



## **Free Speech, Semiosis and Cyberspace: The Hyperlink as Nexus to Felicity**

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### **Prelude.**

This paper sets forth some preliminary observations about the construct of cyberspace and begins to develop an analytical framework using concepts developed from the intersection of communication theory (broadly interpreted) and free speech doctrine. The purpose of this framework is not to advocate regulation or non-regulation of any particular online behavior but to identify the particular points of challenge to existing thought and doctrine posed by the new digital communication technologies collectively referred to as "cyberspace".

This paper should be considered a preliminary research agenda rather than as any definitive statement on these issues.

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### **Introduction.**

Wherever animals have gathered in community, methods of communication have developed. [FN 1] Man is a communicative animal.

To overcome the temporal and spatial limitations of the biological organs of communication – the eyes, ears, vocal cords, etc. – that physically limit man to synchronous face-to-face communication, humans have developed mediated communication technologies ("media"). [FN 2] These technologies range from cave painting and signal drum to microchip and the Internet. [FN 3]

Communication theory attempts to understand and explain the mechanism and problems associated with mediated communications. A simplified transmission model of communication consists of a message (coded signal) proceeding along a channel from a source to the receiver. [FN 4] Communication theory is concerned with understanding certain characteristics and constraints of such systems. [FN 5]

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1 See Wilbur Schramm, "The Story of Human Communication," New York: HarperCollins (1988), p. 33.

2 See Ian Miles, "When Mediation is the Message," in Martin Lea, ed. "Contexts of Computer-mediated Communications," New York: Harvester (1992) p. 145.

3 See, generally, Schramm, *supra* footnote 1.

4 See Claude E. Shannon and Warren Weaver, "The Mathematical Theory of Communication," Urbana: University of Illinois Press (1949). Shannon developed the mathematical theory of signal transmission while a researcher at Bell Labs and professor at MIT. Digital communication technology – that is, cyberspace itself (see *infra* footnotes 10 and 11) – is a direct result of Shannon's work in information theory. See, Severin, *infra* footnote 5, p. 39.

Modern communication theory is much more complex than the simple model illustrated here. For example, all modern theories include feedback and context as important components of message

Chief among these concerns for our purposes in this paper are: (i) "bandwidth" [FN 6] (the capacity of a channel for carrying information), and (ii) "amplification" [FN 7] (the increase in magnitude or strength of the signal by virtue of its mediation). [FN 8]

Just as with communication, wherever man has gathered in community, laws have developed to regulate individual behavior to prevent harm to others or the community.

Free speech doctrine concerns itself with the legal structures involved in regulating human communications. [FN 9] For purposes of analogy to communications theory, free speech analysis is concerned with regulatory structures that might be applied to the transmission model set forth above. Subjects of potential legal regulation are the speaker (source), the audience (receiver), the code and content of the message, and the medium or channel itself. Subjects of legal analysis in this area are access to, capacity and impact of the channel (cf. bandwidth) and the consequences or social effects of the communication (cf. amplification). [FN 10]

In general, free speech doctrine in an open society favors maintaining an open forum for human communications. Speech is only regulated as to time and place or where technical characteristics of the medium restrict speaker access or intrude on the audience. Content or viewpoint based restrictions or prohibitions are generally precluded unless a specific test of state interest and potential harm is met. [FN 11]

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transmission. For purposes of this paper, however, we grossly oversimplify communication theory in order to develop certain analogies as tools for legal analysis.

- 5 See, generally, Werner J. Severin and James W. Tankard, Jr., "Communication Theories: Origins, Methods and Uses in the Mass Media," New York: Longman (Third Edition 1992, 1988).
  - 6 . For our purposes here we consider bandwidth in a narrow sense and are concerned mainly with technical characteristics that may impose scarcity on speaker access and intrusiveness as it relates to "captive audience". It is beyond the scope of this paper to address the allocation and regulation of "bandwidth" generally (i.e., spectrum allocation, "must carry" rules, media concentration, etc.). These issues are part of a broader research agenda to be addressed in future versions of this paper
  - 7 Here we take an expansive view of "amplification" that includes amplification of effect, not just signal. As discussed below in Part III, effect amplification in cyberspace is related to how digital encoding changes production and replication, transmission, storage, retrieval and processing of communications.
  - 8 Other important concepts of communication theory include (i) encoding (how the information is represented for purposes of transmission), (ii) fidelity (the quality or state of accuracy that the message retains when passing through a channel), (iii) noise (the distortion to fidelity present in the channel), (iv) redundancy of source (the amount of freedom of choice used to generate a message), and (v) redundancy in a message (the amount of duplicative information contained in the message to make up for interference or loss in transmission).
- Entropy measures source redundancy, that is, the ratio of free choice to required elements. For example, the English language is thought to have 50% redundancy, that is, half the elements used in writing or speaking are freely chosen, the other half are determined by the structure of the language (grammar, etc.). See generally Shannon, *supra* footnote 4, and see Anthony Wilden, "The Rules Are No Game," London: Routledge (1987) p. 188.
- 9 See generally Rodney A. Smolla, "Free Speech in an Open Society," New York: Vintage (1992) pp. 3-17 and Cass R. Sunstein, "Democracy and the Problem of Free Speech," New York: Free Press (1995, 1993) pp 1-16.
  - 10 See footnote 6 and 7 *supra*, and see also footnote 8 *supra*.
  - 11 Smolla, *supra* footnote 9, and see "Part IV: Free Speech: An Overview" below.

"Cyberspace" [FN 12] is the electronic medium of computer networks, in which online communications takes place. [FN 13] Among its distinguishing features to be discussed in this paper is that it digitally encodes communications. [FN 14]

A central thesis of this paper is that the technical characteristics of a medium have significant impact on the effectiveness of communication to do, rather than just say, things. In particular, that certain technical characteristics of cyberspace lower the barriers to entry for "amplification" (in the broad sense set forth in footnote 7 above) and that such amplification, together with certain other characteristics of networks discussed below (in Part V of this paper), change the quantitative and qualitative nature and effects of mediated speech. These amplified effects have the potential to significantly increase the potential for social harms resulting from such speech. This paper attempts to illustrate how these characteristics interact with legal doctrine and state interest in the context of free speech.

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- 12 The term "cyberspace" is credited to William Gibson, "Neuromancer", New York: Ace Books, Reissue edition (1995, 1984) p. 51:

"Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts .... A graphical representation of data abstracted from the banks of every computer in the human system."

- 13 We use the term "cyberspace" to mean the system of interconnected "switches and pipes" that comprise the digital, packet based communications network. See Reno v. ACLU, 521 U.S. 844, 851 (1997):

"All of these methods can be used to transmit text; most can transmit sound, pictures, and moving video images. Taken together, these tools constitute a unique medium—known to its users as "cyberspace"—located in no particular geographical location but available to anyone, anywhere in the world, with access to the Internet."

- 14 Among electronic media, that is media that encode information in energy not physical matter, analog systems encode information using the properties of continuous wave forms so that successive changes in wave amplitude (or length) correspond (that is, are analogous to) some change in the physical signal being encoded. Analog encoding and decoding depends on making or interpreting minute but significant, continuous and variable changes to the energy state of the wave.

Digital encoding does not capture analogous change but rather presents a set of values that correspond exactly to a sample. For example, the process for digitally encoding music involves measuring sound frequencies at successive instances and recording the numeric value of those frequencies. Thus, digital encoding is more stable than analog because it is discrete, unambiguous and disjunctive. Fidelity of a digital copy to the original depends in the first instance on the sampling technique used but subsequent copies of the digital copy are indistinguishable from the first copy. What is coded, and thus copied, is an exact value, precisely representing the sample, not an approximation.

Computer systems generally use a binary digital system that records complex data by reducing (encoding) such data as a multiplicity of binary either-or's – on or off, 1 or 0, high or low, plus or minus, etc. ("binary digits" = "bits"). Because such systems record information in discrete states of energy, that is either on or off, not by small changes in that state (as in analog systems), digital information is more error resistant and less prone to degradation due to random fluxes or other noise in circuits.

For a general description of digital information processing, see Shannon, *supra* footnote 4. The significance of digital encoding to legal analysis is discussed below in "Part IV. Characteristics of Cyberspace".

Part I of this paper discusses the relationship between form and substance, and medium to message, as a prelude to understanding why technical characteristics of mediated systems are inseparable from their effect on meaning itself.

Part II discusses cyberspace as a social construction and examines the use of metaphor in describing cyberspace and how substantive legal doctrine is affected by choice of metaphor.

Part III examines the concept of software as the "content" of mediated digital communication and introduces speech-act theory as a potentially useful tool for understanding different types of online communication.

Part IV provides an overview of certain free speech doctrines and underlying principles and looks at their relationship to specific concepts in communication theory.

Part V highlights some of the particular characteristics of cyberspace – principally the effects of digital encoding – and how these interact with various social and legal interests.

Part VI suggests the hyperlink as the primary unit of social construction in cyberspace and as the nexus between individual communication and social community. This section briefly reviews the emerging law and legal analysis relating to hyperlinks and proposes a semiotic approach to applying legal doctrine to linking.

The paper concludes in Part VII by setting out some areas for further inquiry.



