

# “If I Want It, It’s OK”: Usenet and the (Outer) Limits of Free Speech

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*Usenet is an international communications system composed of thousands of topically named discussion groups, called newsgroups, which enable anyone with an Internet connection and the proper software to read messages, post new messages, or reply to existing ones. Remarkable for its culture of “anything-goes” free speech, Usenet tradition recognizes only one kind of legitimate restriction on content: that which is abusive to the Net’s ability to function as an effective discussion system. This article shows that this consensus stems from a long and often painful struggle, as Usenet’s designers, administrators, and users attempted to comprehend, define, and govern the communication system they had created. The result is a forum that is not quite as free as Usenet’s defenders like to imagine, and one given to excesses that seem destined to attract the attention of government censors.*

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On the Net, the Net-Way is best. It’s just that we’re trying to figure out what the Net-Way is.

—Eugene Miya (cited in Vielmetti, 1991)

Imagine a journal (at once political, literary, and technical) that contains more than 80,000 pages of new, computer-searchable prose each day, on virtually every subject you can think of (and some you *haven’t* thought of), and you’ll grasp the appeal of Usenet. A decentralized communication system that employs the Internet (and other networks) as its transport mechanism (Fristrup, 1994; Overby, 1996; Pfaffenberger, 1995; Todino, 1990), Usenet isn’t a computer network, but rather a set of *protocols* (standards), independent of network hardware, that enables some 7 million users to engage in computer-based dialogue. Usenet users contribute messages, called *articles*, to more than 20,000 topically named conversation groups, called *newsgroups*. The Usenet software automatically copies each new message to more than 180,000 large, multiuser computer systems, so that in a matter of hours (or even minutes), each computer on the Net has an exact copy of the contributed message. Users may then use programs called *newsreaders* to read and reply to the stored messages; their replies are similarly distributed, so that a *thread* of discussion emerges on specific topics within each newsgroup.

In some respects resembling a global letters-to-the-editor column of unprecedented size, Usenet is undeniably a new communications medium, one that could conceivably carry with it significant implications for the wider society of which it is a part. What is

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truly remarkable about the Internet is its noted—and notorious—openness, founded on an ethic (called *netiquette*) that tolerates the content of anyone’s speech as long as this content does not interfere with the rights of others to speak. By facilitating open and often irreverent debate, for instance, Usenet could be seen as a positive force for democratization—or, as others would argue, as a dangerously unregulated channel through which otherwise isolated extremist groups can find a mass audience for their hate-ridden ideas. There will be no shortage of public debate concerning Usenet’s nature and social impact in the years to come, not in the least because Usenet’s excesses are bringing it before the baleful attention of censorious governments (including China, Singapore, and the United States), that perhaps fear—as did Napoleon—that “a people capable of *saying* anything is a people capable of *doing* anything.”

Assessing the social impact of Usenet is an important exercise, but this essay steps back to ask a more fundamental question: How did Usenet’s current culture develop—specifically, its norms of tolerance for virtually all forms of speech (unless they disrupt the network’s ability to function)? Usenet’s culture did not suddenly appear out of nowhere, like Venus in Boticelli’s famous painting. On the contrary, as this article shows, it stems from a lengthy and often traumatic history, in which designers, users, and administrators struggled to conceptualize and control the growing network in the face of rapid and unpredictable technological change.

To understand the origins and vicissitudes of Usenet culture, I find it helpful to conceptualize Usenet as a computerization movement (Kling & Iacono, 1996)—or rather, as this article shows, a contested field in which two contrasting movements struggled for control of the network. Conceptualizing computer innovations as the product of social movements helps to counter the view that the spread of technologies is solely or mainly attributable to successful marketing or the economist’s laws of supply and demand. Like other social movements, computerization movements focus on changing an objectionable situation or improving the circumstances of a group that suffers a social disadvantage. The leaders of computerization movements develop and offer a utopian social vision, in which the impact of computerization leads to strongly beneficial results for the wider society in which computer systems are placed. This article shows that when two computerization movements struggle for control of an emerging computer system, the contestants will try to further their case by attempting to control or to alter the technical details of the system itself. The technology now before us—the Usenet you see on your computer screen today, with its sharp defined notion of free speech—is best understood as a legacy of social conflict.

### “The Poor Man’s ARPAnet”

Usenet dates to the 1979 insights of two Duke University graduate students, Tom Truscott and Jim Ellis. In those days, UNIX users faced the often monumental task of installing, configuring, and maintaining the complex UNIX operating system all on their own, because AT&T—kept out of the computer business by a federal court’s antitrust ruling—did not document or support the software. Universities with Department of Defense (DoD) contracts could share information about Usenet by means of the fledgling ARPAnet, the ancestor of today’s Internet, but access to ARPAnet was denied to schools that did not have DoD contracts.

It was in this context that Truscott, Ellis, or one of their assistants experienced a flash of insight (none of the participants recalls who thought of it first; a 1995 Lifetime Achievement Award was given to Truscott, Ellis, and Steve Bollovin, one of the programmers they worked with). Various elements of the UNIX system, already in exis-

tence, could be cobbled together to create a totally new kind of information system, which would enable non-ARPAnet sites to exchange tips and news regarding UNIX. These elements included the following:

- *Shell scripts*. A means of creating a program using simple text instructions. One of the great virtues of UNIX is its many software tools, which can be linked by scripts to perform processing tasks.
- *UNIX-to-UNIX Copy Program (UUCP)*. A program that enabled UNIX users to exchange files by means of modems and telephone connections.
- *Find command*. A UNIX file-locating program that is capable of retrieving only those files created or modified after a specified date.
- *Autodial modems*. A serial communication device that enables computers to exchange data over the telephone, and dials a telephone number under the direction of a computer program.
- *Computer-based discussion groups*. Housed on a single computer, these consist of a series of electronic mail messages that are all focused on a single topic.

Notes Gregory G. Woodbury, a computer science graduate student who joined the development team, “The ‘genius’ of netnews was to see that the shell, the find command, and UUCP would allow categorized news discussions to be shared between machines that were only connected by a serial line” (Woodbury, 1991).

The netnews software, as it was called in Usenet’s early years, works in the following way. Under the script’s direction, one computer calls a second computer, and a portion of the script called *checknews* examines the second computer’s file directories to see whether they contain any new or newly updated files. If so, these are downloaded so that they are copied to the first computer’s file directories. As additional computers join the network and employ the checknews program on the nearest computer’s file directories, copies of all new or newly updated files will eventually propagate throughout the network, so that a copy of each file is present on each computer. This is what is meant by calling Usenet a *distributed* bulletin board system: It distributes copies of each new contribution throughout the network. In contrast to a local bulletin board system, each nonlocal discussion group would consist of messages and replies that originate from here and there throughout the entire network.

Recognizing that the potential adopters of Usenet would need to migrate from the known to the unknown, Truscott and Ellis decided that the Usenet software would enable local discussion groups as well as nonlocal ones. There was some debate among the development team, which by 1981 included Steve Bellovin, about the number of nonlocal groups that would be required. Bellovin thought that most users would prefer the local groups, and that only one nonlocal group, called *net. general*, would suffice. Ellis urged the team to see that the system’s true innovation was the nonlocal groups, and that once they caught on, a means for categorizing them by subject would be needed (Bellovin, 1990). Still, Ellis recognized that local groups would be necessary to handle information that was only of local interest, as was proven decisively by a famous mid-1980s post, originating in New Jersey and titled “Dinette Set for Sale,” which appeared as far away as Australia.

