Creating the Commons: Establishing a Civic Space for a New Form of Communications

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As it evolved from a novelty to an essential tool in the business world, the fax machine, "the hottest office machine of the late 1980s," according to *Office* magazine in 1987, created challenges together with opportunities for the existing structure of business communications [Totty, 1987]. In the process of meeting these challenges, a commons for communication was created, developed, and preserved.

Ensuring that a tragedy of the commons did not occur — establishing voluntary guidelines and more coercive rules for behavior — began with experimentation, self-organization, and self-regulation.[1] Ultimately, fax users had to call forth the authority of the state to prevent the pollution of this arena for communications. This new communications medium raised several issues. How should office procedures and organizations change to take advantage of the possibilities offered by this new means of communications, which combined the solidity of paper with the speed of telephony and telex? What were the appropriate protocols and procedures for faxing compared with other means of communication? How could confidentiality be assured or a message verified? What was the legal status of a faxed document? Finally, how could junk fax, that despoiler of the commons, be contained without destroying the benefits of faxing or violating the First Amendment?

Overall, faxing and fax machines were quickly integrated into existing office operations. Physically, the machines did not take up much space nor impose undue demands beyond a telephone line and an electrical socket. Operationally, the ease of sending or receiving a fax and closeness to prior office activities enabled faxing to quickly become part of normal business procedures [Hawkins, 1990; Jarrett, 1984]. If a person could dial a telephone or make a photocopy, he or she could use a fax machine. Because a fax, unlike a telex or the e-mail systems of the day, resembled a letter in creation and form, handling it could easily be accommodated by existing office procedures. Later, when computers became integrated into office operations, faxing integrated into the world of computers, thus retaining its viability. Integration and accept-

[1] The phrase, "tragedy of the commons," is from Garret Hardin; Arthur F. McEvoy has also contributed to the concept [Hardin, 1977, McEvoy, 1986].

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ance, however, were not automatic.

Faxing's popularity stemmed from its ease of use, speed, and ability to transmit any image. But faxing offered other, less obvious advantages too. For many users, faxing enabled them to bypass the central mailroom, saving time and effort while providing certainty. Users knew their messages had reached their destination, instead of wondering whether they were still circulating inside the mailroom. Like Federal Express, faxing could go from desktop to desktop.

This decentralization of communications was aided by changes in the machines. Their shrinking price and size made it easier for users to justify putting a fax machine closer to them. Within firms, diffusion often progressed from one machine in the central mailroom to a division to one per floor to sections and even individual desks. The new machines were usually in addition to the existing machine. Once the price of machines fell below $1000, the price at which many managers had to seek senior approval for purchases, the spread of machines increased rapidly.

Less tangible but playing a role in faxing's diffusion was the prestige associated with having a fax machine. Faxing's immediacy often provided a "hot off the wire" urgency lacking in a letter or telex, giving a sense of importance and prestige [Johnson, 1989]. For smaller firms, pressure from larger firms they dealt with further served as an incentive to acquire a fax machine [Totty, 1987]. Having a fax implied operating a modern office, one fully equipped with the latest technologies.[2]

The concept of convenience — and prestige — kept changing with the diffusion and further technological development of the fax machine. As faxing grew in popularity, hotels installed fax machines, first in their business centers, then in executive suites, and, for the truly elite, in poolside cabanas ["Pampering Faxophiles," 1992; Darling, 1995]. The benefits were actually real for both hotels and their customers: quicker, more direct service to guests, fewer demands on staff, and opportunity to distinguish executive from ordinary suites. As fax machines shrank, some became mobile and turned into an essential component of the travelling office, whether based in a car or the business-class cabin of an airliner [Hamilton, 1992].

Managers had another economic incentive to acquire a fax machine: It reduced the time employees spent chatting over the phone or over the counter. Correspondence was conducted more quickly with less time "wasted." Niki Godfrey of Wireless Flash News, a radio news service, recalled that one reason her firm adopted faxing was to reduce its telephone bills for European calls [Godrey, 1993].

Once a business acquired a fax machine, it had to deal with several issues.

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[2] To quote an exchange between an American visitor to Japan and a Japanese colleague in 1991 [Rodd, 1995].

Japanese: "Do you have a fax?"

American: "No, I don't."

Japanese: "No fax! Do you have indoor plumbing?"

Perhaps the most challenging aspect of faxing was keeping contents confidential. The problem was twofold: people at the correct number reading the communication as well as the desired recipient and sending a fax to the wrong number. Both were legitimate concerns.