## PART I. Form over Substance or Form is Substance?

In the mid-90s I taught a communications course at Columbia entitled "Formal Analysis of Media". ("Formal" as in "form element", i.e. "form over substance"). The first assignment that I gave my students was to take a block of text from which all formatting (including spacing, capitalization and punctuation) had been removed and then to reconstruct its meaning using only the formal elements available in elementary word processing (i.e., upper and lower case, spacing, italic, bold, underline, tab indent and punctuation). The point of the exercise, as well as the course, was to illustrate how these elements of simple form can change substantive meaning (and thus experience itself) by manipulating, constraining or channeling audience expectations and perceptions.

As simple example, the given text was an article about the concept of the "star" (as in "celebrity"). One student repeatedly formatted the word star as "staR". After a few encounters with the curiously formatted "staR" one could not help but read the word "staR" as "Rats" thus transforming a sycophant's screed about Hollywood stars into a satirical commentary on celebrity rats. Another simple example was a student who underlined every adjective and punctuated every sentence with an exclamation point, thus creating a parody that read like a breathless Hollywood press release!

Form is inseparable from substantive meaning. Formal elements act by setting, constraining or channeling audience expectations. Their action can either interfere with the fidelity of the transmission, i.e. create "noise" that degrades the signal, or can improve fidelity by providing redundancy, focus, or context. [FN 15]

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15 Redundancy provides duplication of information to resist loss, hence error, in transmission. The more bandwidth that exists in relation to the amount of information in a particular message, the more opportunity there is to build redundancy into the code. Focus draws the reader's attention to particular parts of the information, and context introduces useful information from beyond the message.

Although the availability of formal elements is constrained by characteristics of a particular medium, formal elements are really just part of the code or language of a system. Some formal elements have grammatical effect (that is, they affect the syntax) while others have semantic effect (that is, they affect the meaning attributable to a particular sign). In either case, they are part of content.

Moving beyond the consideration of formal elements, media theorists like Marshal McLuhan argue that mediation itself can have direct effect on listener perceptions and thus shape their experience – independent of the content. Thus, McLuhan's famous construct that the "medium is the message". [FN 16] McLuhan's point is simply that the way that communication is mediated, and how the listener interacts with or perceives the mediation, is itself likely to affect how meaning is constructed and to change the social nature of the communication itself. [FN 17]

Thus, even the most mundane features of a communications technology – both the formal elements of its code and how its technical features interact with human senses – can have powerful semiotic effect. [FN 18] These features can influence the substantive discourse and predetermine the limits of social constructions (including, of course, laws) by bounding the participants' actions within the constraints of the chosen medium's own formal characteristics or limits. [FN 19]

As corollary, of course, a medium's characteristics can greatly influence the effectiveness, and thus the potential social harm from, any communication using that medium, particularly where the technical characteristics provide significant effect amplification. Thus, formal elements and technical characteristics of a particular medium are fitting subjects of legal analysis, not just for how they impact the speaker or audience directly but for understanding how these characteristics change the nature of the speech itself.

This paper is concerned with exploring where and how technical characteristics of cyberspace intersect with existing legal doctrine in the context of free speech.

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- 16 For those so inclined, see Marshall McLuhan, "The Medium is the Message: An Inventory of Effects," New York: Bantam Books (1967), and McLuhan, "Understanding Media: The Extensions of Man," New York: Mentor Books (1964).
- 17 While McLuhan is most sweeping in his observations, other theorists have looked at various particular media effects and come to similar conclusions. For example, Walter Ong, in "Orality and Literacy: The Technologizing of the Word," London: Routledge (1991, 1982), argues that literacy and orality foster very different modes of human consciousness (pp. 78-116) and how the medium of the word affects social organization (pp. 117-138), as well as definitions of knowledge and conceptions of individuality. Elizabeth Eisenstein, in "The Printing Press as Agent of Change," New York: Cambridge University Press (1993, 1979), shows how the emergence of print technology fostered the Reformation and the growth of modern science. Others, for example, Lewis Mumford, "Technics and Civilization," New York: Harcourt Brace (1963, 1934), and "The Culture of Cities," New York: Harcourt Brace (1970, 1938), have made the same claims with respect to technology generally.
- 18 Semiotics concerns itself with the construction of meaning from signs and systems. See generally, Umberto Eco, *Semiotics and the Philosophy of Language*, Bloomington: Indiana University Press (1984), Roland Barthes, "Elements of Semiology," Noonday Press (reissue 1977), de Saussure, infra footnote 36, and Blonsky, infra footnote 31. Although derived from linguistics, semiotics can be understood as the study of all meaning derived from any system. See, generally, Floyd Merrell, "Semiosis in the Postmodern Age," West Lafayette: Purdue University Press (1995) and Blonsky, infra footnote 31.
- 19 Cf. "Code is Law," pp. 3-8 in Lawrence Lessig, "Code and other Laws of Cyberspace," New York: Basic Books (1999).



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## Part II. Metaphors: Is Cyberspace a Place or Social Condition?

Choice of metaphor has suasive power because metaphor brings to a new subject an expectation imbued with all the old constraints and formal bounds that attend that which is being used as metaphor without requiring rigorous independent justification in the new case. [FN 20]

Metaphor, particularly in legal analysis, can presuppose the outcome, that is, by saying that -this- is metaphorically -that-, old legal doctrines can be applied to new situations without regard to differences in circumstance. In argument by analogy, the victory goes to those who get the audience (or court) to accept their proffered metaphor.

Should we think of "cyberspace" as a place or a social construction? And, does it matter?

In the early 1990s when the first web servers were coming online and the techno-priesthood sought to explain this "new thing" to others they invoked the concept of "telephone-space".

"Where is this cyberspace?" the uninitiated would ask. "Why, cyberspace is where you are when you are on the phone," [FN 21] the techno-dweeb would smugly answer. And, importantly, the audience would get it.

Although seeming somewhat quaint today, the concept of "telephone-space" was historically a legitimate construct for legislatures, for courts, and for society to grapple with. [FN 22] The

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20 See Anthony Wilden, "The Rules Are No Game," London: Routledge (1987) pp. 197-222, and Roman Jacobson and Morris Halle, "Fundamentals of Language," Berlin: Mouton de Gruyter (Reprint second edition 2002, 1956) pp. 90-96.

21 "Cyberspace is where you are when you are on the phone" is most often popularly attributed to John Perry Barlow, the self-deluded "Thomas Jefferson of Cyberspace", co-founder of EFF, and ex-lyricist for the Grateful Dead. (For an example of metaphorical excess revisit Barlow's "A Declaration of the Independence of Cyberspace" at <http://www.eff.org/~barlow/Declaration-Final.html>.)

However, its first appearance in text appears in the Introduction to Bruce Sterling, "The Hacker Crackdown," New York: Bantam Books (reprint edition 1993) :

"Cyberspace is the 'place' where a telephone conversation appears to occur. Not inside your actual phone, the plastic device on your desk. Not inside the other person's phone, in some other city. The place between the phones. The indefinite place out there, where the two of you, human beings, actually meet and communicate."

22 There were significant social, cultural and legal accommodations made in adapting to the then new technology of telephony that parallel the current trend, including the use of space as metaphor.

For example, it was not at all clear in the 1880's what law would apply to telephone-space despite the clear precedents established in "telegraph law". See, generally, "4.3 Legal effects of the telephone", pp. 74-77, in Ithiel de Sola Pool, "Forecasting the Telephone: A Retrospective Technology Assessment of the Telephone," Norwood, NJ: Ablex Publishing (1983) and "The Law of the Telephone," pp. 100-107, in Ithiel de Sola Pool, "Technologies of Freedom," Cambridge: Harvard University Press (1983).

Additionally, speech in "telephone-space" was legislated. For instance, telephone-space enjoyed diminished first amendment protection under the Communications Act of 1934, which forbade telephoning any comment, request, suggestion, or proposal that was obscene, lewd, lascivious, filthy, or indecent. (Enacted in part, to protect telephone-space workers, i.e. female telephone operators, from exposure to lewd language.)

relevance of space as metaphor hinges on the then novel characteristics of the telephone as medium – speaking at a distance in real time – that required a new conception of time and place. And, time and place, of course, construct space. [FN 23]

More recently it has been argued [FN 24] that we should abandon the metaphor of space in thinking about digital networked technologies because, in this view, space is a limiting principle and cyberspace is more properly considered a social construction rather than a "thing". [FN 25]

One reason these advocates seek to avoid the old metaphor of place is that places are routinely subject to law and regulation, even in areas of trump rights such as free speech. [FN 26] By reconceptualizing cyberspace as a social act the suggestion is that it is beyond regulation under these existing, "space-rationalized" doctrines.

These advocates go further in suggesting their own metaphor in substitute, proposing to consider cyberspace as a new "neuroanatomy of communication". [FN 27] Much has been written about

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A later amendment to the Act prohibiting "indecent" commercial communications by telephone was held unconstitutional fifty years later in *Sable Communication v. FCC*, 492 U.S. 115 (1989). In *Sable*, the court held that the ban on "indecent" speech as applied to "dial-a-porn" violated the First Amendment. The court distinguished *Pacifica v. FCC*, 438 U.S. 726 (1978) in which an "indecent" standard was upheld as applied to broadcasting on the grounds of intrusiveness on a captive audience. The court opined in *Sable* that "there is no 'captive audience' problem here; callers will generally not be unwilling listeners. The context of dial-in services, where a caller seeks and is willing to pay for the communication, is manifestly different from a situation in which a listener does not want the received message." Query: Would the court have upheld the ban in *Sable* if telephone-space was still inhabited by a captive audience of female operators?