The Usenet pioneers first conceptualized Usenet as a UNIX user’s network, a supralocal colloquium for “UNIX wizards,” which would provide a forum for sharing hard-to-get information regarding the installation, configuration, and maintenance of UNIX. According to a January 1980 presentation at Usenix, a UNIX users and administrators’ conference (recounted in Hauben, 1993), the network would consist of several

“rapid access newsletters,” organized by topic. Truscott and Ellis thought that the first newsgroups would be concerned with UNIX “bug fixes, trouble fixes, and general cries for help,” but that additional newsgroups would surely be created to handle new categories of information (such as “have/want” articles). In addition to posting articles, the newsletter software also provided a means for newsgroup participants to reply to posted articles, either by posting a *follow-up message*, in which the original post’s text was echoed, or by sending private electronic mail to the person who wrote the original post.

What was apparent from the outset was that Truscott and Ellis had hit on an idea that others found very attractive: In fact, their presentation of Usenet at the 1980 Usenix conference caused a sensation. They had made 80 copies of their handout, but 400 very enthusiastic conference participants showed up at their session. Radically rejecting the committee mentality of academic organizations, Truscott and Ellis urged their audience to get hooked up to the network first and argue about it later. In truth, the code was not quite ready. With the assistance of Steve Bellovin, Truscott and Ellis implemented the first version of Usenet in the early months of 1980, linking computers at Duke and the University of North Carolina. Subsequently, Truscott and Steve Daniel, a Duke University programmer, used the C programming language to transform the shell scripts into a program now known as “A News,” as opposed to the subsequent versions, called B News and C News (Moraes, 1995).

## The Ethos of Collaborative Egalitarianism

What made the Usenet proposal so attractive to the UNIX crowd? An operating system developed at Bell Laboratories, UNIX embodies a disdain for top-down, bureaucratically administered operating systems, which require huge, unwieldy system programs. Instead, the UNIX philosophy—“religion” would be nearer the mark—emphasizes a collection of tiny, manageable programs that are under the full control of the individual using the system. Embodying an egalitarian, collaborative ethos, UNIX was the first major operating system to have been developed by a few individuals working together more or less independently of corporate supervision in a noncommercial environment (Salus, 1994). Usenet perfectly embodies the principles of UNIX, as they were later codified by Mike Gancarz (1995): the clever linking of small programs, the use of shell scripts to achieve leverage, and preference for getting a working prototype going rather than creating inefficient human bureaucracies. What is more, Usenet is itself an architecture for collaboration, and one that was presented with a good dose of antibureaucratic subversiveness: Usenet’s creators saw the network as a bottom-up proposition, a bid by the computer have-nots to remedy the inequities in the distribution of computer tools and resources. It’s hardly surprising that the Usenix crowd responded so enthusiastically to Truscott and Ellis’s proposal.

Truscott and Ellis came through with their promise of workable software, and did not miss the chance to reemphasize their social vision. At the summer 1980 USENEX conference held in Delaware, Truscott and Daniel distributed tapes of the A News software. In announcing the software’s availability, Daniel, then a graduate student, described Usenet as a “poor man’s ARPAnet,” a phrase that, Daniel recalls,

explained exactly what was going on. We (or at least I) had little idea what was really going on on the ARPAnet [the Internet’s predecessor], but we knew we were excluded. Even if we had been allowed to join, there was no way of coming up with the money. It was commonly accepted at the time that to join the ARPAnet took political connections and \$100,000. I don’t know if

that assumption was true, but we were so far from having either connections or money that we didn’t even try. The “Poor man’s ARPAnet” was our way of joining the computer science community, and we made a deliberate attempt to extend it to other not-well-endowed members of the community. (Daniel, 1993)

The sense of bottom-up democracy was built into the software, as Daniel recalls. “Usenet was organized around netnews,” Daniel (1993) notes, “where the receiver controls what is received.” This, too, was a technical means of expressing Usenet’s antibureaucratic ethos: It’s up to the individual user, not some committee or administrator, to decide what’s worth reading. An information system should make as many resources available to the individual as is technically possible, without artificial or bureaucratic limitations. This isn’t to say, though, that Usenet’s creators were oblivious to the possibility of abusive posts; on the contrary, Mark Horton drafted a Usenet policy proposal in 1982 that stressed the need for high-quality, on-topic contributions: “Peer pressure via direct electronic mail will, hopefully, prevent any further distasteful or offensive articles. Repeated violations can be grounds for removing a user or site from the network” (cited in R. Hauben, 1995). As will be seen, by the late 1980s a series of totally unanticipated technological developments was to render these sanctions ineffective.

From the beginning, then, Usenet was not merely a new wide-area computer network, but something more: It expressed and embodied a profoundly antibureaucratic vision of technical creativity, sought to correct a perceived social injustice, and developed an editorial principle in which the highest possible good was seen to come from allowing all relevant articles to accumulate in the system, so that readers and readers alone could exercise their discretion in choosing which ones to read. For UNIX aficionados who dreamt the UNIX dream (and adopted libertarian politics at levels disproportionate to the surrounding society), Usenet could hardly fail to exhibit a form of technological charisma.

## **Rapid Growth**

Usenet grew slowly at first, a fact that Truscott and Ellis attributed to the limited availability and high cost of autodial modems. (They themselves built a home-brewed modem for the first successful iteration of the net, which linked a computer at Duke to one at nearby University of North Carolina—significantly, a local phone call away). But it was soon found that the growing net could be funded surreptitiously by including the distribution calls as a normal item in departmental telephone budgets. An early Usenet participant named Mark Horton recalls,

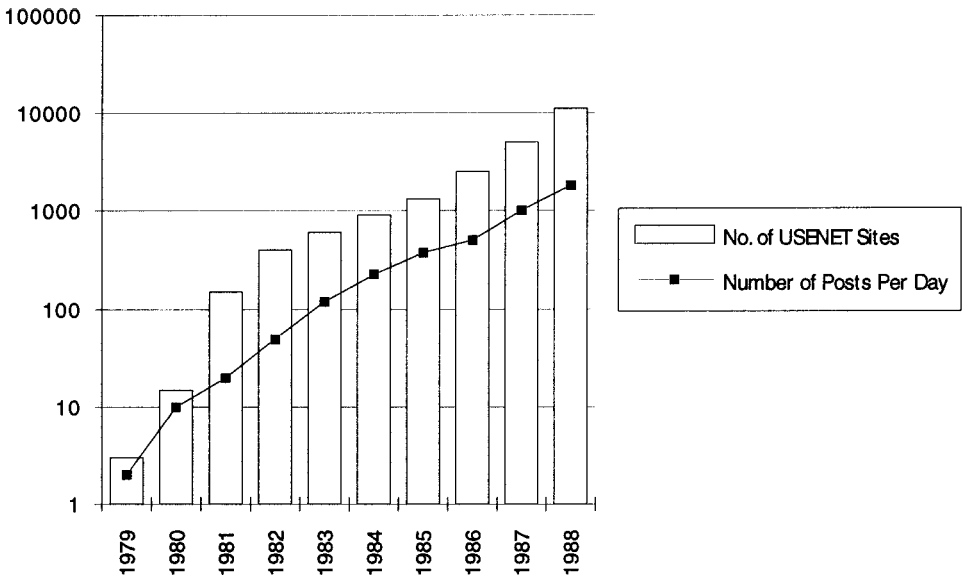
There was a strong mentality that the main cost was the phone bills, and since nobody saw the phone bills, it was free. In the early days the net was kept alive by a few SA’s [system administrators] who followed Grace Murray Hopper’s immortal words: “It’s much easier to get forgiveness than permission” and just did it. (Horton, 1990)

