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DOES CYBERSPACE EXPAND THE BOUNDARIES OF PERSONAL JURISDICTION?

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I. Introduction

In 1984, novelist William Gibson coined the term "cyberspace" when he prophesied the future of the Internet: "Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts . . . A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity." n1 Little could Gibson have known just how quickly his predictions would be fulfilled.

The Internet has become a medium through which people engage in increasingly sophisticated transactions. Although the Internet was originally developed as a means for government agencies to monitor defense-related research in academia and industry, n2 it has since become much more. Private parties now use the Internet to communicate and engage in commercial transactions creating a virtual worldwide marketplace. However, the Internet has not yet been subject to extensive judicial consideration because it is a new form of communications technology. The courts are only now beginning to address one of the most fundamental legal issues applying personal jurisdiction requirements to the Internet.

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Because the courts have set forth few rules concerning Internet personal jurisdiction, it has been a subject of interest for many authors. In his article, *Conflicts on the Net: Choice of Law in Transnational Cyberspace*, Matthew Burnstein states,

[t]raditional notions of jurisdiction are outdated in a world divided not into nations, states, and providences, but networks, domains, and hosts. Cyberspace confounds the conventional law of territorial jurisdiction and national borders. In cyberspace, it does not matter at all whether a site lies in one country or another because the networked world is not organized in such a fashion. n3

However, cyberspace does not lack physical location any more than does the telephone system. For example, information on the Internet still travels through communications lines and hardware, each with fixed locations around the world. The web sites and information are not stored in "cyberspace," but on tangible computer storage media. Further, users have physical locations from which they connect to the Internet and interact with others. The Internet is basically a technologically advanced communications network and the courts should treat it similarly to other communications systems in their personal jurisdiction analyses.

The Internet began as a governmental defense project. n4 In 1969, the Department of Defense began a project to link military computers with computer networks in industry and academia to monitor defense-related research. n5 In 1984, the National Science Foundation subsumed the project when it contracted with private corporations to upgrade and expand the national network to create the National Science Foundation Network ("NSFNet"). n6 NSFNet was created by expanding the original network to include the six supercomputer centers in the United States and several regional networks extending to major universities and national research centers. n7 NSFNet was intended for non-commercial use by research and educational organizations. n8

The Internet arose from NSFNet but now consists of several national commercial network backbones connected via a series of Network Access Points located across the United States. n9 The network

[*303] backbones are capable of high speed data transmission and are connected to smaller local area networks (LAN) which cast a wider user access net across the globe. The different networks communicate using a standard communication language called the Transmission Control Protocol/Internet Protocol. n10 Thus, users on different networks can send electronic mail to each other's Internet protocol numbers or addresses, and telecommunication circuits at the network connection points will route the messages to their proper destinations. Generally, these telecommunication circuits separate a message into smaller packets, which can be switched through one or more routes to most efficiently transmit the message to its destination where it is reassembled. n11

The general public accesses the Internet through two types of Internet Service Providers. One type provides customers with a direct connection between the customer's site and the Internet via a dedicated telecommunication circuit. n12 The second type provides dial-up access via modem directly to a dedicated computer connected to the Internet. The dedicated computer often provides private on-line services in addition to Internet access. n13

Use of the Internet has rapidly expanded over the past few years. For example, the Garter Group n14 estimates that there were approximately ninety Internet Service Providers linking users to the Internet in 1993 compared to the more than 3000 providers that exist today. n15 Studies disagree about the number of Internet users because it is a difficult quantity to measure. However, one estimate is that forty million users currently access the Internet with the number expected to grow to 200 million by the year 1999. n16 Another area which marks the growth of Internet use is the increased number of domain name registrations. n17

[*304] Businesses have taken their trademarks on-line by registering domain names with Network Solutions, the private corporation in charge of maintaining the Internet registry. Network Solutions reported 52,500 registered domains in March, 1995. By July, 1996, the company had just under 500,000 registrants. n18

Although the Internet provides a new medium by which a party may engage in sophisticated transactions across state borders without leaving home, a new body of law is not needed to decide issues of personal jurisdiction. The courts have leapt over similar hurdles after the invention of other communications technologies, such as the telephone. Further, the historical principles of personal jurisdiction set forth by the Supreme Court in *International Shoe v. Washington* n19 are broad and flexible enough to allow the courts to adjust to such changes. This article will (1) review the historical development of personal jurisdiction in the Supreme Court; (2) show that current personal jurisdiction disputes arising over the Internet can be resolved under current case law; and (3) introduce potential personal jurisdiction problems that may arise over the Internet in the future and their solutions.

II. Historical Development of Personal Jurisdiction

A. Supreme Court Cases

The Supreme Court set forth two principles of law that define the scope of a court's jurisdiction in its landmark *Pennoyer v. Neff* decision: (1) "every State possesses exclusive jurisdiction and sovereignty over persons and property within its territory;" and (2) "no State can exercise direct jurisdiction and authority over persons or property without its territory." n20 Under these territorial principles, the Court divided personal jurisdiction into two basic categories: (1) *in personam*, or jurisdiction over persons located in the forum state, and (2) *in rem*, or jurisdiction over property located in the forum state. The Supreme Court identified the Fourteenth Amendment Due Process Clause of the Constitution as the source of these jurisdictional limitations by stating that the clause was intended to preserve the sovereign power of independent states. n21 The

[*305] Supreme Court's rigid territorial approach was adequate in the late 1800's when most transactions occurred between individuals and businesses at a local level.