For a social history of the telephone, see Claude S. Fisher, "America Calling: A Social History of the Telephone to 1940," Berkeley: University of California Press (1992) and Carolyn Marvin, "When Old Technologies Were New," New York: Oxford University Press (1988). (For an interesting discussion of the complex relationship of "telephone girl" (operator) to domestic space, see Marvin at 84-85.)

"Telephone-space" has also been postulated as a prime determinant in the development of physical urban space. See, for example, Stephen Graham and Simon Marvin, "Telecommunications and the City: Electronic Spaces, Urban Places," London: Routledge (1996) and see de Sola Pool, *supra*, at 41-54, ("Effects of the Telephone on Patterns of Human Settlement").

- 23 Cf. "The Nature of Space," pp.131-180, in Stephen Kern, "The Culture of Time and Space: 1880-1918," Cambridge: Harvard University Press (2001, 1983) (Kern explores the sweeping changes in technology and culture that created new modes of understanding and experiencing time and space at the beginning of the twentieth century).
- 24 For example, Eben Moglen, Professor of Law, Columbia Law School (January 16, 2003).
- 25 On the general topic of social construction and technological innovation, see Wiebe E. Bijker, Thomas P. Hughes, and Trevor Pinch, eds. "The Social Construction of Technological Systems," Cambridge: MIT Press (1994, 1987) and Wiebe E. Bijker and John Law, eds. "Shaping Technology/Building Society," Cambridge: MIT Press (1992).
- 26 See the long discussion about "zoning" cyberspace in *Reno v ACLU*, 521 U.S. 844, 886-897 (Justice O'Connor concurring).
- 27 Moglen, *supra* footnote 24. See also, John Perry Barlow's rhetorical excess in his Declaration, *supra*, in which he calls "Cyberspace, the new home of Mind" and declares "We will create a civilization of the Mind in Cyberspace." For a dose of reality, see Mark Dery, "Technology Makes Us Escapist; The Cult Of the Mind," New York Times Sunday Magazine, September 28, 1997, (available online at <http://www.taipale.com/LIS/nyt092897.html>) discussing the Heaven's Gate mass suicide:

"Marshall Applewhite's [leader of the cult] contempt for the flesh and the mundane world is pervasive among computer scientists, hackers and others in the advance guard of digital culture."

the anthropomorphic tendencies of the digerati that is not relevant for our purposes here. [FN 28] However, to accept this metaphor for legal analysis begins to concede that any regulation would be an attempt to control thought itself, what with neuroanatomy being the infrastructure of the human mind and such. [FN 29]

So, place or construction? The first approach favors the idea of online communication as the act of acquiring information [FN 30], while the second favors the notion of online communication as a large semiotic act of conversation – a social act [FN 31].

Are these ideas incompatible or complementary for purposes of legal analysis? Further, if cyberspace is a social semiotic act, then are the semiotic effects of mediation themselves proper subjects of legal analysis and potential bases for legal doctrine, including regulation of speech?



### Part III. "Content", Software and Speech Act Theory.

To understand the communicative impact of cyberspace, we need to understand its unique characteristics, those characteristics that differentiate it from previous systems of mediated communication. As discussed above, for these purposes its prime differentiator is its digital method for encoding. [FN 32]

"The movement from analog to digital representation - in video, music, printing, telecommunications, and even choreography, religious worship, and sexual gratification - potentially turns all forms of human symbolic activity into software, that is, modifiable instructions for describing and controlling the behavior of machines. ... Thus 'software' becomes a viable metaphor for all symbolic activity, apparently divorced from the technical context of the word's origin, ... ." [FN 33]

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"In like mind, George Gilder, a breathless rhapsodist of technological progress, celebrates the "overthrow of matter" and the "exaltation of mind" by information technologies. He ends "Microcosm: The Quantum Revolution in Economics and Technology" with a homily that reconciles our national faith in science and technology with our Puritanical distrust of the flesh. "Overthrowing matter," writes Gilder, "humanity also escapes from the traps and compulsions of pleasure into a higher morality of spirit" – a line that would have gladdened the heart of Marshall Applewhite."

This metaphor is a favorite of the "cyberpunk" pinion of the digerati, see for example, "The Neuroscience of Cyberspace" at [http://project.cyberpunk.ru/idb/neuroscience\\_of\\_cyberspace.html](http://project.cyberpunk.ru/idb/neuroscience_of_cyberspace.html).

- 28 Ibid. and see generally Michael Featherstone and Roger Burows, eds. "Cyberspace, cyberbodies, cyberpunk: Cultures of technological embodiment," London: SAGE Publications (1995).
- 29 However, advocates of this metaphor should remember that lobotomy is sometimes still an appropriate remedy for certain neuropathologies, see [http://www.medicalbroadcast.com/CMEReviews/neuropsych\\_illness/CNS1000\\_Cosgrove.html](http://www.medicalbroadcast.com/CMEReviews/neuropsych_illness/CNS1000_Cosgrove.html).
- 30 See generally Shannon, *supra* footnote 4.
- 31 See Roman Jakobson, "Roman Jakobson, "Main Trends in the Science of Language," New York: Harper (1970) and see generally Roland Barthes, Jacques Derrida, Umberto Eco, Michel Foucault, Milton Glaser, Frederic Jameson, Thomas Sebeok, and others, in Marshall Blonsky, ed., "On Signs," Baltimore: Johns Hopkins University Press (1991, 1985).
- 32 See footnote 14 *supra*.
- 33 Eben Moglen, Anarchism Triumphant: Free Software and the Death of Copyright," First Monday, August 1999, available online at <http://moglen.law.columbia.edu/publications/anarchism.html>.

Professor Moglen has further proposed that all digital content, that is, all "software", be categorized as either executables or culture. [FN 34] This taxonomy – although strange at first mixing adjective and noun as it does – has clear antecedent in the philosophy of language first advanced by John Austin, that is, speech-act theory. [FN 35]

While traditional linguistic research focuses on abstract structural features of language itself independent of where and when it is used [FN 36] speech-act theory examines the power of language in community, that is, as it is used to do things, not just to say things. Speech-act theory is the analysis of language by what it does through social process rather than what it represents through formal structure. [FN 37]

Austin's term for language with the primary function of doing something is "performative" (in Moglenian terms, "executable") and his term for language used primarily for saying something is "constative" (in Moglenian terms, "culture"). To illustrate, "the wall is blue" is descriptive, hence constative or culture; while "I bet you that the wall is blue" is performative or executable at least to the extent that the bet is accepted at which point it makes something happen, i.e., a contract.

In the context of cyberspace (or, in this case, the World Wide Web component thereof), "the information is available on my web site" is constative (or culture) but the statement "<A href="http://www.taipale.com/info\_here/">Click Here for Information</A>" is performative (executable). [FN 38]

Much of legal language is performative, e.g., "you are negligent" assigns responsibility and has social consequence. However, like all performative speech, its ability to do something is contextual. Thus, the statement that "you are negligent" has significant different effect if uttered by me on the street or by a judge in a courtroom. [FN 39] So too, the hyperlink described in the previous paragraph is performative only in context, that is, when embedded in an HTML document.

Importantly, performative communication cannot be judged as true or false but only as effective or not. Communications that say something can be true or false but communications that do things are either successful or unsuccessful, in Austin's terminology they are felicitous or infelicitous, happy or unhappy. [FN 40]

What does this have to do with the law? As it turns out, much of first amendment analysis turns on the issue of felicity. For example, in Brandenburg [FN 41] the court sets forth the current

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34 Moglen, *supra* footnote 24.

35 See John L. Austin, "How to Do Things with Words," Cambridge: Harvard University Press (1962) and John R. Searle, "Speech Acts: An Essay in the Philosophy of Language," New York: Cambridge University Press (Reprint edition 1999, 1969).

36 See Ferdinand de Saussure, "Course in General Linguistics," New York: McGraw Hill (1965, 1916).

37 See Sandy Petrey, "Speech Acts and Literary Theory," New York: Routledge (1990), pp. 3-21.

38 Hyperlinks are discussed below in "Part VI. Hyperlinks as Nexus to Felicity".

39 The converse obviously also holds, that is, the same context but different language can have significant difference in effect. For example, the significant social difference between the judicial performative "case dismissed" and "twenty years". Petrey, *supra* footnote 37, at p. 8.

40 *Ibid.* at 12.

41 *Brandenburg v. Ohio*, 395 U.S. 444 (1969).

"clear and present danger" standard for harmful speech as that which is likely to incite "imminent lawless action". A speech act theorist might say that the court has drawn a legal line between speech that is constative (the speech at issue in Brandenburg was "it's possible that there might have to be some revengeance taken" [FN 42]) from that which is performative, i.e., actually likely to cause harm in the real world (e.g., "let's go kill them now").

The concept of a communication's felicity is related to what Austin calls its illocutionary force. Again as example, the words "the constitution is suspended" appearing in a governmental decree or in a newspaper editorial are examples of a single -locution- with very different -illocutionary-force. "The same words with the same meaning – the same locutions – have different conventional powers, and one of the most important principles of speech-act theory is that such difference of power is at least as important in analyzing language as lexical and semantic differences". [FN 43]

As final example I posit the classic first amendment bromide: to yell "fire" falsely in the wilderness can invoke no sanction for it lacks felicity and illocutionary force, but even "[t]he most stringent protection of free speech would not protect a man in falsely shouting fire in a theatre and causing a panic." [FN 44].

Thus, in thinking about how technology intersects with free speech we need to consider how the technological affects felicity.