As inexpensive modems became widely available and the knowledge of this funding mechanism became widely known, the network began to grow—and in an unexpected way. Truscott and Ellis thought that there would be not one but many Usenets, each linking a number of contiguous sites within a local or regional dialing area. As more and more sites were able to sneak the costs of Usenet into departmental telephone accounts, a single, transcontinental network quickly emerged. An early Usenet system administrator, Greg

Woodbury, recalls how this development shocked everyone involved. “I do not recall that anyone was quite expecting the explosion that followed. What developed took everybody by surprise. When the direction of evolution took an unexpected turn, and a continental network emerged . . . from California to North Carolina, and Toronto to San Diego, it was sort of a shock to realize what had happened” (cited in R. Hauben, 1995). By 1984, nearly 1000 sites were participating in the rapidly growing network (see Figure 1). Furthering Usenet’s rapid growth was a link to the ARPAnet’s popular science-fiction discussion groups, producing yet another surprise: Although the UNIX-related newsgroups continued to find readers, what people really wanted to do with UNIX was to swap perspectives on the latest sci-fi novels.

In spite of Usenet’s implicitly antibureaucratic ethos, it was soon apparent that sites could not function unless someone took responsibility for the many administrative tasks involved, such as placing the late-night calls (and disguising the phone charges). UNIX system administrators (abbreviated *sysadmins*) soon came to have more or less officially recognized Usenet-supervision roles within the companies, organizations, and universities they served. This role has never been a particularly happy or easy one. Sysadmins had to balance the needs and interests of their organization against the ever-more-voracious appetite of Usenet—and later, as will be seen subsequently, they had to deal with the conviction of many Usenet users that Usenet gave them the right to speak and distribute anything they liked.

With Usenet’s rapid, unplanned expansion came a bewildering assortment of scale-up problems, difficulties that were never anticipated when the network served only two or three sites in North Carolina. For example, anticipating only a handful of messages per day, the system’s creators did not foresee the problems that would arise when a daily news feed brought in 15 megabytes of new articles. Disk drives were far more expensive in those days, and this figure seemed likely to bring Usenet under unwelcome scrutiny at



**Figure 1.** Growth of Usenet. Source: Gene Spafford, article posted to usenet.hist mailing list, 11 October 1990.

sites short on disk space. At many sites, the only way this gargantuan influx could be accommodated was by deleting articles more than a few days old, thus making space for new ones. No one had ever intended Usenet posts to last forever; the earliest software permitted the user to select an expiration date some weeks or months away, on which systems would erase the post. To cope with the huge influx of postings, though, system administrators were forced to advance expiration dates so that, in some cases, messages would stick around for only a day or two before disappearing into the void: If you didn’t read today’s news, you might miss the action. It is hardly surprising that one Usenet participant found it apposite to quote Job’s lament (9:25): “Now my days are swifter than a post; they flee away, they see no good.”

### “Usenet Is Dying” (Film at 11)

But there were even more serious problems. From the standpoint of Usenet system administrators, the network’s congenial egalitarianism had scaled up to anarchy; for example, sites ran various incompatible versions of the netnews software, causing problems for newsgroup distribution and naming. Was Usenet growing itself to death, like a weed sprayed with 2,4,D? Opening a 1985 mailing list devoted to discussion of Usenet’s scale-up problems, Gene Spafford summed up the situation in the following dire terms:

Basically, the Usenet is dying. It has had a long and fruitful life, especially considering how it came about and grew to its present form (not bad for some former shell files, eh?), but its lifetime is limited. Maybe Usenet has another year of functionality left. Maybe two at the outside. (Spafford, 1985)

One of the most serious problems, Spafford argued, was the lack of control in the newsgroup-creation process. From a technical standpoint, any site administrator—or, indeed, any technically knowledgeable UNIX user—could create a new newsgroup by issuing the appropriate UNIX control command—but there was no guarantee that other sites would carry the group. In the same way, newsgroups could be removed from a site by issuing another control command. In the days when a handful of sites were involved, the newsgroup creation and removal process was a matter of congenial cooperation, but by 1985 those days were gone. In its place, Spafford lamented, there was now a pattern of “strife and hostility” (Spafford, 1985). Some of the strife arose from the growing volume of newsgroups, which forced some site administrators to delete newsgroups unilaterally. In an attempt to rein in the newsgroup creation process, Spafford had voluntarily begun the arduous task of publishing a monthly list of “officially recognized” newsgroups, a task he continued until 1993. The list, not an official document but rather a kind of advisory newsletter, listed only those groups that had been created by *pukka* methods and contained appropriate content.

Newsgroups were not only breeding promiscuously; even worse, they were straying from the network’s original intention—namely, to provide support for UNIX system users. Many of the newer groups had nothing to do with UNIX, nor even with computers, but concerned themselves with hobbies, games, recreation, entertainment, sports, and literature. Remembering Grace Hopper’s admonition that it is easier to seek forgiveness than permission, system administrators allowed such groups to flourish, but they worried. After all, the machines on which Usenet depended were owned by corporations and universities, not by Usenet participants. In virtually all cases, the use of such machines is governed by regulations that restrict usage to tasks connected with the organization’s mission, which presumably does not include storing several thousand messages about the television series *Star Trek*.

It was not long before proposals surfaced to create newsgroups pertaining to topics far more controversial than mountain climbing or science fiction. In 1982, an on-line argument—mild by contemporary standards—broke out in net.singles regarding same-sex dating, so a proposal was brought forward for a new newsgroup to be called net.gay. Such proposals placed system administrators in an awkward position; on the one hand, they sympathized with the need for reasoned public discourse on such issues, but on the other, they feared that management might pull the plug if it was learned how the organization's computer resources were being utilized. Spafford recalls, "Many people could just imagine: 'Searching for new groups. Add net.gay? [yn]' Popping up on their manager's screen" (Spafford, 1990). If a crucial, centrally located site were to be shut down, it could kill the whole network. The compromise reached was to call the group net.motss, after the Census Bureau's euphemistic "members of the same sex" designation on 1980 Census returns. People on the net would know what "motss" meant, but outsiders wouldn't have a clue (Horton, 1990).

From the standpoint of system administrators, Usenet's worst problem lay in the attitudes of users themselves, who seemed to regard the network as a right rather than a privilege. System administrators knew only too well that Usenet employed computers and telephones owned by corporations and universities; there is no Constitutional right to free speech using someone else's printing press (or computer). In the view of many sysadmins, the users who wished to push Usenet over the brink were little more than spoiled brats, "me-decade" individualists with little regard for the consequences of their actions. The mentality, as one system administrator described it, was, "If I want it it's okay" (Von Rospach, 1990a). The value of Usenet, sysadmins believed, lay in its capacity to democratize access to computer knowledge—that was its first and only legitimate purpose, at least from an organizational point of view; the various social discussion groups could be tolerated only insofar as they did not pose problems for the organizations that paid Usenet's phone bills.