Technological advancements in communication and transportation during the twentieth century soon led to increased interstate transactions. Thus, rigid territorialism gave way to the "minimum contacts" standard for personal jurisdiction enunciated in *International Shoe v. Washington*.ⁿ²² The Supreme Court established that a party foreign to a state may be sued in that state if the party has "certain minimum contacts with [the state] such that maintenance of the suit does not offend 'traditional notions of fair play and substantial justice.'"ⁿ²³ More specifically, a court must consider both the amount of the party's contacts with the state and the relationship between the contacts and the claims when determining whether the court can exercise personal jurisdiction over that party.ⁿ²⁴ *International Shoe*, a Delaware corporation, was sued in Washington by the state's government for unpaid contributions to the state unemployment fund. *International Shoe* maintained no office or merchandise in Washington. However, it employed eleven to thirteen salesmen who resided in Washington solely to solicit orders within the state. Although the salesmen had no power to contract, the orders they solicited were forwarded to the main office in St. Louis where goods were shipped to the customers within Washington. The Court held that these contacts were sufficient under the "minimum contacts" test and that personal jurisdiction over *International Shoe* in Washington was proper.ⁿ²⁵

In *Hansen v. Denckla*, the Supreme Court further defined the "minimum contacts" theory by requiring that "there be some act by which the defendant purposefully avails itself of the privilege of conducting activities within the forum State, thus invoking the benefits and protections of its laws" ⁿ²⁶ Mrs. Donner, a Delaware resident, established a trust with a Delaware trustee who had no business activities in Florida. Mrs. Donner later moved to Florida where she began to receive administrative documents and income from the trustee. After she died, a controversy arose over the trust, and the Delaware trustee was named a defendant in the Florida lawsuit. The Court held that the trustee

[*306] was not subject to personal jurisdiction in Florida because the trustee's contacts with Florida were not purposeful. n27

In *Burger King v. Rudzewicz*, the Supreme Court provided five factors to help the lower courts determine when granting personal jurisdiction does not offend "traditional notions of fair play and substantial justice." n28 The Supreme Court granted personal jurisdiction in Florida over the nonresident defendants who had voluntarily contracted with a Florida corporation knowing that the contract provisions stated that the corporation's Miami headquarters controlled and supervised franchise operations and that the contract would be governed by Florida law. n29 The defendant Michigan residents negotiated the purchase of a twenty-year franchise contract with the plaintiff Florida corporation. The contract emphasized that plaintiff's Miami headquarters would set franchise policies and work directly with the defendant franchisees to resolve any major problems. Even though daily supervision would be conducted by district offices, these offices served mainly as intermediate links between the franchisees and the Miami headquarters. Finally, the contract provided that all notices and payments be sent to the Miami headquarters and that the contract was governed by Florida law. After the franchisee's patronage declined, it fell behind in its monthly payments and the Florida corporation sued for breach of contract. The Supreme Court listed five factors to consider when determining whether assertion of jurisdiction is fundamentally fair: (1) "the burden on the defendant;" (2) "the forum State's interest in adjudicating the dispute;" (3) "the plaintiff's interest in obtaining convenient and effective relief;" (4) "the interstate judicial system's interest in obtaining the most efficient resolution of controversies;" and (5) "the shared interests the several States have in furthering fundamental substantive social policies." n30 The Court held that the defendants were subject to personal jurisdiction in Florida pursuant to the Florida long-arm statute and that the statute did not violate the Due Process Clause of the Fourteenth Amendment. n31

However, Supreme Court decisions in *World-Wide Volkswagen Corp. v. Woodson* n32 and *Asahi Metal Industry Co., Ltd. v. Superior Court of California* n33 showed that personal jurisdiction based on the minimum

[*307] contacts theory had its limits. In World-Wide Volkswagen, the plaintiffs were members of a family residing in New York who purchased an Audi from Seaway Volkswagen Incorporated ("Seaway"), a New York dealership. One year later, the family decided to move to Arizona. Traveling in their Audi, they were struck by another car while passing through Oklahoma. The Audi caught fire, injuring the wife and two children. The plaintiffs filed suit in Oklahoma against Seaway and World-Wide Volkswagen Corporation, the regional Audi distributor for New York, New Jersey, and Connecticut. The Court dismissed the case for lack of personal jurisdiction stating:

[Defendants] carry on no activity whatsoever in Oklahoma. They close no sales and perform no services there. They avail themselves of none of the privileges and benefits of Oklahoma law. They solicit no business there either through salespersons or through advertising reasonably calculated to reach the State. Nor does the record show that they regularly sell cars at wholesale or retail to Oklahoma customers or residents or that they indirectly, through others, serve or seek to serve the Oklahoma market. n34

The Court found the defendants' mere awareness that their product may be driven through Oklahoma because of its mobile nature constituted insufficient contacts to satisfy the minimum contacts standard of International Shoe. n35