Are the effects of a technology on illocutionary force something that legal analysis in general and free speech doctrine in particular should take into account when considering speech in cyberspace?



#### **Part IV. Free Speech: An Overview.**

##### The Marketplace of Ideas and other Myths.

The case for an open culture in which free speech maintains a "preferred position" in the hierarchy of social values is many faceted. In the main, three theories have been advanced in favor of openness: [FN 45]

- first, the "marketplace of ideas" in which ideas compete in the public discourse in pursuit of "truth" [FN 46] (the "marketplace" theory),

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42 Ibid. at 446.

43 Petrey, *supra* footnote 13, at p. 12, and see "The Structure of Illocutionary Acts," in Searle, *supra* footnote 35, at pp. 54-71.

44 Schenck v. U.S., 249 U.S. 47, 48 (1919).

45 Smolla, *supra* footnote 9, pp. 3-16.

46 "[T]he best test of truth is the power of thought to get itself accepted in the competition of the market." Abrams v. U.S., 250 U.S. 616, 630 (1919) Justice Holmes, dissenting.

Although not a topic for this paper, modern philosophy rejects the notion of absolute truth, preferring instead to see truth only momentarily on its way to falsification. See generally, Richard Rorty, "Philosophy and the Mirror of Nature," Princeton: Princeton University Press (1981, 1979) and Richard Rorty, "Objectivity, Relativism, and Truth: Volume 1," Cambridge: Cambridge University Press (1991). Thus, the Holmes formulation as best "test" of truth is an important feature of the marketplace theory often ignored.

- second, the requirements of free speech for democratic self-government (the "Madisonian" theory), and
- third, free expression as a foundation of human dignity (the "autonomy" theory).

A detailed discussion of these theories is beyond the scope of this paper. [FN 47] Instead, we propose here a communication theory analogy as support for an open society based on free speech.

In communications theory, the principle of "requisite diversity" is related to control, stability and long-term viability of a system. [FN 48] First proposed as a theory to support the suppression of "noise" in systems of communication and control, the "principle of requisite variety" holds that if the variety to which a given system is exposed in its environment is greater in quantity than the variety the system can process, then the system's stability will be threatened because it will not possess sufficient flexibility to reduce or otherwise avoid the uncoded variety (that is, noise) that may challenge it (the signal variety will exceed the available bandwidth). [FN 49]

An important corollary (the "Bateson Rule") to "requisite diversity" is that as the structural diversity of a natural or social ecosystem is reduced, its flexibility (adaptability) to survive future environmental uncertainties is also reduced. Reducing diversity eliminates a system's uncommitted potential for accommodating future change and, more importantly, its potential to generate new information (i.e., its ability for knowledge generation).

According to Bateson: [FN 50]

"All that is not information, not redundancy, not form and not restraint – is noise, the only possible source of -new- patterns."

Thus, free speech provides long-term stability to a social or political system by providing sufficient diversity of opinion for the system to meet future uncertainties.

Noise is the only mechanism whereby new social patterns, constructions or knowledge can emerge. Therefore, any attempt to suppress noise must be rigorously tested against the need for "requisite diversity".

Nevertheless, the First Amendment is not a suicide pact [FN 51] and harmful speech just as uncontrolled noise, can interfere with the ability of a system to function. Thus, optimizing the

For an in depth analysis of the market place theory, see Stanley Ingber, "The Marketplace of Ideas: A Legitimizing Myth," 1984 Duke Law Journal 1 (1984).

47 For a detailed discussion, see Smolla, *supra* footnote 9, pp. 3-16.

48 The "law of requisite variety", first exposed by W. Ross Ashby in "An Introduction to Cybernetics," New York: Wiley (1966) pp. 186-187, 206-211, holds that only variety can diminish or destroy (that is, control) variety.

49 See Wilden, *supra* footnote 20, p. 190. Compare this situation with the bandwidth requirements for redundancy as described in footnote 15 *supra*.

50 Gregory Bateson, "Cybernetic Explanation," in Wilden, *supra* footnote 20, at p. 189.

51 See, Justice Jackson, dissenting, in *Terminiello v. City of Chicago*, 337 U.S. 1, 37 (1949) (a free speech case overturning the conviction for disorderly conduct of a fascist speaker who had been arrested for inciting a riot):

balance between control and noise, that is, limiting harm and encouraging free speech, is a fundamental feature of communication systems and theory, as well as law.

The central question for any society in addressing free speech is whether speech can only be punished when it causes, or threatens to cause, a crime or violence, or is it permissible for society to declare speech itself criminal because it is deemed offensive or potentially harmful? [FN 52] Assuming that some link to harm is a requirement, under what standard are such harms to be viewed and does new media change the criteria that need to be considered?

In devising such a standard, the courts have relied on three basic approaches: absolutism [FN 53], historicism [FN 54] and balancing. The balancing approach was best articulated by Justice Frankfurter in *Dennis v. United States* [FN 55] where he opined:

"The demands of a free society as well as the interest in national security are better served by candid and informed weighing of the competing interests, within the confines of the judicial process, than by announcing dogmas too inflexible for the non-Euclidean problems to be solved."

This ad hoc balancing approach has been criticized, however, because it tends to devalue speech as just another social interest to be considered rather than a preferred value. [FN 56] Nevertheless, it seems the dominant trend. [FN 57]

In practice, the courts engage in a two-step balancing act, where speech is categorized as protected or not protected and then various tests are applied in sorting through which speech can be punished, which can be regulated and which must be left alone. So, defamation [FN 58],

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"The choice is not between order and liberty. It is between liberty with order and anarchy without either. There is danger that, if the court does not temper its doctrinaire logic with a little practical wisdom, it will convert the constitutional Bill of Rights into a suicide pact."

52 See Smolla, *supra* footnote 9, at 31.

53 The absolutist view is most often associated with Justices Black and Douglas. According to Black, "Congress shall make no law" means literally -no- law, "without any ifs, buts, or whereases." See *Beauharnais v. Illinois*, 343 U.S. 250, 275 (1952) (dissenting), and Douglas, "the ban of 'no' law that abridges [free speech] is in my view total and complete." *CBS v. Democratic National Comm.*, 412 U.S. 94, 156 (1973) (concurring). Smolla, *supra* footnote 9, at 23.

54 Historicism looks to the Founder's intent. Although the historical record of original intent can be argued either way, practice at the time of ratification would suggest that the First Amendment as adopted was meant only to protect against prior restraint and that speakers would still be held accountable for their speech after the fact. See Smolla, *supra* footnote 9, at pp. 27-39. And, see William Blackstone, "Commentaries on the Laws of England" cited therein at 31, "this [punishment after the fact] lay[s] no restriction upon freedom of thought or enquiry; liberty of private sentiment is still left; the disseminating, or making public, of bad sentiments, destructive of the ends of society, is the crime which society corrects."

55 *Dennis v. U.S.*, 341 U.S. 494, 524-525 (1951).

56 For example, see Smolla, *supra* footnote 9, at 39-42.

57 Neither absolutism, nor historicism, seem to us to offer significant guidance in the context of free speech and new media. Electronically mediated speech was not contemplated at the time of adoption of the First Amendment, and its technical characteristics render the absolutist approach illusory. We believe that the primacy of free speech as a preferred right can be maintained under balancing by applying the correct analytical tools, some of which are discussed in this paper.

58 See *New York Times v. Sullivan*, 376 U.S. 254 (1964).

obscenity [FN 59], fighting words [FN 60], and incitements [FN 61] can be punished ("unprotected speech"), commercial speech [FN 62] and certain mediated speech can be regulated (subject to "intermediate scrutiny"), and 'protected' speech is left pretty much alone (but subject to various exceptions that meet the "strict scrutiny" test).

It is worth remembering that many of these presumptions – that is, our commonly held views of free speech protection and related doctrine – are of very recent vintage, a creature of twentieth-century litigation in the main [FN 63]. Nevertheless, the general approach over the past fifty years has been to protect speech except where it either imminently threatens unlawfulness or violence or where the technical characteristics of a medium limit speaker access or intrude on a captive audience. As discussed below, however, in at least one case (film licensing) regulation was rationalized by the potential effect of the medium itself on the audience (see "Regulating Media Literacy" below).

The difficulty for legal analysis, particularly when confronted with new media, is how (and under what circumstances) to apply old or existing doctrine and when (and under what circumstances) to develop new doctrine.

If technical characteristics of a medium change the "effectiveness" of the speech itself – that is, its illocutionary force, its ability to do things, not just say things [FN 64] – is that a sufficient or proper rationale for regulation or at least rethinking old doctrine?

#### Clear and Present Danger

The government can regulate speech that is likely to incite "imminent lawless action," [FN 65] or where the speech presents a "clear and present danger" to the security of the nation [FN 66].

The clear and present danger test had its origin during World War I in a series of cases upholding the prosecution of war protesters under the Espionage Act of 1918 [FN 67].

In Schenck [FN 68] Justice Holmes opined: "The question in every case is whether the words used are used in such circumstances and are of such a nature as to create a clear and present danger that they will bring about the substantive evils that Congress has a right to prevent. It is a question of proximity and degree." [FN 69]. "If the act, (speaking, or circulating a paper,) its

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59 See Miller v. California, 413 U.S. 15 (1973).

60 See Chaplinsky v. New Hampshire, 315 U.S. 568 (1942).

61 See Brandenburg, *supra* footnote 41.

62 See Central Hudson v. PSC of New York, 447 U.S. 557 (1980).

63 Sunstein, *supra* footnote 9, at pp. 4-16. And, see generally "EPIC Archive - Free Speech" at [http://www.epic.org/free\\_speech/](http://www.epic.org/free_speech/).

