popular communications, our means of producing and distributing culture and information? (Streeter, 1996 p. 318)

If we allow the lessons of early radio and the present day Internet to inform policy decisions in the future, it is still possible to construct a communication system that excels where past media have fallen short, and meets our goals– whatever they may be. Unlike the long established broadcast media, it may not be too late to implement policy goals for the Internet independent of the market structure now in place with only a minimum of effort rather than a radical restructuring. A communication system organized around the ownership of various forms of constructed property and dominated by the interests of the owners is not the best result, the inevitable result, or even a more rational result, it is

instead the default that will persist if we do nothing. One can only hope that it is not too late to set our goals for the Internet independent of the market structure now in place.

## Notes

<sup>1</sup> An earlier version of this paper was presented to the Union for Democratic Communications on June 13, 1998. I would like to thank Ted Glasser, François Bar, Elissa Lee, Hernan Galperin, Karin Wahl-Jorgensen, and Larry Bensky for their comments and inspiration.

<sup>2</sup> The comparison between early radio and the Internet has been usefully advanced elsewhere, but without an emphasis on property rights (cf. Hargittai, 1998, 2000).

<sup>3</sup> The accounts of both Douglas (1987) and Smulyan (1994) are at least indirectly supportive of Streeter's assertions.

<sup>4</sup> The domain "americascheeseexperts.com" was formerly registered by Kraft Foods, but has now lapsed ("Top," 1996).

<sup>5</sup> For early entrants in this area, see [<http://www.bestdomains.com/>] or [<http://www.domainwise.com/>]. One such domain broker has named itself "I-" (for Internet) "GoldRush" and has the motto "mining the `net." See: [<http://www.igoldrush.com/>].

<sup>6</sup> The body is known as the Global Top-Level Domain Memorandum of Understanding, or gTLD-MoU. See: <http://www.gTLD-MoU.org/> (Internet Assigned Numbers Authority, 1998).

<sup>7</sup> Note that although this is a discussion of the portion of the debate that has already occurred, this controversy is ongoing, and these issues remain at the center of it as of this writing.

<sup>8</sup> Even very well-reasoned proposals to reconcile the DNS with trademark interests assume the Internet is a marketplace, and only a marketplace— subject to no other goals (e.g., cf. Burk, 1995; Gigante, 1997; Nathenson, 1997; Shaw, 1997)

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