The Supreme Court also refused to grant personal jurisdiction over a defendant for lack of "minimum contacts" in Asahi, where a motorcyclist was severely injured when he lost control of his vehicle and collided with a tractor. n36 The motorcyclist filed suit in California against the Taiwanese tire manufacturer, Cheng Shin Rubber Industrial Co., Ltd. ("Cheng Shin"), alleging that the accident was caused by the explosion of a defective rear tire. Cheng Shin filed a cross-claim for indemnification against Asahi Metal Industry Co., Ltd. ("Asahi"). Asahi was the Japanese manufacturing company that supplied Cheng Shin with valves to install into its tires made in Taiwan. Asahi did not sell valves directly to anyone in California. Cheng Shin settled with the motorcyclist leaving only the suit between Cheng Shin and Asahi. The Supreme Court, by unanimous vote, held that California courts could not assert personal jurisdiction over Asahi. n37 However, it is interesting to note that only four Justices voted for the proposition that:

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The placement of a product into the stream of commerce, without more, is not an act of the defendant purposefully directed toward the forum State. Additional conduct of the defendant may indicate an intent or purpose to serve the market in the forum State, for example, designing the product for the market in the forum State, advertising in the forum State, establishing channels for providing regular advice to customers in the forum State, or marketing the product through a distributor who has agreed to serve as the sales agent in the forum State. But a defendant's awareness that the stream of commerce may or will sweep the product into the forum State does not convert the mere act of placing the product into the stream into an act purposefully directed toward the forum State. n38

Thus, the Court was undecided on whether a nonresident seller's mere awareness that the "stream of commerce" may take its goods into a state was sufficient to confer personal jurisdiction over that seller in that state.

Consequently, the Supreme Court's historical decisions have left the lower courts with an ambiguous two-part test to determine whether assertion of jurisdiction is constitutional: (1) the amount of the defendant's contacts with the forum state and the relatedness between the causes of action and these contacts must be sufficient to satisfy traditional notions of fairness; and (2) the defendant must purposefully avail itself of the privilege of conducting business in the forum state. n39

B. Long Arm Statutes

After the Supreme Court's decision in *International Shoe v. Washington* n40 defining the Constitutional limitations on a state court's exercise of personal jurisdiction over a nonresident defendant, state legislatures reacted by enacting long-arm statutes to extend the jurisdictional reach of their courts beyond their own territories. Long-arm statutes authorize personal jurisdiction over certain nonconsenting nonresidents. For example, many long-arm statutes allow jurisdiction to be obtained over one who commits a tort within the state or causes tortious injury within the state. n41 A state court must have both Constitutional and legislative authority before exercising jurisdiction over a nonconsenting nonresident. n42

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III. Modern Personal Jurisdiction Analysis Applied to the Internet

The courts have only begun to address the issue of personal jurisdiction arising from a defendant's use of the Internet. The Internet provides a new medium by which anyone with moderate personal computing means can disseminate information to, or receive information from, sources worldwide. Users anywhere in the nation have the ability to interact in ways never before possible. However, the ability to interact with people anywhere in the nation gives rise to increased potential for disputes between people in different jurisdictions. Thus, the courts must examine the interactions between parties over the Internet to determine when exercising personal jurisdiction over a party is proper.

Because the Supreme Court has set forth a fairly broad and flexible standard for determining whether a court's exercise of personal jurisdiction is constitutional, the lower courts have had to interpret the standard on a case-by-case basis. Thus, the most practical approach is to analyze case fact patterns to determine specific situations that give rise to personal jurisdiction over a nonresident defendant. This section organizes the cases into two categories based on the defendant's contacts with the forum state: (1) when a nonresident defendant inflicts tortious harm within the forum state and (2) when a nonresident defendant transacts business within the forum state.

A. Torts

As new modes of transportation and communication were invented, it became easier for people to commit tortious injury across state borders. Thus, courts adopted the rule that when a party commits a tortious act, a court of the state in which the tortious act occurred, or where the resulting harm was felt, generally has constitutional authority to exercise personal jurisdiction over that party. n43 Although the Internet makes it easier than ever for people to cause harm across state borders, it adds nothing new to the personal jurisdiction analysis because people have long been able to commit torts across state borders through other communications media. This article addresses the torts of (1) defamation and (2) trademark infringement because they form the basis for most of the recent cases involving the Internet.

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1. Defamation

In defamation cases, the courts allow a defendant to be sued in a state where the harm to the plaintiff's reputation occurred. n44 Traditional cases in which a person conveyed defamatory statements across state borders involved newspapers, magazines, mail, telephone calls, facsimile machine transmissions, or television or radio broadcasts. However, recent defamation cases involving the Internet have arisen from its expanded use. For the purposes of transmitting defamatory statements across state borders, the Internet is the same as other media. Internet users can direct messages to specific parties through electronic mail, an electronic analog of traditional mail. n45 Further, the Internet allows for real time dialogue between parties large distances apart similar to using the telephone system. Finally, posting messages on the Internet is similar to printing messages in periodicals and transmitting messages via television broadcasts because each can spread information over large geographic areas to people who choose to receive it. Because the Internet is similar to other communications mediums for the purposes of conveying defamatory statements across state borders, the courts treat the Internet the same as these other mediums in the personal jurisdiction analysis.