64. See Austin, *supra* footnote 35..

65 Brandenburg, *supra* footnote 41.

66 Schenck, *supra* footnote 44.

67 Also known as the Sedition Act of 1918. 40 Stat. 553 (1918).

68 Schenck, *supra* footnote 44.

69 *Ibid.* at 48.

tendency and the intent with which it is done are the same, we perceive no ground for saying that success alone warrants making the act a crime." [FN 70]

Thus, even without proof of actual felicity, the court held that so long as the speech in question had the -intent- to produce illegal action and the -tendency- to produce the intended effect, then it could be penalized. Intent plus the merest potential for illocutionary force was sufficient.

Holmes wrote two more opinions at about the same time that also set forth this rather minimal proximity threshold for punishing speech. [FN 71]

However, later that same year in another WWI protest case, Abrams v. United States [FN 72], Holmes defected from the majority and delivered an eloquent dissent in favor of free speech on the basis of felicity (or lack thereof). "Now nobody can suppose that the surreptitious publishing of a silly leaflet by an unknown man, without more, would present any immediate danger that its opinions would [be successful]". [FN 73] He goes on to dismiss the speech at issue as "poor and puny anonymities" [FN 74].

In Dennis v. U.S. [FN 75], the court adopted as its own a reformulation of the proximity test of Schrenk-Frohwerk-Debs put forth by Learned Hand in the 2d Circuit Court opinion [FN 76] at appeal. "In each case [courts] must ask whether the gravity of the 'evil', discounted by its improbability, justifies such invasion of free speech as is necessary to avoid the danger." [FN 77] This new test was no longer a proximity test (i.e., a test of proximate causation) but a probability and degree of risk test (i.e., a balancing or cost-benefit analysis).

Thus, the Hand formulation adopted in Dennis has been criticized by some commentators as unprotective of free speech because "regulation of speech was not to be judged under any special methodology, but rather under the same standards applicable to any other form of conduct" [FN 78] since this test was no different than that proposed by Hand for "maintaining a tugboat" [FN 79].

As discussed above, the modern version of the "clear and present danger" test was set forth in Brandenburg v. Ohio [FN 80] in which the court held an Ohio "criminal syndicalism" statute unconstitutional stating "the constitutional guarantees of free speech and free press do not permit a State to forbid or proscribe advocacy of the use of force or of law violation except where such

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70 Ibid.

71 Frohwerk v. U.S., 249 U.S. 204 (1919) (opining that "a little breath would be enough to kindle a flame" at 209 ) and Debs v. U.S., 249 U.S. 211 (1919) (finding a "natural and intended effect" at 215).

72 250 U.S. 616 (1919).

73 Ibid. at 628.

74 Ibid. at 629.

75 341 U.S. 494 (1951).

76 183 F. 2d 201 (2d Cir. 1950).

77 Dennis, *supra* footnote 75, at 510.

78 See Smolla, *supra* footnote 9, at 109.

79 Ibid., alluding to U. S. v. Carroll Towing, 159 F. 2d 169 (2d Cir. 1947).

80 Brandenburg, *supra* footnote 41.

advocacy is directed to inciting or producing imminent lawless action and is likely to incite or produce such action." [FN 81]

Brandenburg was a per curium opinion, but the key to its result can be found in Justice Douglas's concurrence, where he writes "When one reads the [clear and present danger] opinions closely and sees when and how the 'clear and present danger' test has been applied, great misgivings are aroused. First, the threats were often loud, but always puny, and made serious only by judges so wedded to the status quo that critical analysis made them nervous." [FN 82]

To a communication theorist, the analysis set forth in these line of cases ending with Brandenburg suggest that the appropriate criteria for judging speech under a balancing test is its illocutionary force – that is, its semiotic proximity to a social harm subject to valid state prohibition. In our view, this approach can preserve the "preferred value" of speech while regulating against social harms.

#### Technical Characteristics.

At the time that the First Amendment was adopted speech was either face-to-face or newsprint/pamphlet. As new mediated technologies came to be, the legislature and courts faced unique challenges to free speech doctrine.

Media specific regulations were imposed on radio and television broadcasting and justified by characteristics of the technologies themselves. The Radio Act of 1927 permitted allocation of radio spectrum by the government to those broadcasters who promised to serve the public interest. What would have been unconstitutional prior restraint was justified by the natural scarcity of spectrum and the perceived (and at the time, technical) need to prevent signal interference. The 1927 Act and the 1934 Communications Act imposed many content based restrictions that were already unconstitutional in print media, for example, compelled speech and the "right to reply" under the fairness doctrine [FN 83] and prohibitions on "indecent" speech [FN 84].

In upholding the compelled speech at issue in Red Lion, the court wrote [FN 85]:

"differences in the characteristics of new media justify differences in the First Amendment standards applied to them. [references deleted] For example, the ability of new technology to produce sounds more raucous than those of the human voice justifies restrictions on the sound level, and on the hours and places of use, of sound trucks so long as the restrictions are reasonable and applied without discrimination. *Kovacs v. Cooper*, 336 U.S. 77 (1949)."

Thus, restrictions on mediated communications have been upheld where the technical characteristics of the medium itself affect:

1. the speaker (for example, where channel scarcity restricts speaker access and 'sharing' has been required under the fairness doctrine) [FN 86],

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81 Ibid. at 447.

82 Ibid. at 454.

83 Upheld in *Red Lion v. FCC*, 395 U.S. 367, 387-400 (1969) on the grounds of spectrum scarcity.

84 Upheld in *FCC v. Pacifica Foundation*, 438 U.S. 726, 748-50 (1978) because of the invasiveness of the medium.

85 *Red Lion*, *supra* footnote 83, at 387.

2. the speech itself (for example, where the audio level is amplified in such a way as to justify reasonable restrictions on time and place) [FN 87], and
3. the audience (for example, permitting the "indecency" standard for broadcast based on the intrusiveness of the medium into the audience space, the 'captive audience' doctrine).

Thus, where technical characteristics of a medium restrict speaker access to a channel, or amplify a signal in such a way as to intrude on the audience (either by physically amplifying the signal or by transmitting the signal to a captive audience) the courts have allowed regulation.

But, can (or should) restrictions be imposed in situations where the characteristics of the medium amplify not just the physical characteristics of the signal but the effectiveness of the message, that is, where the medium increases the illocutionary force of the speech?

#### Regulating Media Literacy.

It is a generally accepted principle that the audience reaction to speech cannot be used as a rationale for suppressing such speech. [FN 88] Justifying regulation based on such "reactive" harms – injuries caused by emotional or intellectual response to the content of speech – would permit a "heckler's veto" [FN 89].

But another, more interesting question, particularly in light of the new media of cyberspace, is whether government can (or should be allowed to) regulate speech on the basis that the audience is not yet equipped to consume – that is, "read" – the information by virtue of the novel characteristics of the medium.

It is settled that government has a compelling interest to keep certain kinds of information out of the hands (minds?) of certain audiences. For example, in Ginsberg [FN 90] the court held that it was not unconstitutional for the state to prohibit minors from accessing material that was not obscene for adults [FN 91].

Under a similar rationale of paternalism, would the state ever be justified in regulating a medium or its content on the basis that the characteristics of the particular medium itself make it dangerous to the state (or to the user themselves) because the audience/users are not media literate? Although it seems unlikely when phrased as such, that is the rationale that permitted regulation of the movie industry for the first half of the twentieth century.

86 Red Lion, *supra* footnote 83. Another way to view this case is as support for regulation that is "market correcting". That is, the technical characteristics of the medium have created such significant barriers to entry for speakers with other viewpoints that government intervention is justified.

87 Kovacs v. Cooper, 336 U.S. 77 (1949).

88 Terminiello v. City of Chicago, 337 U.S. 1 (1949) (overturning the conviction of a speaker who was arrested to prevent disturbance by crowd protesting his speech).

89 Brown v. Louisiana, 383 U.S. 131 (1966), footnote 1 at 133.

90 Ginsberg v. New York, 390 U.S. 629 (1968).

91 "[M]aterial which is protected for distribution to adults is not necessarily constitutionally protected from restriction upon its dissemination to children." *Ibid.* at 634 quoting *Bookcase, Inc. v. Broderick*, at 75, 218 N. E. 2d, at 671.

Motion picture production was subject to licensing (a form of prior restraint) from early on in the twentieth century. Such licensing was upheld in 1915 in *Mutual Film v. Industrial Comm. of Ohio* [FN 92] in which the court held that cinema was not a form of expression protected by the First Amendment. This view prevailed until 1948 when free speech protection was finally extended to the film industry in *U.S. v. Paramount Pictures* [FN 93] an antitrust case in which the court wrote in dicta that "moving pictures, like newspapers and radio, are included in the press whose freedom is guaranteed by the First Amendment".

The rationale for regulating film was a fear that the power of certain characteristics of the new medium (in this case its use of visualization and amplification) was such that it posed a significant threat that filmmakers would (or could) corrupt audiences with prurient images and political or religious propaganda. [FN 94]

Interestingly, these legal developments tracked contemporaneous developments in mass communication theory. [FN 95] Early communication theorists conceptualized mass media effects as exceedingly powerful in what was later called the "bullet theory". This simplistic view predicted strong and more or less universal effects of mass communications and was the basis for fearing the widespread "propaganda" effect of film. The "bullet theory" was at its height leading up to World War I at about the same time that *Mutual Film* was decided. By the late 1940's the bullet theory with its assumption of an all powerful universal effect was discarded and replaced by the "limited-effects" model that assumed no significant effect from mass media. It was in the early era of this limited-effects model that *Paramount* was decided.