Because a fax arrived without an envelope, it could be easily read by anyone. Information that a recipient would not like known by others at his office — e.g., negotiations for a new job — could be read by people looking at his faxes or delivering them. More often, faxes of an intimate nature ("fax flirtations") provided material for office gossip [Keyes, 1989].

Maintaining confidentiality at the office was partially solved by cover sheets and computer technology. A cover sheet kept the actual message covered, although it could still be easily read. The only way to ensure no one else read a transmitted fax was to either have a private line or stand by the fax machine. By the early 1990s, it was also possible to dedicate a fax-computer link to one person and route faxes directly there.

The second problem, missent faxes, was quite serious. Improperly sent faxes could compromise a legal case by the inadvertent release of information or otherwise prove damaging or embarrassing [Ilansen, 1991]. Pushing the wrong button or using the wrong list could send a fax to reach hundreds of people the sender never intended, particularly journalists. Politically, a nightmare for any campaign or lobbyist was the memo or other confidential communication reaching the public domain [Stein, 1988; Barbash, 1995]. Perhaps the prime example was the bulletin faxed by the Republican National Committee before the last Bush-Clinton presidential debate in 1992. Mistakenly sent to the press instead of Republican state chairs, the memo explained how to characterize the yet-to-occur debate as a brilliant Republican victory. The spin attempt became the story [Kurtz, 1992].

While still occurring, missent faxes tend not to attract attention unless they are truly unusual. The FBI, for example, garnered unwanted attention in 1997 when it accidentally faxed a classified 11-page warning about a potential terrorist bombing to a Hollywood business and information about a possible suspect in the 1995 Arizona train derailment to Arizona news offices ["Confidential," 1997; Stout, 1997]. The first case was a dialing error; the second was the result of sending a fax to the wrong list.

The best way to avoid missent faxes was prevention. In Texas, for example, the state political parties and campaigns by 1992 instituted strict procedures to keep lists separate in the computer or fax machine to avoid such mishaps. Angelina Gower, the Republican Party Database Support and Production Coordinator, intensively trained her staff to ensure they sent the right document to the right list. Like Democratic consultant George Shipley, she did not send any confidential information over the fax [Gower, 1995; Shipley, 1995].

The fallback option, which relied on the less trusting side of human nature, was deterrence. Law firms and other senders soon included a statement on their cover page telling incorrect recipients not to read the private and confi-

dential document and to inform the sender about the missent fax.

Another concern was verification, especially for professions used to dealing with original documents and where the consequences of a forgery could be significant [Pearson and Sauter, 1990]. Faxing did make forgeries easier — letterheads and signatures could be photocopied. Furthermore, watermarks and seals could not be transmitted.

The easiest way to verify a fax transmission was to call the sender for confirmation. That, however, detracted from fax's convenience. A more technological approach was to accept only preregistered numbers. A more universal solution occurred with the 1991 Telephone Consumer Protection Act. That law mandated that a fax transmission had to contain the sending machine's fax number and the name of the person or company instigating the message as well as the time and date.

The legal validity of faxed documents and signatures was, as befits the law, slow to evolve. While banks had for decades accepted faxed documents (and used faxing to verify signatures on checks), the majority of the business community, with far less experience, was slower to act ["Facsimile System," 1968]. For example, a 1990 agreement establishing a tuna fishing company with shareholders on the American mainland and Micronesia stated that faxed signatures were acceptable for internal documents. Some outside lenders, however, still required original signatures in ink [Coate, 1992].

Several states' courts experimented in 1988-89 with filing documents by fax. In 1989, Idaho became the first state to permit some fax filing in all trial and appellate courts. By the early 1990s, courts as well as private parties routinely accepted and sent faxed legal documents [Marcotte, 1990; DeBenedictis, 1990].

An internal issue concerned what constituted reasonable personal use of a firm's fax machine. Transmitting local faxes incurred no expense, but receiving faxes and sending long-distance faxes incurred definite, if small, costs. Where did it stand in a corporate hierarchy with the photocopier and the telephone [Gittler, 1989]?

The usual modus vivendi worked out was moderate personal use locally — for example, faxing requests to radio shows and orders for lunch. Running businesses or campaigns from an office were out, as were personal long-distance calls. A not-so-apocryphal example of definitely prohibited activity occurred on the "Murphy Brown" show when one character declared she become so drunk at an office party that, "I faxed my chest to the West Coast." Certainly, sharing humorous tales was a popular personal use.