In *Calder v. Jones*, n46 the Supreme Court allowed the plaintiff entertainer to sue the Florida-based *National Enquirer* magazine, its reporter, and editor in California for defamatory statements they printed about the plaintiff. Although the *National Enquirer* was a Florida corporation, it distributed twelve percent of its nationwide circulation within California. However, the *National Enquirer* sales were not used to evaluate the editor's and reporter's contacts with California. The Court stated that "[the defendants'] contacts with California [were] not to be judged according to their employer's activities [in California] . . . Each defendant's contacts with the forum State must be assessed individually." n47 Thus, while the court used the magazine sales in California to justify personal jurisdiction over the *National Enquirer*, it did not use them to justify personal jurisdiction over the defendant reporter and editor. The Court granted personal jurisdiction over the defendant reporter and editor

[*311] in California because the "effects" of the defendants' tortious acts occurred in California where the plaintiff's professional reputation as an entertainer was harmed.
n48

Courts have generally applied the Supreme Court's rule in *Calder* to defamation cases involving other communications media, such as mail, telephone and television. For instance, in a case involving the mail, *Fallang v. Hickey*, the court exercised personal jurisdiction over a nonresident defendant whose only contacts with the forum state were through the defamatory letters about the plaintiff which he mailed to people within the forum state. n49 In *Brown v. Flowers Industries*, a case involving the telephone, the court exercised personal jurisdiction over a nonresident defendant whose sole contact was a telephone call to a party within the forum state in which he made defamatory statements about the plaintiff. n50 Finally, in *Casano v. WDSU-TV, Inc.*, the court exercised personal jurisdiction over a nonresident television station whose defamatory telecast was received by citizens within the forum state. n51 Thus, in defamation cases, the courts have consistently applied the rule that a defendant may be sued in a state where the harm to the plaintiff's reputation occurred regardless of the communications medium employed.

The courts have applied the same personal jurisdiction analysis to defamation cases involving the Internet. In *California Software, Inc. v. Reliability Research, Inc.*, the court granted personal jurisdiction in California over a nonresident defendant software seller who conveyed defamatory statements about the plaintiff by mail and telephone to several of plaintiff's prospective customers in California and by the Internet to reach people nationwide. n52 The plaintiff California corporation and the defendant Nevada corporation disagreed over the ownership of a software package. During the dispute, the defendant communicated with several of plaintiff's prospective customers by mail and telephone and then posted a message on the Internet. The content of all the communications basically informed listeners and readers of the title dispute that the defendant would sue any of plaintiff's sublicensees for damages if it won. The court granted jurisdiction over the defendant in California because the resident plaintiff "felt the brunt of the harm from the defendants' out-of-state acts in California." n53 In determining whether

[*312] personal jurisdiction in California was appropriate, the California Software court relied on the Supreme Court's reasoning in *Calder v. Jones*,ⁿ⁵⁴ focusing on where the harm from the defamatory statements occurred.ⁿ⁵⁵ The court reasoned that the defendant's manipulation of the plaintiff's prospective customers caused economic injury when those prospective customers refrained from purchasing plaintiff's software package.ⁿ⁵⁶ The court stated that this economic injury occurred at the plaintiff's primary place of business California.ⁿ⁵⁷ Thus, it would not seem to matter where the prospective customers were located. Although the facts of California Software include communications by telephone, mail, and the Internet, the telephone and mail communications only lessened the plaintiff's burden in showing causation of injury. Telephone calls and mail are specifically directed to reach plaintiff's prospective customers, whereas postings on the Internet are more generally directed to all users worldwide and may or may not be read by the plaintiff's prospective customers. Unlike Internet electronic mail which can be directed to a specific party, Internet postings are messages stored at a web site and available to any user who accesses the site. Internet postings alone should be sufficient to confer jurisdiction when the plaintiff can show that its prospective customers did read the defamatory statements under the court's reasoning in California Software. This burden should not be difficult since most Internet users are likely to be prospective software consumers.

Posting messages on the Internet and sending Internet electronic mail are similar to other methods of communication in the sense that all are capable of conveying defamatory statements across state borders. The important difference among the modes of communication lies in the size of the audience each is capable of reaching. Users must be more wary of defamation on the Internet because these messages are capable of reaching a much larger audience than other communications media. Although periodicals, television broadcasts, and radio broadcasts are capable of reaching fairly large audiences, they pose less of a liability risk because they are too costly for the average person to use and have editors to screen for defamatory language. The Internet provides no such screening, allowing any person with moderate computer means to disseminate unedited statements worldwide. Thus, the Internet adds no

[*313] new elements to the defamation personal jurisdiction analysis except to provide users with increased risk of liability.

2. Trademark and Domain Name Infringement

The majority of recent cases involving the Internet have focused on domain name infringement. The law remains somewhat undecided because domain name registration policy is established by a private corporation, Network Solutions, rather than a legislative body. n58 This section first attempts to apply the courts' trademark infringement personal jurisdiction analysis to recent domain name cases. Unfortunately, the results of the cases are inconsistent under this approach leaving practitioners without a clear rule. This section then applies a tort jurisdictional analysis in which the misappropriation of a domain name is analogized to the misappropriation of property. Under this analysis, the results of the cases are consistent. Thus, Internet domain name cases add nothing new and can be adequately resolved under existing personal jurisdiction analysis.