The limited effects model itself was soon discarded and replaced by a succession of models based on research showing that mass media do indeed produce powerful effects. By the 1970s, theorists had developed what might be called a "moderate-effect" model and by the 1980s the "powerful-effects" model was widely accepted. [FN 96] This model supports the notion that powerful effects do occur but that they do not do so universally or easily, but only when the right communication techniques are used under the right circumstances.

Although the notion of regulating on the basis of audience susceptibility to manipulation by the technology of a medium seems outdated now, it was exactly this power of film (and radio) that Hitler and the Nazis exploited to help gain and sustain their political power. [FN 97]

It could be argued that the "bullet theory" actually did describe the power of early mass media at a time when the audiences were not yet media literate and crude propaganda techniques could be used to sway large segments. This would help explain the apparent success of what now seems clumsy mass media propaganda in the earlier part of the twentieth century (particularly in Germany [FN 98] and the Soviet Union where central control over media use was tightly enforced).

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92 236 U.S. 230, 242-44 (1915).

93 334 U.S. 131, 166 (1948).

94 See Garth Jowett, "A Significant Medium for the Communication of Ideas," in Francis Couvares, "Movie Censorship and American Culture," Washington: Smithsonian Institute Press (1996).

95 See "The Effects of Mass Communication" in Severin, *supra* footnote 5, at 247-268.

96 *Ibid.* at 260-261.

97 See David Welch, "Propaganda and the German Cinema: 1933-1945," London: I B Tauris & Co Ltd., Revised edition (February 2001) and Hilmar Hoffmann, "The Triumph of Propaganda: Film and National Socialism, 1933-1945," Berghahn Books (1998).

98 *Ibid.*

Then, as audiences became more sophisticated through exposure to the medium those effects dropped off until propaganda producers developed new and more effective techniques (that is, until they began to develop modern marketing techniques) at which point the media effects rose again. [FN 99]

One approach to reconciling these views is to recognize media effect as a complex interaction between media, audience and society. [FN 100] Where the medium is new, the audience is not yet "literate" in that medium, and the social need for information high, powerful persuasive effect can be observed. Thus, media effect is a social construct and any system of mediated communications can rightly be analyzed, at least in part, as social construction.

The point here is not to suggest that film then, or the Internet today, be licensed or otherwise regulated but rather to illustrate how new media challenge not only existing social and legal constructs directly but also affect the ability of human beings to "consume" information cognitively, i.e., to interact with new forms of mediation. As McLuhan argued, new media affect our habits of perception and thinking, and these important effects of the medium come from its form, not content. [FN 101]

Criticism of media society before the Internet focused on the pervasive effect of television, particularly on audiences that had yet to develop or be taught the skills necessary to critically consume information from television. [FN 102] Indeed, information overload, apart from any particular medium, was itself perceived to be a significant destructive force. [FN 103]

Of course, many of these difficulties in adapting to new media forms seem transient (and in some cases, trivial) in retrospect. At the same time that I taught the "Formal Analysis" course referred to earlier, I also co-taught a class in "Computer Mediated Communications". The big topic at the time was "flame wars" in cyberspace. "Flame wars" refers to the phenomenon of escalating rancorous exchanges of postings to online discussion groups. To oversimplify, the lack of formal social cues and conventional controlling norms in computer-mediated communications at the time resulted in behavior that would not have been exhibited in face-to-face communication. The problem was simply that users had yet to develop an accepted convention for computer-mediated communications.

While all this seems obvious now, at the time – less than a decade ago – it was subject to great analysis and many academic books and papers. [FN 104] "Flame wars" references in popular media numbered in the thousands by the mid-90's. A recent search on Lexis for the past year showed only a handful.

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99 Such a recursive theory would fit within the "postmodern" conception of knowledge development. See generally Jean-Francois Lyotard, "The Postmodern Condition: A Report on Knowledge" Geoff Bennington and Brian Massumi, trs., Minneapolis: University of Minnesota Press (1991, 1979).

100 Severin, *supra* footnote 5, at pp. 262-265.

101 McLuhan, "Understanding Media," *supra* footnote 16, p.18.

102 See, for example, Neil Postman, "Amusing Ourselves to Death," New York: Penguin (1985).

103 See, for example, Alvin Toffler, "Future Shock," New York: Random House (1970).

104 See, for example, Mark Dery, ed. "The Flame Wars: Discourses of Cyberspace," Duke University Press (1994) and Martin Lea, Tim O'Shea, Pat Fung, Russell Spears, "Flaming in computer-mediated communications," pp. 89-112, in Martin Lea, ed. "Contexts of Computer-mediated Communications," New York: Harvester (1992).

History shows that "media literacy" problems surface every time a new mediated communications technology debuts. [FN 105] In the early 1900's as telephones spread, many users complained about profanity, yelling, and abuse on the telephone. A 1910 Bell Systems ad proclaimed that the success of the system made the "misuse [of the telephone] a matter of public concern." At the same time, ATT distributed cards to be attached to the phone that read "I believe in the Golden Rule and will try to be as Courteous and Considerate over the Telephone as if Face-to-Face." [FN 106] Phone etiquette was as difficult to achieve in the early years of the century as netiquette would be to achieve at the end.

Nevertheless, the point of this section is to distinguish between two types of audience response – the first, emotional or intellectual reaction to the content, the second, cognitive and psychological reaction to the form of media.

Is audience lack of media literacy a legitimate basis for regulating speech? Will the immersive characteristics of future "virtual reality" worlds require new understandings of media literacy as a basis for legal doctrine? [FN 107]

Leaving aside cognitive media effect, the next question is whether technical characteristics of a medium (in this case cyberspace) can actually have semiotic social effect on speech in a way not previously experienced with earlier electronic media and whether such effects require reformulating existing legal doctrine.



## Part V. Characteristics of Cyberspace

Digitization has significant affect on five matters that give information value in human context – its production and replication, transmission, storage, selective retrieval and intelligent processing. [FN 108]

Much has been (and continues to be) written about how these characteristics – particularly the low cost and high fidelity of copying – challenge existing legal doctrines especially in the area of copyright and intellectual property. [FN 109] The challenge to doctrine in copyright is especially

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- 105 See footnote 22 supra and accompanying text. See also, Henri-Martin, "The History and Power of Writing," Chicago: University of Chicago Press (194, 1988), pp. 90-95, for a description of how Plato (in Phaedrus 274e) believed that the then new mediated technology of writing would destroy man's ability to learn by replacing memory with reminders.
  - 106 Fischer, "America Calling," supra footnote 22, at 69-72.
  - 107 "If you think crack was bad, wait until they get a load of cybersex," was a popular amorphism at virtual reality conferences in the early 1990s. Although the technology has not yet delivered the virtual sex experience early hype promised, even text-based systems have led to psychological addiction. See, for example, Kimberly Young, "Tangled in the Web: Understanding Cybersex from Fantasy to Addiction," Bloomington: 1stBooks (2001).
  - 108 Robert McClintock, "Power and Pedagogy," New York: Institute for Learning Technologies (1992) at para. 55.
  - 109 See, for example, Paul Goldstein, "Copyright's Highway," New York: Hill and Wang (1994), Debora J. Halbert, "Intellectual Property in the Information Age," Westport: Quorum Books (1999), Jessica Litman, "Digital Copyright," New York: Prometheus (2001), Siva Vaidyanathan, "Copyrights and Copywrongs," New York: New York University Press (2001), and Adam Thierer and Clyde Wayne Crews, Jr., eds., "Copy Fights: The Future of Intellectual Property in the Information Age," Washington, DC: Cato Institute (2002).

acute because existing legal analysis is focused on the embodiment of ideas in matter, that is, copyright does not protect the idea itself but only its "expression". Indeed, the entire copyright scheme arose out of the technology of print as a means to control the economics of book distribution. [FN 110] Since it is the value of the artifact itself in which the idea is embedded (i.e., the book, CD, DVD, etc. not the idea) that the existing law protects, any technology that fixes ideas not in things but directly in energy is seriously destabilizing.

Based on these technical characteristics it is (and was) obvious that an economic model premised on controlling the ownership of the material artifact ("container") would eventually be replaced by one based on the relationship with the energy (bit) stream ("channel"), i.e. a subscription model. I argued this in public as early as 1993 [FN 111].

Now, this section is not about copyright, rather, I specifically wanted to introduce my old email in footnote 111 to illustrate two other characteristics of digital networks that have not received as much attention – storage and retrieval. Here (<http://www.cni.org/Hforums/cni-copyright/1993-03/0169.html>) is a ten year-old email containing an "old idea" of mine. It is permanently stored and subject to simply retrieval by anyone on the network. [FN 112]

For purposes of this discussion let us call the idea embedded in my early post the "subscription idea". The subscription idea now exists independent of its relationship to me, its original source (original speaker). Once I 'spoke' it, I have no present ability to "recall" it from cyberspace to correct it, update it, or retire it. It exists divorced from its original temporal context but it remains attached (through links) to other contemporaneous posts. It can today be copied, transmitted and stored by anyone with the desire (thus, it is also divorced from its original audience). It can be linked to and thus put in new context. It has the potential for replication independent of original intent, context, meaning, speaker or audience.