A lesser question was storage. The fax machines that populated offices in the late 1980s and early 1990s used thermal faxpaper, which curled and faded if exposed to sunlight or heat. Automatic cutters were a popular option that eliminated the pleasure of receiving several feet of a continuous message. To save a fax required photocopying, which necessitated more labor than required by a letter. As their cost dropped, fax machines that produced messages on plain paper eliminated these deficiencies.

Even in the early years of faxing, users tried to standardize messages, less

for the sake of etiquette than to ensure inclusion of information essential for a successful transmission. Cover sheets became standard very quickly because they provided relevant information about the recipient and the sender (telephone and fax numbers, titles and office locations). By the beginning of the fax boom, basic protocols for faxing already existed, easing its acceptance.

Before G3 machines became the standard in the late 1980s, firms often employed different — and incompatible — machines. A G1 machine could not transmit to a G2 machine or a G3 machine.[3] Thus, cover sheets and business cards had to carry separate numbers for each machine and state what type of machine it was [Barr and Porter, 1983]. Similar to a century earlier when businesses might use telephones from competing firms and had to specify the system used, the existence of similar but incompatible systems was typical of competitive evolution of new technologies (as computer users have discovered).

As late as 1983, one office journal had to urge fax users to include their fax numbers on business cards. That the introduction of a new form of communication was not an automatic justification for reprinting cards indicated the still slow recognition and diffusion of faxing [Barr and Porter, 1983].

The inclusion of references to faxing in secretarial and business etiquette manuals offers a guide to the diffusion of faxing. Fax machines appeared in manuals well before their widespread acceptance in the late 1980s. Office guides for secretaries tended to emphasize the basics of what a fax machine did without suggestions on when or why to use it [Eckersley-Johnson, 1976; Rubin and Wood, 1984; *Secretary's Desktop Library,* 1990]. Manuals for managers tended to compare fax's operational advantages with other forms of communication. Most of these manuals emphasized the potential future promise of fax [Rosen et al., 1982; Stallard, et al., 1983; Wagoner and Ruprecht, 1984].

By the early 1990s, etiquette experts like Miss Manners and Letitia Baldrige had pronounced guidelines for the appropriate usages of faxing which integrated it into the hierarchy of written and oral communications. For frustrated telephone taggers, faxing offered an end run around leaving a telephone message or voice mail. A faxed note would not get lost in a pile of messages [Kruglinski, 1991].

Proper etiquette applied the golden rule: "Be a gentleperson with your fax" [Baldrige, 1993]. Proper etiquette including sending short faxes or, if a long transmission was unavoidable, calling the recipient and ask what time would be best. Letters, however, still remained the appropriate medium for invitations, condolences, congratulations, and thanks. Regardless of the purpose, the sender should always remember that confidentiality was not assured. Similarly, someone not the recipient who read the fax should politely pretend it was not read [Baldrige, 1993; *Miss Manners,* 1989; Pachter and Brody, 1995; Post, 1997].

[3] The latter occurred in the 1990s, primarily in Japan. Some Japanese engineers, especially those connected with the high-technology telecommunications industry, listed the numbers of their incompatible G3 and G4 machines on their business cards.

Perhaps the greatest threat to the common space for faxing was unsolicited advertising. Taming this menace ultimately demanded the construction of a legal framework. Federal and state action was needed to ban unsolicited advertising and mandate the authenticity of the transmitting telephone number.

Unsolicited advertising grew greatly in the 1980s with the expansion of direct mail and telemarketing. While potentially annoying, neither inflicted material costs on the recipient. Unsolicited fax advertising, "the public nuisance of the late eighties," however, was different [Wartik, 1989]. Not only did this "junk fax" shift the cost of the advertisement from the sender to the recipient by consuming expensive faxpaper, but receiving the ad tied up the telephone line, preventing incoming or outgoing traffic.

The rapid spread of faxing unsolicited advertisements took many by surprise, including the editors of the 1989 *Encyclopedia of Telemarketing* and telephone regulators [Yates, 1989]. Its decline and ban took longer. Faxing's initial use as an advertising tool in 1988 by enterprising promoters proved a successful novelty. As the incoming faxes grew and the disadvantages for recipients became more obvious, a reaction grew against junk faxes. The industry resisted federal regulation while a number of states took action to eliminate the problem in 1989. Finally, federal action created a uniform policy across the fifty states in 1992.

Junk fax's initial success came from its newness. One office mailroom equipment firm, Evcor Systems of Lisle, Illinois, reported faxing ads for its fax business drew a 7% response rate compared with 1% for conventional mailings. As Elliot Segal, the marketing manager of Mr. Fax, Inc. a paper supplier, noted, the sense of immediacy of a fax gave it higher priority and thus more attention than similar mailings [Murr and Schwartz, 1988]. Segal knew what he was talking about. Mr. Fax was the country's largest faxer of unsolicited advertising, sending out over 60,000 ad faxes weekly in early 1989 to its acquired database of over 500,000 fax numbers, over 10% of the total base of installed machines ["Telemarketing Practices," 1989].