In trademark infringement cases, the courts focus on the state where the tortious harm from the trademark infringement occurred when determining where the plaintiff may bring suit against the infringer. n59 However, the courts have formulated two alternative approaches for determining this state as described by the court in *Dakota Industries, Inc. v. Dakota Sportswear, Inc.* n60 The majority approach is that injury occurs "at the place of the 'passing off,' which is 'where the deceived customer buys the defendant's product in the belief that he is buying the plaintiff's.'" n61 Thus, personal jurisdiction over the defendant lies in the state in which an infringing sale was made. n62 However, a minority of courts have used a second approach, which identifies "the site of injury as being the place where the plaintiff suffers the economic impact." n63 These courts

[*314] have reasoned that the economic injury from the lost sales occurs at the plaintiff's primary place of business. n64 The Dakota court did not have to decide between the two tests because both were satisfied by the facts of the case.

The majority approach is that the site of the injury is where the defendant made infringing sales because the economic injury to the trademark owner occurred where sales were lost and the customers were confused. In *Tefal, S.A. v. Products International Co.*, the court, following the majority view, held that "a cause of action for trademark infringement arises where the passing off occurs." n65 The plaintiffs, a French corporation and a New Jersey corporation, brought suit in New Jersey against the defendants, two California corporations, for infringement of their "T-FAL" trademark in connection with kitchen utensils. The court upheld personal jurisdiction over the defendants because they had sold or offered to sell the infringing goods within the forum state. n66 In *Vanity Fair Mills, Inc. v. T. Eaton Co.*, the court also followed the majority approach. n67 The defendant, a Pennsylvania corporation, manufactured and sold feminine undergarments under the trademark "Vanity Fair". The plaintiff brought suit in Pennsylvania against the defendant, a Canadian corporation, for trademark infringement when the defendant also began to use the "Vanity Fair" mark in conjunction with its sales of feminine undergarments in Canada. The court dismissed the trademark infringement action for lack of personal jurisdiction because the defendant had never sold its undergarments bearing the infringing trademark "Vanity Fair" within the forum state. n68

The minority approach allows a court to exercise personal jurisdiction over a defendant at the plaintiff's primary place of business where the plaintiff actually suffered the economic harm from loss of sales. For example, in *Acrison, Inc. v. Control and Metering Limited*, the court applied this rule in a patent infringement case where a nonresident patentee sued the defendant German corporation in Illinois. n69 The court stated: "Damage to intellectual property rights (infringement of a patent, trademark or copyright) by definition takes place where the

[*315] owner suffers the damage." n70 The court granted the defendant's motion to dismiss for lack of personal jurisdiction. n71

In most of the recent domain name cases, the plaintiff brought a trademark infringement action at its primary place of business against a nonresident defendant who registered the plaintiff's trademark as a domain name. In each of the cases, the nonresident defendant had no contacts with the forum state other than through the web site, which could be accessed by Internet users within that forum state. For instance, in *Inset Systems, Inc. v. Instruction Set, Inc.*, the court upheld personal jurisdiction over the nonresident defendant who used the web site to advertise its computer products and technical support service worldwide. n72 The plaintiff and defendant both competed in the same market for consumers of computer products and services. Further, in *Maritz, Inc. v. Cybergold, Inc.*, the court upheld personal jurisdiction when the nonresident defendant used the domain name to establish a web site to advertise its forthcoming Internet service in which users would be able to sign up to receive selected categories of advertisements. n73 The plaintiff and defendant were marketing similar Internet mailing services, but neither had established a working Internet service at the time of the suit. Finally, in *Panavision International v. Toeppen*, the court upheld personal jurisdiction over a defendant who had merely registered the plaintiff's trademark as a domain name to sell back to the plaintiff. n74 The defendant had not used the web site to advertise any goods or services.

However, in *Bensusan Restaurant Corp. v. King*, the court affirmed the denial of personal jurisdiction over a defendant in a trademark action brought by the plaintiff at its primary place of business. n75 The plaintiff owned a jazz club in New York City under its federally registered trademark, "The Blue Note". The defendant opened a jazz club in Missouri also called "The Blue Note" and established a web site to promote its club. The defendant did not use the plaintiff's trademark as a domain name, but its web site displayed its name, location, and calendar of events. Because the defendant used "The Blue Note" on his web site, the plaintiff brought suit against the defendant in New York for trade-

[*316] mark infringement. The court refused to grant personal jurisdiction over the defendant. n76

The courts in *Inset Systems*, *Maritz*, and *Panavision International* granted personal jurisdiction over the defendants at the plaintiffs' primary places of business. However, the court in *Bensusan* refused to grant personal jurisdiction over the defendant at the plaintiff's primary place of business. If the wrongful use of a domain name is treated as a trademark infringement, then these cases can be reconciled under the theory that the *Inset Systems*, *Maritz*, and *Panavision International* courts followed the minority approach, while the *Bensusan* court followed the majority approach under the courts' bifurcated personal jurisdiction test for trademark infringement.