But that was not the way free-speech advocates perceived the issues. To the dismay of sysadmins, Usenet had provided the breeding ground for the development of a new social movement, one that virtually ignored the network's original *raison d'être* (namely, democratizing access to UNIX tools and techniques) and instead focused on Usenet's capacity to foster totally free expression. Always subversive, in their view, Usenet had shown the way in its nose-thumbing, end-run bypassing of ARPAnet's elitism, and the only thing holding it back was the parochial attitudes and bureaucratic caution of system administrators, who had absolutely no business telling people what they could post or could not post. Epitomizing this attitude is the following quotation from Jake Zeitlin, published—appropriately enough—in a recent Usenet document entitled "How to Receive Banned Newsgroups":

I cannot convince myself that there is anyone so wise, so universally comprehensive in his judgment, that he can be trusted with the power to tell others: "You shall not express yourself thus, you shall not describe your own experiences; or depict the fantasies which your mind has created; or laugh at what others set up as respectable; or question old beliefs; or contradict the dogmas of the church, of our society, our economic systems, and our political orthodoxy." (Zeitlin, 1994)

Increasingly, free-speech-minded users saw Usenet as a right, not a privilege, and deeply resented any attempt by system administrators to impose order on the network's growing anarchy.

The more aggressive adherents of this position were determined to force the issue, posting whatever they pleased, with no regard for the problems they were causing for system administrators. But system administrators feared that jokes, obscenities, vituperative discussions, and controversial topics could sink the network; already, in 1983 or 1984, as one long-time Usenet participant recollected, a major West Coast oil firm had dropped its Usenet feed “because some joke with racial content was posted, and some internal to the company filed an affirmative action complaint about it” (Spafford, 1993a).

Not only did the proponents of free speech create new, controversial newsgroups willy-nilly, they also freely indulged themselves in provocative speech, obscenities, and name-calling, causing too many newsgroups to degenerate into an entirely undesirable phenomenon that came to be known as a *flame war* (Dery, 1994). On Usenet, a flame war is an unusually vituperative discussion that has the following characteristics: It’s irrelevant to the newsgroup’s stated purpose, it’s too controversial to be resolved by on-line communication, and it disrupts the newsgroup by pushing more productive discussion off the stage. A good, solid flame war could consume an entire newsgroup’s postings for a period of months or more, generating much more heat than light. A flame war often began with *flame bait*, a post that seemed deliberately designed to engender hysterical reaction. For Usenet “old-timers”—we’re only talking about 5 years here—the licentious behavior of the new wave of hot-tempered users stood in sad contrast to the resource sharing, congeniality, and mutual support that marked the network’s early days.

One thing became clear to sysadmins: Anyone trying to impose order on Usenet would be seen as imposing censorship, and there would be a stiff price involved: vicious opposition, manifesting in a mailbox full of angry and even threatening e-mail as well as vilifying, ad hominem attacks in Usenet newsgroups. In 1983, for example, Chuq Von Rospach, a Usenet system administrator, expressed the opinion that net.wobegon, a newsgroup founded to discuss Garrison Keillor’s *Prairie Home Companion*, should be removed because it had been inactive for some time. Von Rospach still feels the flames:

The net.wobegon people were vicious. Absolutely and totally nasty. One of their arguments, which echoes stuff you still hear today, was they didn’t need to use the group, they just wanted it to exist so they knew they were important. Man, no asbestos in the world could have saved me from this flame war. I was crisped, and to this day I still cringe when I think of it. I don’t think I’ve ever seen a flamfest quite that nasty—and I’ve been part of many of the worst. (Von Rospach, 1990b)

In his call for change, Spafford lamented, “Posters are becoming ruder, maliciousness abounds, and the general response to everything is ‘just try to make me do it’” (Spafford, 1985). By 1985 there were even threats of what amounts to electronic terrorism. For example, Spafford started a private mailing list concerning a successor network called Usenet II that would (inter alia) provide for better centralized control, but within days of its inception word leaked out. Lauren Weinstein, a Usenet system administrator and one of the recipients of the list, warned darkly, “I’ve gotten messages from people who have threatened to do everything in their power to *wreck* both Usenet and the mail network if restrictions are put in” (Weinstein, 1985).

To be sure, Usenet participants sometimes were willing to impose a form of censorship on themselves when a newsgroup got out of hand: newsgroup moderation. In a moderated newsgroup, a human moderator scans the incoming messages to determine whether they fall within the newsgroup’s guidelines. To the extent that such censorship is self-imposed, it struck most (but not all) as legitimate; however, a moderator who strayed

beyond the appointed task—making sure that messages fell within the newsgroup’s topical guidelines—would have a rebellion on his or her hands.

### The Backbone Cabal

At the same time that Usenet users ferociously asserted their perceived right to do whatever they wished on the network, system administrators came to understand that the network’s technical evolution had given them the means to impose order and discipline. To understand the power they possessed, recall how Usenet works with UUCP dialup transfers: To get the news, a given computer calls the nearest computer that belongs to the net, and receives the news (this is called a *news feed*). That second computer has obtained the news from another nearby computer, and so on. But what happens if a system administrator somewhere along the way doesn’t like one of the newsgroups, and refuses to make it available? Any computer getting its feed from this machine will find that it has experienced a form of censorship by default. In short, it soon became apparent that *downstream* sites—sites positioned at or near the end of the chain of feeds—were inherently less privileged than *upstream* sites. Accentuating the upstream/downstream inequity was the emergence of well-funded sites providing feeds to multiple downstream sites, which would have no other way of obtaining the news.

In an attempt to conceptualize the hierarchical structure that was emerging, Usenet system administrators employed the term *backbone site*. Such a site provided feeds for two or more downstream sites (in other words, it functioned as a hub), or served as a single point of entry for a series of sites in a defined geographical area (such as Australia). Figure 2 shows a graphical rendition of the UUCP backbone in the late 1980s.

By 1984, then, an essentially hierarchical structure had been grafted to an egalitarian information system, creating the type of contradiction that sorely tempts one to start quoting Marx. For Usenet, though, history was going backward: The system’s initial democracy and egalitarianism had been replaced by a feudal structure, in which system administrators deliberately, if self-mockingly, referred to themselves as “barons” (and to users as

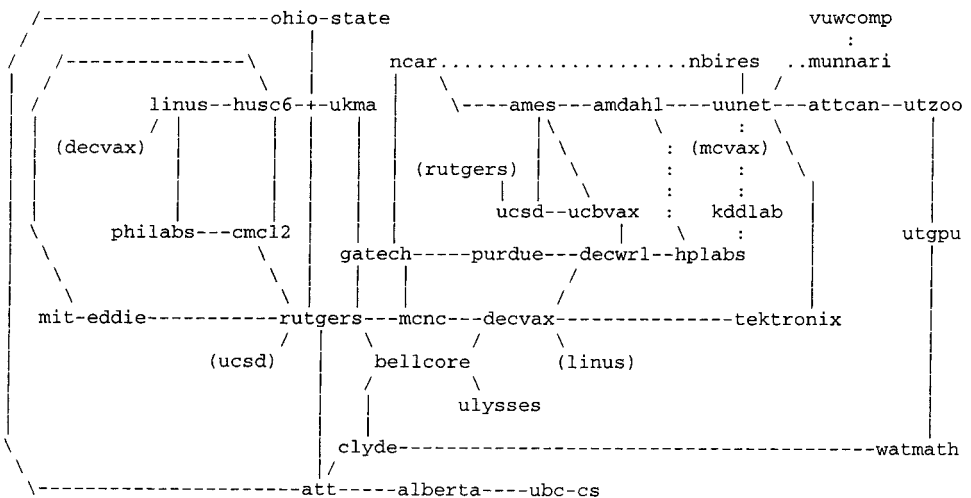


Figure 2. The Usenet backbone, circa 1987. Source: Gene Spafford, post to usenet.hist, 11 October 1990.