But, one might argue, this is no different than had the idea been fixed in writing in a material artifact, it would also still exist independently and have "a life of its own". The question, however, is whether an idea's existence in cyberspace is fundamentally different than its existence in earlier media as a result of differences in media characteristics. If so, is that a concern for legal doctrine? What if instead of a banal comment on the future of copyright it was harmful speech?

### Meme Theory

Certain ideas are not inert, they have the power to replicate themselves. Richard Dawkins generalized his view of universal evolution by postulating the "meme" as the cultural equivalent of the gene. [FN 113] Dawkins significant contribution to biological evolution was to articulate the increasingly influential view that biological evolution was best understood in terms of competition among "selfish" genes, that is, genes that sought to replicate themselves for their own sakes, not in the interests of the host organism. Dawkins extended this universal theory of evolution to culture by identifying, and naming, the meme as a unit of cultural replication. [FN 114]

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110 See Goldstein, *supra* footnote 109, at pp. 37-77 for the history of copyright.

111 See email from KATAIPALE@CUTCV2.TC.COLUMBIA.EDU dated August 11, 1993 posted to the cni-copyright discussion group available at the CNI archive online at <http://www.cni.org/Hforums/cni-copyright/1993-03/0169.html>.

112 Even if I had not supplied the URL, a search for "KATAIPALE", an old email account, on Google (<http://www.google.com>) would have returned the address.

113 Richard Dawkins, "The Selfish Gene," New York: Oxford University Press (Revised edition 1989, 1976).

114 Susan Blackmore, "The Meme Machine," New York: Oxford University Press (2000, 1999) at 4-9.

The meme is an element of culture, such as a cultural practice or idea that is transmitted by non-genetic means, especially imitation. [FN 115] The meme can be thought of as any idea, trend, fashion, tune, catch-phrase, or way of making or doing something – as long as it is capable of replication through imitation. [FN 116] "Free speech" is a meme. (As are political systems, religions, etc. These complex memes are sometimes referred to as memplexes.) [FN 117]

The significant point of memetic theory is that memes (like genes) are selfish replicators, that is, they seek to replicate themselves without any regard for the welfare of the host organism. In the case of the meme, the host organism has generally been thought to be the human brain, although it can be transmitted through media, e.g., a book.

Again it is beyond the scope of this paper to explore memetics in great detail. [FN 118] For our purposes it is sufficient to recognize that certain ideas, that is, speech, can be viewed as having independent motivation – to self propagate – without regard to the interests of their host organism.

What, if any, are the consequences of allowing ideas to replicate in cyberspace? Are there certain characteristics of this medium that should trigger particular scrutiny? Does the concept of free speech attach itself to the speaker, the audience or the speech itself? To whom does the right belong, the meme or the host? Can the network itself become a host? Or the originator of "speech"? If computer generated links create semiotic meaning, does such computer generated "speech" enjoy free speech protection? [FN 119]

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115 See generally Blackmore, *supra* footnote 114. For a theory on what memes physically are, how they originate, how they developed, and how they exist in parasitic relationship to the human brain, see Robert Aunger, "The Electric Meme: A New Theory of How We Think," New York: Free Press (2002).

116 See Blackmore, *supra* footnote 114, 10-23.

117 *Ibid.*

118 For a more detailed discussion of memetics and free speech generally, see Jeffrey Evan Stake, "Are We Buyers or Hosts? A Memetic Approach to the First Amendment," 52 Alabama Law Review 1213 (2001) in which the author argues that certain speech (memes), i.e., that which has as its purpose the destruction of other speech through the destruction of host organisms that either believe in other or conflicting memes, might be banned without infringing free speech if a memetic analytical approach were applied.

119 If computer generated virtual porn is protected speech when initiated by a human wouldn't the same hold if initiated directly by the machine? Cf. *Ashcroft v. Free Speech Coalition*, 122 S. Ct. 1389 (2002). Are the results of data mining – that is, patterns of new knowledge generated through application of algorithms to existing data – protected speech?

## Field Theory

Current research in brain behavior has suggested that the electromagnetic field effect of the brain is responsible for consciousness: [FN 120]

What Professor McFadden realised [sic] was that every time a nerve fires, the electrical activity sends a signal to the brain's electromagnetic (em) field. But unlike solitary nerve signals, information that reaches the brain's em field is automatically bound together with all the other signals in the brain. The brain's em field does the binding that is characteristic of consciousness. What Professor McFadden and, independently, the New Zealand-based neurobiologist Sue Pickett, have proposed, is that the brain's em field IS consciousness.

The brain's electromagnetic field is not just an information sink; it can influence our actions, pushing some neurons towards firing and others away from firing. This influence, Professor McFadden proposes, is the physical manifestation of our conscious will.

[FN 121]

Universal field theory is the proposition that there is a "field effect" that exists over and above the individual behavior of group actors. Field effects have been observed in fields as diverse as mathematics (for example, set theory) to psychology (group dynamics).

In the context of our discussion, we introduce field theory to suggest that networked information itself is subject to a semiotic transformation through the equivalent of a field effect. [FN 122] Digitization provides a frictionless environment for transmission, retrieval and aggregation of information. Aggregation (i.e., networking) of information creates new meaning, but more importantly, it changes the potential for illocutionary force of any individual component – that is, the whole is greater than the sum of its parts.

This characteristic of information aggregation has been recognized by the courts. In US DOJ v. Reporters Committee [FN 123], Justice Stevens opined that an aggregation of information that was freely available in its constituent parts could be withheld from a Freedom of Information Act request because the very aggregation of the data changed its character – in our analysis, its illocutionary force – when compared to the privacy right at stake. Justice Stevens used the term "practical obscurity" to characterize the information in its non-aggregated state. [FN 124] This proposition has since been cited by a number of jurists and legislators to support a new legal standard for information disclosure – "that access to electronic records should be roughly

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- 120 Johnjoe McFadden, "Synchronous Firing and Its Influence on the Brain's Electromagnetic Field: Evidence for an Electromagnetic Field Theory of Consciousness," *Journal of Consciousness Studies* Vol 9, No. 4, April 2002.
- 121 Press Release, "Our Electric Mind," University of Surrey, May 17, 2002 available online at <http://www.surrey.ac.uk/news/releases/02-0517electric.html>
- 122 Cf. footnote 24-32 supra and accompanying text. If cyberspace is a "semiotic act of conversation – a social act" then does it not follow that that "act" itself has some effect beyond the effect of each individual participant's role?
- 123 Department of Justice v. Reporters Committee, 489 U.S. 749 (1989) (the question in this case was whether a central FBI "rap sheet" that aggregated information that was freely available from multiple sources was subject to an Freedom of Information request by a news organization. The court unanimously held that it was not. Justice Stevens delivered the opinion of the court in which six justices joined. Blackmun and Brennan concurred in the judgment.)
- 124 Reporters Committee, *supra* footnote 122, at 780.

equivalent to their availability on paper" [FN 125] – inherently recognizing the illocutionary force of easy aggregation and access.

The question for our purposes is the contrapose: is the increase in illocutionary force through aggregation a characteristic of cyberspace that legal doctrine need consider in the context of regulating online speech? Does speech acquire a memetic sense of self and greater illocutionary force just by virtue of its existence in cyberspace?

Are three linked KKK sites the sum of three sites or does the very web of connection create some additional semiotic meaning and illocutionary force with potential for social harm? If not three, then six? Twelve? Thousands? Millions? Is this interaction and aggregation – the field effect itself – a new form of social harm that the law needs to address?

#### Failure of the Marketplace

In "On Liberty", John Stuart Mills [FN 126] argued that the repression of ideas would interfere with the markets ability to find truth – first, if the censored opinion was true, silencing it would lesson society's ability to discover it; second, if truth were contained in part of many conflicting opinions, competition between them was the only way to discover the contribution of each; and finally, if the censored opinion was completely false, the challenge to existing opinion was required to test held opinion as something other than dogma or prejudice. And, as discussed above, Holmes thought that the marketplace of ideas was the "best test" of truth. [FN 127]

Even if, in these postmodern times, we are unable to accept the concept of 'truth' [FN 128], we might still adhere to the bromide that "the answer to bad speech is more speech" attributed to Justice Brandeis. [FN 129]

But what if there is structural market failure due to characteristics of the medium?

Cass Sunstein argues: [FN 130]

"In most ways, the system of communications is better now than it has ever been. But for all its virtues, the emerging system has vices as well. Many of these vices involve the risk of *fragmentation*, as the increased power of individual choice allows people to sort themselves into innumerable homogeneous groups, which often results in amplifying their preexisting views. Although millions of people are using the Internet to expand their horizons, many people are doing the opposite, creating a *Daily Me* that is specifically tailored to their own interests and prejudices. Whatever the exact numbers, it is important

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125 Cited in David Brin, "The Transparent Society," Reading, PA: Perseus Books (1998), p. 76.

126 John Stuart Mill, "On Liberty," (1859) in Mitchell Cohen and Nicole Fermon, eds., "Princeton Readings in Political Thought," Princeton: Princeton University Press (1996), pp. 375-388.

127 See footnote 46 supra.

128 See Rorty, supra footnote 46.

129 Whitney v. California, 274 U.S. 357, 377 (1927) (Brandeis concurring) What he actually wrote was:

"If there be time to expose through discussion the falsehood and fallacies, to avert the evil by the processes of education, the remedy to be applied is more speech, not enforced silence."