Unfortunately, reconciling the cases in this way leaves the average practitioner unclear about which approach a given court will follow. n77 A more reliable way to view these cases may be to separate them into domain name and trademark cases, which are slightly different in nature. Unlike trademark infringement cases where the plaintiff usually sues to enjoin the defendant from using the plaintiff's trademark, the plaintiff in domain name cases usually seeks both to enjoin the defendant from using a domain name and to acquire that domain name for the plaintiff's own use. A domain name can only be registered and used by one Internet user at a time unlike a trademark, which can be used by multiple entities simultaneously in advertising. Thus, the defendant's wrongful registration of the plaintiff's domain name may be viewed as a misappropriation of property, which harms the plaintiff at its headquarters where the impact of the interference is felt. For example, in *Panavision International*, the defendant had only registered the plaintiff's trademark as a domain name, but it had not used the web site to advertise any goods or services. Because the defendant was not creating any customer confusion, the injury that the court found was the interference with the plaintiff's business operations. n78 The misappropriation of a domain name seems similar in nature to the misappropriation of a corporation's trade secret because both constitute intentional interferences with the owner's business. In *Delta Education, Inc. v. Langlois*, the defendant borrowed and copied the plaintiff's trade secret business plan

[*317] from an employee of the plaintiff. n79 The court granted personal jurisdiction over the nonresident defendant at the plaintiff's headquarters because that was where the plaintiff felt the defendant's interference with its business operations. n80

In contrast, the injury to a plaintiff in a trademark infringement case is the plaintiff's loss of sales caused by customer confusion. This economic injury is said to occur either at the plaintiff's primary place of business or at the site of the defendant's infringing trademark use where the plaintiff loses sales from customer confusion.

Inset Systems, Maritz, and Panavision International would all be characterized as domain name tort cases where the courts granted jurisdiction at the plaintiff's primary place of business. However, Bensusan would be characterized as a traditional trademark infringement suit because the plaintiff merely sought to enjoin the defendant from using the plaintiff's trademark on the defendant's web site. The defendant's domain name was unrelated to the plaintiff's registered trademark in this case. Thus, the court's refusal to grant personal jurisdiction over the defendant at the plaintiff's primary place of business would be consistent with the majority approach to the trademark infringement personal jurisdiction analysis. Hence, the domain name cases add nothing new to the personal jurisdiction analysis.

B. Transacting Business

The Internet is an attractive medium for transacting business because it provides a convenient forum for parties to meet, negotiate and form contracts. Further, the Internet provides an inexpensive means for sellers to advertise and sell their products to consumers worldwide. Although the Internet makes the process of conducting business across state borders more efficient, it does not change the substance of the process. Accordingly, the personal jurisdiction analyses used by the courts in the past are equally applicable to Internet issues concerning personal jurisdiction.

The courts grant personal jurisdiction over a party who "transacts business" within the forum state. However, the "transacts business" test is broad and must be examined by the type of business activity the defendant exercises within the forum state. This section will analyze several types of business contacts within a state: (i) those involving contracts with forum selection clauses, (ii) those involving contracts without forum

[*318] selection clauses, (iii) those involving advertisements, and (iv) those involving the sale of goods and services.

1. Contracts With Forum Selection Clauses

The practice of using forum selection clauses in contracts has become the generally accepted means of handling choice of law for contractual disputes because certainty in contractual obligations is of paramount importance to the parties. A forum selection clause is an agreement by the contracting parties to litigate potential future disputes arising from the contract in a preselected state. A forum selection clause is generally joined with a choice of law clause, which is an agreement by the contracting parties as to which state's substantive law governs the contract. The same state is usually represented in both clauses because a state, whose substantive law governs the contract, should also be an appropriate forum for litigation.

The forum selection clause approach is one of the most efficient methods of deciding choice of law issues in contractual disputes because it allows the parties to negotiate an economically efficient forum when given the freedom to contract. The argument for using forum selection clauses is even stronger for contracts formed over the Internet because the courts have only begun to establish jurisdictional rules in cyberspace. The use of forum selection clauses would bring more certainty and stability to Internet contractual obligations than may result if the courts were left to choose the law and the forum in Internet disputes.

Courts generally uphold forum selection clauses under the notion of economic efficiency combined with the notion that both parties consented to liability in the chosen forum. Section 187(2) of the Restatement (Second) of Conflicts of Law states:

The law of the state chosen by the parties to govern their contractual rights and duties will be applied . . . unless either: (a) the chosen state has no substantial relationship to the parties or the transaction and there is no other reasonable basis for the parties' choice, or (b) application of the law of the chosen state would be contrary to a fundamental policy of a state which has a materially greater interest than the chosen state in the determination of the particular issue and which . . . would be the state of the applicable law in the absence of an effective choice of law by the parties. n81

Generally, the language of the Restatement indicates that forum selection clauses should be enforced when the choice of forum is "reasonable." n82

[*319] The Supreme Court set a broad standard for "reasonable" in *Carnival Cruise Lines, Inc. v. Shute*.ⁿ⁸³ The plaintiff, Eulala Shute ("Shute"), "purchased passage" through a Washington travel agent for a 7-day cruise on the defendant's ship.ⁿ⁸⁴ The defendant, Carnival Cruise Lines, Inc., ("Carnival"), prepared the tickets at its Florida headquarters and sent them by mail to Shute in Washington.ⁿ⁸⁵ The ticket had a clause printed on its face which stated that acceptance of the ticket constituted agreement to certain provisions including a Florida forum selection clause.ⁿ⁸⁶ Shute boarded the ship in California. She was later injured when she slipped and fell on the deck over international waters.ⁿ⁸⁷ Even though Carnival was transacting business in Washington, the forum selection clause was preprinted on the back of the travel tickets, and Florida was a completely inconvenient forum for the Washington resident plaintiff, the Supreme Court upheld the forum selection clause.ⁿ⁸⁸

Internet service providers have taken the first step towards this contractual approach. America Online's Terms of Service Agreement contains both forum selection and choice of law clauses to handle disputes between America Online and its clients.