“serfs”). The barons, lords of the large UNIX backbone systems, knew that they could do whatever they pleased, and nobody at any other site, and certainly no user, could force them to alter their decisions. They could carry newsgroups, or not carry them; they could give you a UNIX account, or take it away; they could delete controversial newsgroups in favor of just the ones carrying UNIX-related information. Becoming conscious of themselves as a class, the system administrators of the key backbone sites began working closely together, reaching consensus on the key issues confronting the network. This group, later to be known derisively as the “Backbone Cabal,” chose to flex its muscles in the Great Renaming.

## The Great Renaming

By 1985, system administrators became increasingly concerned about the proliferation of newsgroups; predictions had been rife about the “imminent death of the Net” by self-strangulation. The proximate problem: the “flat” newsgroup naming system. With all the newsgroups beginning with the single prefix “net,” the naming system was insufficient to handle a Usenet with thousands of newsgroups. Various proposals had been made to use a hierarchical naming system with additional naming levels, which would both organize newsgroup categories and enable the proliferation of additional newsgroups: In place of net.culture, one could have net.culture.greek, net.culture.japanese, net.culture.celtic, and so on. In other words, newsgroups could be classified into categories called *hierarchies*, within which their names could be organized in a logical way. At a 1986 meeting of Usenet system administrators held at Usenix, all but three of those in attendance agreed that a new newsgroup naming system was needed.

Obvious to almost any Usenet participant was the fact that change was needed. What began to disturb many users, however, was the apparent desire by the Backbone Cabal to relegate all the controversial newsgroups to a hierarchy called “net.flame”—and for obvious reasons. Actually, the initial motivation for creating a “flame” hierarchy (subsequently renamed “talk”) was economic: Rick Adams, system administrator at a key Northern Virginia site, provided the only news feed to Europe at the time, and he knew that his European colleagues needed to keep the phone bills down. Consigning all the nonessential newsgroups to the “talk” hierarchy would enable system administrators to delete them from the transmission with one easy command (Bumgarner, 1995).

For the advocates of free-speech-at-any-cost, however, the Backbone Cabal’s renaming plans had a more sinister motivation: censorship. It’s one thing, they argued, to remove the talk.\* newsgroups from transmissions, but creating a talk.\* hierarchy would enable system administrators to rid Usenet of these groups permanently. In UNIX, you can delete a whole hierarchy of newsgroups in one fell swoop by using a wildcard symbol; users feared that system administrators would not tarry long to use the rmgroup net.flame.\* command, which would consign the controversial newsgroups to oblivion. For its part, the Backbone Cabal fanned the flames through what appears in retrospect as a certain insensitivity or even arrogance; as Bumgarner (1995) recalls, “the Cabal and their cronies often reiterated a magic phrase: ‘Usenet works by the golden rule: whoever has the gold, makes the rules.’”

Fearing censorship, users launched a struggle to keep certain groups out of the “flame” category (subsequently “talk”), because everyone knew that these groups—dubbed “pariah groups” by one system administrator (Von Rospach, 1990a)—would be the first to go. The resulting flame wars consumed a great deal of Usenet’s bandwidth, but by 1987 the renaming had taken place. The result was the creation of the standard

newsgroup hierarchies familiar to every Usenet user today, comp, misc, news, rec, sci, soc, and talk. Predictably, some sites—particularly corporate sites—dropped the talk hierarchy.

As the renaming took place, it became apparent that there was a need for a better system to control the creation and naming of newsgroups. As system administrators had learned only too well, however, any hint of the imposition of central control was likely to be greeted by user hysteria, flames, and sabotage threats; no system administrator wanted to wind up on the wrong end of a flame war the likes of the net.wobegon controversy. The solution was elegant, if somewhat disingenuous: a voting procedure, which would provide at least some appearance of democratic participation, even though most system administrators had no intention of considering its votes to be binding. In this procedure, still in place, the creation of a new newsgroup required an orderly procedure of discussion and voting; a person who wished to create a new standard newsgroup posts a request for discussion in a newsgroup devoted to this purpose. In the discussion, users and system administrators debate the need for the newsgroup, and the logic of its name in relation to other, existing newsgroups. At the end of the discussion period, the proposal might be withdrawn, or put to a vote. To be created, the new group would have to receive at least 100 positive votes, but just as significantly, no more than 100 negative votes. The latter measure was obviously designed to permit system administrators, numbering far in excess of 100, to exercise veto power. As one system administrator was to recall, the voting procedure was deliberately designed to obstruct the creation of unwanted newsgroups in such a way that sysadmins wouldn't have to take the heat:

The function of the group voting process is to *prevent* the formation of newsgroups—newsgroups with poorly chosen names, newsgroups that won't be read at most sites, newsgroups with that are for some reason inappropriate . . . If the [vote] is “no,” then the news administrator can simply tell users, “sorry, it didn't pass, you're out of luck, it's not my fault.” (Mack, 1991b)

Notwithstanding the apparent intent to obstruct the creation of unwanted newsgroups, the advocates of “anything goes” managed to get two “undesirable” newsgroups past the voting procedure: comp.protocols.tcp-ip.eniac and rec.sex. In both cases, the voting procedures were carried out to perfection. But the proponents of these groups were in for a surprise: System administrators flatly refused to carry them (Salzenberg, 1991). The flame war that resulted was prodigious and bitter, and with it came a forthright statement that system administrators did not consider themselves to be bound by the voting procedure's outcome. In a 1988 post, Gene Spafford stated flatly,

There is *\*nothing\** that anyone can do to force a site to carry a group. If 500 people or 50000 people send in votes for a group, that doesn't mean it will be carried by a majority of sites. Thus, groups like “soc.sex” and “net.rec.drugs” that could cause difficulties will likely not be carried by many major sites because their admins don't believe them appropriate. (Spafford, 1988)

Spafford continued by pointing out that he would use his list of official newsgroups as a means of enforcing discipline on the network:

If a [voted-in] group is not going to be carried by a significant percentage of sites, I don't include it in my list-of-lists because that is misleading to people at sites where the group is not received. The backbone is a representative group of experienced system admins and what they carry and their concerns

serve as a good indicator of the likelihood of a group being carried. 3/4 of the backbone won’t ever carry anything like soc.sex, no matter what the vote, so it will not be in the list-of-lists. (Spafford, 1988)

Spafford was later to recant these strong words, admitting that during the heyday and aftermath of the Backbone Cabal he was under the “delusion” that his list was official. He later described his list as an advisory newsletter. But this is perhaps disingenuous; the list was more than a newsletter (Von Rospach, 1990b). A program called *checkgroups* checks the current newsgroup list against the “official” list—the “advisory list,” if you prefer—and determines whether a given newsgroup is properly sanctioned or “bogus” (not on the list). Most newsreaders, as well as site administration software, automatically detect and provide the option to delete bogus newsgroups.