130 Cass Sunstein, "Echo Chambers," Princeton: Princeton University Press (2001) available online at <http://pup.princeton.edu/sunstein/echo.pdf>. And see Cass Sunstein, "republic.com," Princeton: Princeton University Press (2002, 2001).

to realize that a well-functioning democracy—a republic—depends not just on freedom from censorship, but also on a set of common experiences and on unsought, unanticipated, and even unwanted exposures to diverse topics, people, and ideas. A system of “gated communities” is as unhealthy for cyberspace as it is for the real world.”

Thus, characteristics of the medium provide opportunity for self-selected isolation from the “marketplace”.

A different but related problem was identified in “Linked: The New Science of Networks,” in which Albert-Laszlo Barabasi [FN 131] writes:

“Cyberspace embodies the ultimate freedom of speech. … This unparalleled license of expression, coupled with diminished publishing costs, makes the web the ultimate forum of democracy; everybody’s voice can be heard with equal opportunity. Or so insist constitutional lawyers and glossy business magazines. If the Web were a random network, they would be right. But it is not. The most intriguing result of our Web-mapping project was the *complete absence* of democracy, fairness, and egalitarian values on the Web.” [FN 132]

There is much to Barabasi’s work, but for our purposes it is sufficient to understand that the actual topography of cyberspace consists of a few well-connected hubs and many isolated islands that do not interact with each other.

Thus, if you combine the characteristics that Sunstein identifies – that is, audience self-selected fragmentation – together with the law of network distribution described by Barabasi – in which the natural topography of the network isolates most interactions from each other and the mainstream nodes – one begins to see that the concept of an open market of ideas in cyberspace is technically inhibited. That is, the technical characteristics of this medium do not support the open flow of ideas that the marketplace theory of ideas requires.

Market failure is, of course, the classic argument for government regulation. [FN 133] However, a market failure rationale would support both the regulation of harmful speech or regulation of the market to encourage more speech.

As we have seen, the courts have allowed both in the past, reining in harmful speech when it has imminent illocutionary force [FN 134] and forcing compelled speech in cases where media characteristics restrict access to the market place for opposing viewpoints. [FN 135] In all these case, the courts are engaged in the direct regulation of speech on the basis of viewpoint.

Does cyberspace require expanding these doctrines to accommodate new market disruptions resulting from characteristics unique to digitized communications?

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131 Albert-Laszlo Barabasi, “Linked: The New Science of Networks,” Cambridge: Perseus (2002)

132 Ibid. at 56. Barabasi finds that the network follows a scale-free power curve distribution, not a random or bell curve distribution, that results in concentrated clusters of hubs and connectors in which a few nodes are highly connected and many nodes have few, if any connections.

133 See generally Ingber, *supra* footnote 46, pp. 15-16.

134 See Brandenburg, *supra* footnote 41, and accompanying text.

135 See Red Lion, *supra* footnote 83, and accompanying text.



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## Part VI. The Hyperlink as Nexus to Felicity.

Hyperlinks [FN 136] are the defining characteristic of the World Wide Web and much has been written about linking and the law [FN 137]

Two kinds of cases exist with respect to linking. In the first case, a party tries to prevent others from linking to their site. In the second, a party, including the state, seeks control over linking practices of others.

In the first case, the issue is over control of the context in which certain information is to be made available. These cases usually involve issues of deep linking or framing and the affect thereof on advertising.

In deep linking, a hyperlink is made to a subsidiary page and the claim is that this constitutes unfair competition (and in some cases, trademark dilution and copyright infringement) because it allows the web user to bypass the home page and avoid advertising on the home page. [FN 138]

In framing, information or images from one site are presented on the Web users screen inline or framed by material from the linking page. [FN 139] Again, in most instances framing cases involve the avoidance or addition of advertising to others' content and are generally decided in the context of fair or unfair business practices. [FN 140]

The second kind of case involves linking to illegal or prohibited content and can more directly involve free speech issues. [FN 141]

In Intellectual Reserve v. Utah Lighthouse [FN 142], the court enjoined the defendant from linking to (or providing the address of) web sites that posted certain copyrighted material. [FN 143]

In Universal City Studios v. Reimerdes [FN 144], the court enjoined the defendant from linking to sites that allowed for the downloading of DeCSS, an illegal software program that permitted unauthorized viewing of DVDs.

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- 136 A hyperlink is an address, embedded in the html code of a World Wide Web document, of a computer that has information stored on it. Clicking a mouse on a hyperlink accesses (in most cases by downloading to your computer a file from the destination computer) the information.
  - 137 See the "Links Controversy Page," at <http://www.jura.uni-tuebingen.de/~s-bes1/lcp.html> and see Mark Sableman, "Link Law Revisited: Internet Linking Law at Five Years," 16 Berkeley Tech. L.J. 1273 (2001).
  - 138 See, for example, Ticketmaster v. Microsoft, No. 97-3055 DDP (C.D. CA, complaint filed Apr. 28, 1997) and Ticketmaster v. Tickets.com, CV99-7654 (C.D. CA, March 27, 2000).
  - 139 See, for example, Washington Post v. Total News, 97- Civ. 1190 (S.D.N.Y. complaint filed February 20, 1997).
  - 140 See Sableman, *supra* footnote 137, pp. 1291-1301.
  - 141 See Sableman, *supra* footnote 137, pp. 1316-1328.
  - 142 75 F. Supp. 2d 1290 (D. Utah 1999).
  - 143 In Intellectual Reserve, the defendants were critics of the Mormon Church who posted and later linked to certain Mormon writings in which the church claimed copyright.

In both cases, the courts were faced with linking after they had already held that the defendants could not post the material directly. Thus, in both decisions the court was at least in part enjoining linking in order not to frustrate the effectiveness of the courts' earlier injunctions against direct posting. [FN 145]

Nevertheless, in Reimerdes the court discussed at great length the applicability of free speech analysis to computer programming and linking. The district court drew an analogy between linking and computer code in general, finding that "they have both expressive and functional elements" and that therefore the O'Brien [FN 146] standard was also applicable to linking. [FN 147]

In affirming, the appeals court noted that a "hyperlink has both a speech and a nonspeech component. It conveys information, the Internet address of the linked web page, and has the functional capacity to bring the content of the linked web page to the user's computer screen." [FN 148] and explicitly endorsed the application of the O'Brien test:

As a content-neutral regulation with an incidental effect on a speech component, the regulation must serve a substantial governmental interest, the interest must be unrelated to the suppression of free expression, and the incidental restriction on speech must not burden substantially more speech than is necessary to further that interest. [FN 149]

O'Brien has been criticized for, among other reasons, the disingenuousness of the third prong, that is, the court finding that the governmental interest was "unrelated to the suppression of free speech". [FN 150]

We agree with the criticism of O'Brien. Further, we suggest that all "speech plus" type analysis relating to computer programming in general, and hyperlinking in particular, could better be accomplished through direct engagement with the illocutionary force analysis suggested elsewhere in this paper.

Software (as that term is used in Part III above) would be judged by its performative characteristics under a semiotic analysis. The act of linking would be presumptively performative and the issue would be the character of what was linked to. Where the target of the link was itself performative, the hyperlink would be judged on its relationship to the illocutionary force it provided to the underlying 'speech'. Where the linked to item was illegal or prohibited, the hyperlink itself would have "performative liability". [FN 151] The hyperlink would be recognized as the link to felicity.

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144 Universal City Studios v. Reimerdes, 111 F. Supp 2d 294 (S.D.N.Y. 2000), affirmed sub nom, Universal City Studios v. Corley, No. 00-9185 (2d Cir. 2001).

145 See Sableman, *supra* footnote 137, at 1318.

146 United States v. O'Brien, 391 U.S. 367 (1968) (draft card burning case in which the court sets out its test for acts that involve a mixture of "speech" and "conduct").

147 Reimerdes, *supra* footnote 144, at 339.

148 Universal Studios v. Corley, 273 F.3d 429, 456 (2d Cir 2001).

149 *Ibid.* at 454, citing *Turner Broadcasting System, Inc. v. FCC*, 512 U.S. 622, 662 (1994).

150 See Smolla, *supra* footnote 9, pp. 54-64.

151 This doctrine will be explored in a future version of this paper.

Application of this standard in cases of direct linking to illegal acts would be relatively straightforward. Its applicability in cases where the illocutionary force is effected by the very nature of linking itself as described above in Part V above, would obviously be more problematic.

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#### **Part VII. Conclusion: A Research Agenda.**

This paper has raised many questions and provided few answers. As stated at the outset, this writing should be considered in the nature of a preliminary research agenda rather than any definitive statement on the issues discussed herein.

Existing free speech doctrine is of relatively recent vintage. Although we strongly believe that the inherent preferred position for free speech should be maintained for reason set forth above, we do not feel that doctrinaire logic need bound us in considering the effects of new media with powerful as-yet-unknown effects.

We need not take existing principles blindly into cyberspace – a place where the characteristics of the technological system itself give speech "a life of its own" and can change its illocutionary force.

The physics of the real world have kept individual speakers puny and amplified speakers restricted by requiring large commitments of resources.

Cyberspace has the potential to be a great liberating forum for human expression or an abyss of human avarice filled with pornography, defamatory statements, stolen intellectual property, hate speech and other harmful things. In reality, it will probably be both.

Nevertheless, cyberspace will be regulated by code and by law. How we balance between order and liberty is not subject to easy answer.

Cogitationis poenam nemo patitur?