The laws of the Commonwealth of Virginia, excluding its conflicts-of-law rules, govern the [Terms of Service] and your membership. As noted above, Member conduct may be subject to other local, state, and national laws. Member expressly agrees that exclusive jurisdiction for any claim or dispute resides in the courts of the Commonwealth of Virginia. Member further agrees and expressly consents to the exercise of personal jurisdiction in the Commonwealth of Virginia in connection with any dispute or claim involving [America Online, Inc.].ⁿ⁸⁹

However, the agreement does not answer jurisdictional questions arising from contract disputes between two America Online clients or between an America Online client and a user of another Internet service provider. Extending the America Online forum provisions to a contract between two America Online clients might lead to undesirable results if the forum chosen by America Online is not cost efficient for either client. Further,

[*320] the forum provisions cannot bind users of other Internet service providers who happen to contract with America Online clients because they never agreed to the terms of the America Online agreement. Thus, the most efficient solution is for all Internet users to negotiate forum selection and choice of law clauses whenever they contract with parties over the Internet.

The Supreme Court's decision in *Carnival Cruise Lines*⁹⁰ suggests that the courts will uphold a forum selection clause between a large Internet service provider and its customer, even if the contract is just a visual notice on the log-on screen. The notice would only have to indicate that the user accepts the contract upon logging-on to the system. This would be comparable to the Carnival Cruise Line tickets, where the court provided that the purchasers accepted the preprinted forum selection clause upon acceptance of the tickets.⁹¹ Thus, Internet users should be careful to read all visual notices posted before logging-on to any system because they, like the Shutes, may be consenting to personal jurisdiction in an inconvenient forum.

2. Contracts Without Forum Selection Clauses

When parties cannot agree upon, or lack the foresight to negotiate, forum selection and choice of law clauses, the courts must decide which state's substance law governs the contractual disputes and which states provide appropriate forums for litigation. Section 188 of the Restatement (Second) of Conflicts of Law states:

(1) The rights and duties of the parties with respect to an issue in contract are determined by the local law of the state which, with respect to that issue, has the most significant relation to the transaction and the parties

(2) . . . [T]he contacts to be taken into account . . . to determine the law applicable to an issue include: (a) the place of contracting, (b) the place of negotiation, (c) the place of performance, (d) the location of the subject matter of the contract, and (e) the domicile, residence, nationality, place of incorporation and place of business of the parties.⁹²

Thus, the Restatement approach suggests that if a dispute arises over the formation of the contract, then the law of the state in which the contract was formed would apply. Likewise, if a dispute arises over performance

[*321] of the contract, then the applicable law would be that of the state where the performance occurred.

The state whose law governs the contractual dispute should also be an appropriate forum for the litigation for two reasons. First, the contacts on which the court based its choice of law decision should also satisfy the minimum contacts test for personal jurisdiction. Second, the state whose law governs the dispute would provide the most effective forum for applying that law. A court with experience in applying a body of law to cases on a daily basis has more insight into the problems that may arise and has more effective solutions than does a court which must apply a different body of law.

In the absence of a forum selection clause, many courts look to the Restatement as a guideline. For example, in *McGee v. International Life Insurance, Co.*,⁹³ the Supreme Court held that a Texas insurance company's contractual agreement with a California policy holder was sufficient to give the California courts personal jurisdiction over the insurance company for disputes arising from the policy.⁹⁴ Franklin, a California resident, purchased a life insurance policy by mail from the defendant insurance company. Franklin faithfully mailed his premiums from California to the defendant's Texas office. After Franklin's death, the defendant refused to pay Franklin's beneficiary, McGee. The defendant had never solicited or sold policies in California other than the policy at issue.⁹⁵

Applying the Restatement's approach, the Supreme Court found that Franklin's contract was both formed and performed in California.⁹⁶ The defendant mailed an insurance offer to Franklin in California where he signed the contract, hence accepting the offer. Further, Franklin performed his end of the contract from California by mailing his periodic premiums.⁹⁷ McGee brought an action based on the defendant's lack of performance in not sending her the insurance proceeds upon Franklin's death. Consistent with the Restatement approach, the Supreme Court held that California law governed the contract and that the California court had jurisdiction over the defendant.⁹⁸

The Restatement also provides a strong personal jurisdiction guideline for contracts formed over the Internet because the formation

[*322] process is similar to that using conventional modes of communication. Actually, the Internet provides few advantages for contracting parties because people can already negotiate with multiple parties over telephones and send contracts to each other via facsimile machines. The main advantages are face-to-face negotiations using video cameras and monitors, and real time contract modifications that can be viewed by all parties simultaneously. However, these are merely advantages of convenience. The Internet has several important contracting disadvantages stemming from its lack of privacy. Because of the public nature of the Internet, other users not privy to the contract may nonetheless monitor the negotiations. Also, parties cannot use simple signatures over the Internet because digitized signatures are easy to replicate. n99 Thus, parties must resort to encryption codes to keep their communications private and to verify each other's signatures over the Internet. n100