Soon, however, the tide turned. As Oregon state representative Ken Jacobsen stated while introducing a 1989 bill restricting junk fax, "You get a message you didn't want from people you don't know on paper they didn't buy" ["Telemarketing Practices," 1989]. Although the Congress held its first hearings in 1989 and passed its first bills in 1990, differences between the two chambers and with the White House delayed passage of a law until the Telephone Consumer Protection Act in 1991. The delays occurred not because of disputes about restricting junk fax — agreement was widespread on the need to act, but because of disputes about the related issue of automated dialing of unsolicited telephone calls ["House Bill," 1990].

By the time Congress held its first hearing on junk fax in May, 1989, fourteen states had already passed laws restricting intrastate junk fax.[4] By 1990,

[4] Arkansas, California, Connecticut, Florida, New Mexico, New York, North Carolina, Maryland, Michigan, Oregon, Rhode Island, Texas, Washington, and West Virginia ["Telemarketing Practices," 1989].

nearly half the states were considering restricting or banning such ads [Pytte, 1989]. One reason for these actions was the irritation politicians and their staffs suffered from the arrival of unsolicited faxes — often long position papers — jamming their lines. Indeed, the morning she testified against junk fax at a hearing on May 21, 1989, Representative Marge Roukema (R.-NJ) received an ad from Mr. Fax while waiting for faxes containing district news and the local newspapers ["Telemarketing Practices," 1989]. While lobbying by fax was constitutionally protected speech, it certainly made lawmakers more sensitive to the problem.

The solicitors were their own worst enemy. Mr. Fax asked businesses to fax Connecticut governor William A. O'Neill urging him to veto a bill banning unsolicited fax transmissions. The governor's machines were jammed for a day, while the governor waited for a report on recent flood damage. He signed the bill. Mr. Fax was behind a similar campaign, equally unsuccessful, to convince Maryland Governor Donald Schaefer to veto a similar bill [Pytte, 1989; "Telemarketing Practices," 1989].

The Direct Marketing Association (DMA), which represented telemarketers, claimed in late 1989 the problem of unsolicited faxing was not serious and the FCC had logged only forty-eight complaints since 1987. Congressman Edward J. Markey (D-Mass.), however, noted that after he introduced his bill, many people had told him the problem was real [Pytte, 1989]. The DMA initially countered by arresting the usual suspects: Some abuses had indeed occurred; however, the proper solution was not government regulation but industry self-policing and a voluntary directory of people wishing not to be faxed [Fahry, 1989]. It soon realized the widespread opposition to junk faxing and dropped its opposition, focusing instead on issues of more concern to its members ["Telemarketing Practices, 1989; "Telemarketing/Privacy Issues," 1991; "Telephone Advertising Consumer Rights Act," 1991].

The proposed remedies evolved over time. Initial proposals called for the establishment of lists maintained by local telephone firms of people who did not want to receive unsolicited fax advertising. Phone companies opposed that concept, which was based on similar actions by direct mailers, as an administratively daunting and costly burden that would fall on them. By 1991, proposed measures included mandating senders include their names, fax number, and the time and date.

The actual law was far more comprehensive. Effective December 20, 1992, the FCC Telephone Consumer Protection Act banned unsolicited fax advertising or recorded telemarketing calls without receiving the permission of the recipient or an existing business relationship ["FCC Bans," 1993]. This allowed businesses still to fax advertisements, but only to willing recipients. Since then, the problem of junk fax has essentially disappeared, having metamorphized into the less costly but equally obnoxious e-mail 'spam' [Donath, 1996].

Fax advertising did become an integral part of marketing, but by offering customers the opportunity to receive information quickly and often in a customized manner. Such fax-on-demand systems were not intrusive or unsolicit-

ed, thus eliminating the annoying aspects of faxing [Hoge, 1993; Godin, 1995; Forrest, 1996].

Conclusion

What makes a commons? Shared — or imposed — values, space for public and private activities, someone to pick up the trash, and someone to enforce the rules. For faxing, its rapid commercial success demanded on the creation and preservation of such a commons. Integration with existing office practices and the development of new protocols and procedures made the commons a desirable place to congregate. Most importantly, the restrictions on junk fax prevented litter from polluting this shared ground.

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