### **The Rise of the alt.\* Newsgroups**

Not everyone was happy with the Backbone Cabal’s stewardship of the Net. Brian Reid, a Usenet administrator, had been trying to persuade the Cabal to include his recipes newsgroup, but wasn’t happy with its designation as rec.foods.recipes, which struck him as redundant. Reid soon envisioned a new, alternative Usenet that would constitute an end-run around the Cabal’s power: the alt.\* hierarchy. Reid recalls the circumstances of its birth:

The famous barbecue at which the alt net was created was held at G.T.’s Sunset Barbecue in Mountain View California on May 7, 1987. John Gilmore [another Usenet site administrator] and I were both unhappy with the decision-making process of the “ordinary” net. John was distressed because they wouldn’t create rec.drugs, and I was distressed because they wanted to force me to adopt the name “rec.food.recipes” for my recipe newsgroup. Gordon Moffett of Amdahl also sat with us. He had no specific beef or goal, but he wanted to help. John’s home computer was “hoptoad”; my home computer was “mejac.” We set up a link between us, and each of us set up a link to Amdahl, and we vowed to pass all alt traffic to each other and to nurse the net along. In those days one sent out numerous newsgroup messages in the hopes that one would “take”; by the end of May the groups alt.test, alt.config, alt.drugs, and alt.gourmand were active. (cited in Hardy, 1993)

Within the alt\* hierarchy, anyone who knows how to issue the make-group command can create a newsgroup, but there is no assurance that sites will carry it. Soc.sex found life as alt.sex, and it quickly became the most popular newsgroup in those sites that carry the alt\* hierarchy. Slowly at first, but with quickening momentum, the alt.\* hierarchy diffused throughout Usenet, and is now carried by more than half of existing Usenet sites.

### **The Demise of the Backbone**

Even as the rise of the alt.\* hierarchy was undermining the Backbone Cabal’s power, there was another technical change going on that was to render the Cabal irrelevant: the gradual migration of Usenet from UUCP dial-up exchanges to the Internet, thanks to the creation in the mid-1980s of the Network News Transport Protocol (NNTP). Developed in 1984–1985 by Phil Lapsley, Erik Fair, Steven Grady, Mike Meyer, and other Berkeley graduate students (Moraes, 1995), NNTP did not become widely used until the develop-

ment of the C news software, which supports NNTP, in 1987. NNTP not only transported the news more quickly and more cheaply, but it also made it possible for many sites to obtain feeds from virtually anywhere they liked. After all, the very nature of the Internet (in strong contrast to UUCP) is its multiplicity of interconnections; a given message may travel to its destination over a number of pathways, which are controlled by the automatic actions of Internet routing devices rather than the political decisions of site administrators. Unlike the situation prevailing with UUCP, a given NNTP system administrator might choose to remove certain groups, or even an entire category of groups, but this decision would not affect anyone else; you could always obtain an NNTP feed elsewhere that stocked the full list of standard and alternative newsgroups. By late 1987, the UUCP backbone had all but disintegrated from a technical angle. In a famous post the same year, the Backbone Cabal “abdicated” power—not because it was forced out, they said, but rather because its members had grown tired of the vociferous opposition they encountered every time they tried to do something good for the network. Still, the facts remained that the alt.\* hierarchy had deeply undermined their control over the newsgroup creation process, and the move to NNTP had sharply reduced their ability to impose their newsgroup-selection decisions on others.

### “Usenet Is Not a Democracy”

After the abdication of the Backbone Cabal, it was far from clear just what kind of organization Usenet had become. Was it an anarchy, ruled by no one? Or was it, as some users suspected, still in some respects a series of baronies, ruled by sysadmins who might have stepped out of the spotlight but still continued to rule their domains? In 1991, a system administrator named Chip Salzenberg drafted a document titled “What Is Usenet,” which was intended to benefit new Usenet users. Salzenberg chose to begin by defining Usenet negatively, and one of his assertions was that “Usenet is not a democracy”:

Usenet has no central authority . . . . In fact it has no central anything . . . . A democracy can be loosely defined as “government of the people, by the people, for the people.” However . . . . Usenet is not an organization, and only an organization can be run as a democracy. Even a democracy must be organized, for if it lacks a means of enforcing the people’s wishes, then it may as well not exist. Some people wish that Usenet were a democracy. Many people pretend that it is. Both groups are sadly deluded. (Salzenberg, 1991)

Salzenberg’s post set off a prodigious flame war, in which his chief opponent was Albert Langer, an Australian political radical. Voicing the perspective of many Usenet users who distrusted the motives of the Backbone Cabal, Langer replied, “I always get suspicious when somebody says ‘there are no authorities here.’ My suspicion is that there is indeed an authority, but it does not welcome scrutiny” (Langer, 1991a). Langer countered Salzenberg’s linkage of democracy and coercive force by pointing out the consensus-based governance of voluntary associations, which are democratic but do not (and probably cannot) employ coercive force without seriously alienating the membership. Continuing this line of argument, Langer concluded that Usenet closely resembles a democratic voluntary association, with the exception of the power wielded by an unelected coterie of “volunteers”—largely composed of former Backbone Cabal members—who published the official list of newsgroups. Langer went on to insist that a democratic revolution had occurred, in which a binding newsgroup creation process had effectively countered the Backbone Cabal’s power.

In reply to Langer’s post, Dave Mack, a system administrator and former member of the Backbone Cabal, posted the following tongue-in-cheek notice (Mack, 1991a):

Albert Langer, you have been tried in absentia by the Usenet High Council and have been found guilty of heresy, to wit the referenced article disputing the validity of the Writings of St. Spaf the Omniscient. This Council hereby decrees that, on or as soon as practicable after the day of your arrest, you shall be taken to the Place of Punishment and there you shall be buried alive beneath alt.flame articles and that you shall remain interred there until you are dead and for thirty-six days after the day of your death, after which time your family, if they so choose, may claim your rotting corpse for burial in unhallowed ground.

May Unnet <<BLESSED BE THE NAME>> have mercy upon your soul.

So shall all be treated who attempt through profane word or thought to defile the Pure and Holy Writ of Usenet.

The Usenet High Council hath spoken. So shall it be. Amen.

Cardinal Mack

Principal Inquisitor for the Usenet High Council

This is the type of self-parody for which Usenet humor is justly famous, but one has to wonder whether, in some sense, Mack was serious in his accusation of heresy. But Langer was soon to receive more damaging criticism. Several posters pointed out that, contrary to Langer’s assertion that the voting procedure was binding, several newsgroups had been properly voted into existence, and thereafter ignored by system administrators. A case in point was comp.protocols.tcp-ip.eniac—obviously a joke (the Eniac had been disconnected permanently in the late 1940s). The demise of rec.sex provided another and more convincing example.

In response, Langer argued that democracy requires time to take root:

Let it take six months or a year, or two years to acknowledge. As long as voting results are being announced and acted on EVERY MONTH democracy is becoming more deeply entrenched and the power of feudal barons is diminishing—whether they choose to admit it or prefer to console themselves with diatribes about the delusions of upstart serfs. (Langer, 1991a)

Langer later noted that the reluctance of former Backbone Cabal members to acknowledge the network’s growing democracy stemmed from “not wanting to face up to the transfer of power that has occurred and a preference for maintaining a fictional belief that sysadmins still have the dominance over Usenet that they used to have” (Langer, 1991b).

In reply, several system administrators told Langer that he was living in a dream world. Dave Mack, the author of the Inquisition letter cited earlier, wrote:

I administer two sites on Usenet, neither of them terribly important. There is nothing that the rest of the sites on Usenet can do to remove me from the net, force me to stay on the net, keep me from issuing a newgroup control message, force me to honor one, or prevent me from posting anything I damn well please . . . . You can call Usenet a democracy if you want to. You can call it a totalitarian dictatorship run by space aliens and the ghost of Elvis. It doesn’t matter either way. (Mack, 1991b)

A Usenet pioneer, Gregory G. Woodbury, concurred: “No matter what the current fad is in describing Usenet, there will still be the hard reality that for the machines under my control, the current guidelines are simply advisory. I can (and do) ignore certain aspects of the guidelines as I see fit” (Woodbury, 1991).

What system administrators failed to grasp, or even acknowledge, was a cornerstone of Langer’s argument, namely, that the power of system administrators would be steadily undermined by technological change. Langer noted the following:

There are of course rumors of conspiracies among the proles. Some say it is possible to receive any newsgroup whatever through email, whether one’s “sysadmin” approves or not, and that one can post to anynewsgroup through mail gateways established for that purpose . . . . Like the consequences of the steam engine and electric telegraphs, the consequences of such developments are too frightening for some to contemplate. Let’s just get used to the idea of democracy for now, huh? (Langer, 1991c)

System administrators, Langer concluded (1991c), were content to delude themselves that they are all still lords of their domains, while meanwhile the former serfs “have set up a Republic and do not recognize feudal authority.”

In retrospect, it turns out that there is considerable justification for Langer’s view that technology is eroding the power of system administrators. The years since the “What Is Usenet” flame war have witnessed the democratization of the technical means to create one’s own Usenet site—in effect, to become one’s own system administrator—with the development of the freeware Linux operating system, a UNIX clone, for ×86-based PCs. According to sysadmins, these “rogue” systems are the source of much of the hard-core pornography that’s now flooding the Net; there’s not much one can do about them. The usual social control measures, such as angry e-mail to the sysadmin, or blocking access to all posts from a rogue domain, don’t work very well; the sysadmins don’t care, and if you block them, they’ll soon resurface with a new domain name. In addition, the very fact that Usenet sites are connected to the Internet gives users myriad means to access information that may have been banned by a local system administrator, but is nonetheless available to them through other means. Summing up the technological changes that have occurred, John Gilmore notes that “Usenet interprets censorship as damage and routes around it” (quoted in Gebis, 1994).

The “What Is Usenet” flame war, long and vituperative, ended in characteristic Usenet style: A consensus emerged and a long-time volunteer quit in disgust. A patient and even-handed observer of the dispute, Ed Vielmetti, contributed an alternative version of Salzenberg’s “What Is Usenet” article, which still appears along with Salzenberg’s in automatic monthly postings to the news.newusers.questions and news.announce.newusers newsgroups. In response to Salzenberg’s assertion that Usenet is not a democracy, Vielmetti wrote:

Usenet has some very “democratic” sorts of traditions. Traffic is ultimately generated by readers, and people who read news ultimately control what will and will not be discussed on the net. While the details of any individual person’s news reading system may limit or constrain what is easy or convenient for them to do right now, in the long haul the decisions on what is or is not happening rests with the people. On the other hand, there have been (and always will be) people who have been on the net longer than you or I have been, and who have a strong sense of tradition and the way things are normally done. There are certain things which are simply “not done.” Any sort

of decision that involves counting the number of people yes or no on a particular vote has to cope with the entrenched interests who aren’t about to change their habits, their posting software, or the formatting of their headers just to satisfy a new idea. (Vielmetti, 1991)

Not long after the “What Is Usenet?” flame war ended, Usenet witnessed the latest in a long series of conspicuous departures of net.gods, individuals who had long played important roles in shaping and guiding the network’s evolution. In a conspicuously posted “Farewell” message, Gene Spafford announced his “retirement” from Usenet administration. The status of Spafford, the maintainer of the “official” or “advisory” newsgroup list, had been at the center of this and many other flame wars, and eventually Spafford decided that enough was enough. Passing the responsibility of maintaining the lists to system administrator Mark Moraes, Spafford declared that

Usenet is like a herd of performing elephants with diarrhea—massive, difficult to redirect, awe-inspiring, entertaining, and a source of mind-boggling amounts of excrement when you least expect it. (Spafford, 1993b)

Considering the flak they have to take, it’s hardly surprising that, in a FAQ (Frequently Asked Questions), a UNIX sysadmin depicts their organization rank as “below the custodial staff” and suggests that anyone interested in the position “get counseling.” (The FAQ is linked to the newsgroup alt.sysadmin.recovery.) But the advocates of free speech on the Net, epitomized by Dave Hayes, would prefer to liken sysadmins to George III:

We hold these Truths to be self-evident, that all Humans are created equal, that they are endowed by their creator with certain unalienable Rights, that among these are Unhindered Communications, Unregulated Exchange of Ideas, and Freedom of Speech, that to secure these rights the Usenet is instituted on networks of the world, that when any administration of Usenet becomes destructive to these ends, it is the Right of the People to alter or to abolish it and to institute new administration, laying its foundation on such Principles, and organizing its Powers in such Form, as to them shall seem most likely to effect their Free Communication. (Hayes, 1996)

Hayes outlines a “Site of Virtue,” administered by what he calls a “Freedom Knight,” an administrator who attempts to carry any and all newsgroups (regardless of whether they were “legally” created), ignores all rmgroup (remove group) control messages, ignores all cancel messages, and seeks multiple news feeds to avoid upstream censorship (Hayes, 1996).

More than a few users have found, though, that this notion of free speech has a blind spot of prodigious proportions. Hate speech creates an unappealing environment for many (the Institute of Historical Review, an organization that denies that the Holocaust occurred, has reportedly targeted Usenet as an ideal area in which to promote its message; [Hipschman, 1995]); the only response that free-speech extremists make to this is to say, “If it offends you, don’t read it.” But members of religious and ethnic minorities and women who try to participate in appropriate newsgroups complain of deliberate harassment (Herring, 1995; Tadmor-Shimony, 1995), and what is more, the sanctions that previously functioned to sanction harassers (such as critical e-mail or complaints to sysadmins) are no longer as effective, thanks to anonymous mailers, a rising tide of cleverly forged posts, rogue sites, and the general disinclination of sysadmins to get their fingers burned by meddling in Usenet’s sometimes nasty affairs. As will be seen in the following

section, the Net's accepted means of dealing with the problem—a set of informal social controls (“netiquette”)—has proven ineffective.

### “Netiquette” and Its Limitations

As the power of sysadmins declined and legions of new users flooded on to the Net, veterans felt that the overall civility and usefulness of Usenet was in sharp decline. Recognizing this problem, Todino wrote in 1990 (p. 129) that “there has been some discussion that the net is going the way of the dinosaurs; it has become too big, and there are really no ‘brains’ or central control to speak of.” The answer, she argued, was self-regulation by following well-established rules of network etiquette, or *netiquette* for short:

Every time you send a message, you are relying on the goodwill, disk space, and phone bill of others who are willing to forward it for you. The importance of net etiquette becomes more apparent when you realize that the continued existence of the net requires the cooperation of everyone (Todino, 1990, p. 129).

Familiar to experienced and civil Net users, the rules of netiquette have been formalized in a number of documents posted regularly to news.answers and other beginners' groups. In essence, these rules are intended to keep Usenet functioning as a productive place for discussion. Specifically enjoined are posting material to inappropriate newsgroups, commercial self-promotion, “spamming” (excessive cross-posting, especially when the cross-posted message is inappropriate to the subject of the targeted newsgroups), flaming, wasting network bandwidth by posting excessively lengthy materials, and adopting an abusive or sarcastic tone (which could ignite a flame war). It should be noted that, for the most part, the rules of netiquette place virtually no constraints on *what* can be said on Usenet—one could, presumably, follow them to the letter while posting explicit instructions on how to construct a powerful fertilizer bomb as long as the post went to the correct newsgroup and did not contain a *signature* (personal information line) longer than four lines.

Frequent postings of netiquette documents, coupled with the critical e-mail one is sure to receive if one breaks one of the netiquette rules, are presumably sufficient to constrain many offenders, and many sysadmins—particularly at universities and corporations—will not hesitate to cancel the account of a user who repeatedly violates these guidelines (which are generally echoed in the host site's acceptable use policies). The problem is a new class of users who simply do not care about Usenet's traditions, and are increasingly able to operate from rogue sites that do not maintain acceptable use policies. Fueling the problem is the rise of *anonymous remailers*, such as the notorious anon.penet.fi, a Finnish site, that enable posters to disguise the origin of their messages, so that the normal means of Usenet social control—flames in one's mailbox the next morning—cannot reach them.

Sysadmins weren't happy about anonymous remailers, and in 1993, a news administrator named Dick Depew decided to do something about it. Depew announced that he had written a program called Automated Retroactive Minimal Moderation (ARMM), which would automatically scan all incoming articles and remove from the standard newsgroup hierarchies (excepting alt.\*) any messages coming from anon.penet.fi. The experiment soon turned into a debacle, one that further discredited Usenet censorship efforts: The poorly written program went wild, reproducing messages recursively and filling newsgroups with hundreds of posts. The resulting furor discredited both Depew (who received the unfortunate nickname “Despew”) and his censorship efforts.

But there was yet another confrontation looming on the horizon—with advertisers who saw Usenet as a new marketing opportunity. Epitomized by the notorious “Green Card” attorneys, Laurance Canter and Martha Siegel, these users pelt hundreds or even thousands of Usenet newsgroups with unwanted advertising. In 1994, Canter and Siegel attempted to post an advertisement to every Usenet newsgroup then in existence, offering to assist would-be immigrants to obtain their immigration papers through a U.S. State Department lottery. The response came in the form of thousands of e-mail flames, so prodigious in number that they shut down the server. Subsequently, the company that had provided Canter and Siegel’s Net access canceled their account, claiming that they had violated the service’s acceptable use policies, but the pair soon found other service providers.

Canter and Siegel subsequently complained that they had done nothing illegal, that Usenet netiquette guidelines have no status in the law, and that their enemies were in fact attempting to constrain their right to free speech—positions that have solid foundations in the law. In response, Mike Godwin of the Electronic Frontier Foundation (EFF) told a telephone interviewer that freedom of speech is uppermost among Usenet values—within limits. “In order for this forum to function as a freedom of speech forum, it can’t be destroyed. What you have here is the problem of the Tragedy of the Commons—a single user so abusing the commons that it will ultimately be rendered valueless to everyone” (Campbell, n.d.).

In response to the Canter and Siegel incident, a new series of newsgroups in the net.abuse.\* hierarchy debated this issue, and a consensus emerged over what type of speech should be prohibited on the Net: net.abuse. In defining net.abuse, the net.abuse FAQ (Frequently Asked Questions) stresses that a post is abusive if it brings about abuse of the Net, not abuse on the ‘Net—that is to say, a post is not net.abuse if some find it offensive. To qualify as net.abuse, states the net.abuse FAQ,

An act must interfere with the net-use of a large number of people. Examples of this: newsgroup flooding, widespread or organized forgery campaigns, widespread or organized account hackery, [and] widespread or organized censorship attempts. (Southwick & Falk, 1995)

Soon, a technical means was found to remove spams from the network. Usenet users have always had the ability to issue a cancel command for their own posts; it’s a relatively trivial matter to write software capable of cancelling someone else’s posts, and this is precisely what was done. In 1995, a secret, shadowy figure known as the CancelMoose devised a spam-canceling program called a *cancelbot*. When spams and other forms of net.abuse were reported to the net.abuse newsgroups, CancelMoose would wield the program to remove the offending material from the Net. CancelMoose has since stepped into the background, but others have taken up the task of defending Usenet from unwanted advertising and other forms of net.abuse. Although Usenet administrators and users worry that someone will eventually try to use cancelbot software to silence the opinions of others, there is general consensus that spam canceling is needed to safeguard the right of users to engage in discussion within the guidelines of network etiquette.

## Conclusions

Usenet’s culture of almost-anything-goes free speech stems from a decade of conflict and controversy, in which two computerization movements struggled for control of the network. One fact that is apparent from this story is that this battle was fought in a techno-

logical medium, and what is more, the contestants did not hesitate to alter the technology in pursuit of their social goals. And what decided the outcome, in the end, was not the differential social or political empowerment of the contesting groups, but rather the migration of Usenet to a new Internet distribution system—NNTP—that sharply reduced the ability of one contesting party to affect the outcome of events.

It should be noted that this picture is at odds with the predictions of the social construction of technology (SCOT) theory (Pinch & Bijker, 1987), in which the outcome of a period of technical controversy is ascribed solely to social factors. Underlying SCOT's dogmatism is a justifiable aversion to technological determinism, the doctrine that a technology's content leads irresistably to predictable social consequences—a doctrine that is simply the reverse of SCOT's insistence on social causation. Two wrongs, as we were taught in kindergarten, do not make a right. What we see in the history of Usenet is a contingent outcome that is shaped neither exclusively by social nor by technical factors, but rather is best understood as a long process in which contesting groups attempt to mold and shape the technology to suit their ends—sometimes successfully, and sometimes not. They are as likely to be blindsided by technological developments as they were to succeed in changing the system to meet their ends. As this article attests, it is one thing to create new technologies with a coherent social vision, and it is quite another to control the way it grows and develops.

In the end, the skirmishes between the two Usenet movements created a “middle ground” position, an ideological field of no contest, one that was acceptable to both parties—a compromise, developed from a growing consensus as Usenet was repeatedly buffeted by adverse forces. Tired of getting flamed to cinders for even their most well-intentioned efforts to safeguard Usenet, disempowered by changing technology, and finally embarrassed by the Despew fiasco, the net.gods withdrew; at the same time, the advocates of unrestricted free speech found themselves “hoist by their own petard,” as spamming flooded the Net. The notion of free speech that we find in Usenet today cannot be fully understood by likening it to traditions of free speech developed in nontechnological settings; like Usenet itself, it's an artifact that took shape as competing groups struggled in a new technological arena. Usenet's history suggests, to conclude, that some of the most very basic ideas of a democratic society will be rethought, and recast, as computer systems increasingly penetrate society.

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