The only new personal jurisdiction issue is based on the fact that the advanced capabilities of the Internet allow some service contracts to be performed in cyberspace. Where people were once limited to issuing insurance policies by mail, they can now provide complex financial services or render visual instructions or advice in real time over the Internet. However, under the reasoning of the Supreme Court in *McGee*, n101 performance of the contract should be said to take place in the state where the user connects with the Internet to initiate performance just as Franklin's performance was said to take place in California from where he mailed his insurance premiums. Suppose that X, a resident of state A, and Y, a resident of state B, enter into a contract over the Internet. X agrees to transfer payment to Y's account through the Internet and Y agrees to maintain X's computerized financial accounts based on receipts sent to Y by electronic mail for a one year period. If X transfers payment to Y through the Internet, but Y fails to perform the computerized accounting services, then the hypothetical becomes

[*323] factually similar to McGee because in both situations the contract was formed and payment occurred through a communications medium. Thus, according to the rationale of McGee, a court should grant personal jurisdiction over Y in state A. However, if Y performs the services and X fails to transfer payment, then a court may extend the reasoning of McGee to find that Y's performance of accounting services occurred in state B. Thus, a court should grant personal jurisdiction over X in state B.

The Internet really adds nothing to the personal jurisdiction analysis for breach of contract cases. Although it provides a little more convenience for negotiation, formation of contracts over the Internet is basically no different than formation of contracts over more conventional modes of communication. Although Internet users have an increased ability to actually perform some service contracts in cyberspace, n102 the performance may simply be said to take place where the user connects to the Internet for determining personal jurisdiction under the Restatement analysis.

3. Advertisements

The courts apply an ambiguous standard by which a defendant may be subject to personal jurisdiction within a state if that defendant "solicited business" within that state through sufficient advertising. n103 However, the courts have never clearly defined the "solicited business" standard. The majority of courts have held that advertising alone is insufficient to confer jurisdiction in the absence of additional contacts, such as a tortious injury or contract. n104 This section shows that most of the advertising cases in which personal jurisdiction is granted can be resolved under a tortious injury or contract personal jurisdiction analysis, and then goes on to argue that advertising over the Internet adds nothing new to this analysis.

Cases involving contractual disputes between parties from different states rarely rely on advertisements as contacts for personal jurisdiction because the contract is generally the focus of the analysis.

[*324] For example, in *Siskind v. Villa Foundation For Education, Inc.*,ⁿ¹⁰⁵ the defendant advertised its Arizona based school facilities in national publications. The plaintiff, a Texas resident, sent in an admission application for her son. Upon acceptance, the defendant sent an enrollment contract to the plaintiff. The plaintiff signed and mailed the contract along with tuition to the defendant. After a dispute arose, the plaintiff sued the defendant in Texas for breach of contract and misrepresentation.ⁿ¹⁰⁶ The Texas Supreme Court granted personal jurisdiction over the defendant based on the contract and advertisements.ⁿ¹⁰⁷ However, the facts of *Siskind* are very similar to the facts of *McGee v. International Life Insurance Co.*,ⁿ¹⁰⁸ as discussed previously. In *McGee*, the United States Supreme Court granted personal jurisdiction over the defendant based upon the insurance contract, which was signed and mailed along with premium payments from the plaintiff's home state. The only difference between the two cases is the absence of advertisements in *McGee*. Thus, the presence of advertisements in *Siskind* seems inconsequential.

Additionally, in cases where the tortious injury occurred outside of the forum state, advertising alone in the forum state is generally insufficient to confer jurisdiction over a defendant. Thus, a plaintiff who ventures from home state X to the defendant's facility in a foreign state Y and is injured at that facility will be unable to bring suit against the defendant in home state X relying on the defendant's advertisements in that state. For example, in *Pizarro v. Hoteles Concorde International*,ⁿ¹⁰⁹ the Court of Appeals for the First Circuit held that the plaintiff, who was injured at the defendant's hotel in Aruba, could not sue the defendant in Puerto Rico even though the defendant had advertised in Puerto Rico newspapers.ⁿ¹¹⁰ In *Circus Circus Reno, Inc. v. Pope*,ⁿ¹¹¹ the Oregon Supreme Court held that the plaintiff, who was injured at the defendant's hotel in Nevada, could not sue the defendant in Oregon even though the defendant regularly advertised in the local newspaper, distributed brochures to local travel agents, and maintained a listing in the local phone book.ⁿ¹¹²

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When the defendant's advertisement causes injury inside of the forum state, the courts generally uphold jurisdiction over the nonresident defendant. For example, an advertisement may cause nonphysical tortious injury within the forum state through fraud or misrepresentation. To illustrate, in *Classic Auto Sales, Inc. v. Schocket*,¹¹³ the Colorado Supreme Court allowed a Colorado resident to bring suit in Colorado against a Nebraska car dealer for claims arising from the dealer's car advertisements in two nationally distributed magazines.¹¹⁴ The plaintiff went to Nebraska, bought a Porsche 911S Targa from the defendant, and drove it back to Colorado where he later discovered that the automobile contained nonstandard parts. The plaintiff sued the defendant in Colorado for fraud, concealment, negligent misrepresentation, and deceptive trade practices. Like the court in *Classic Auto*, the court in *Miller v. Baxter Chrysler Plymouth, Inc.*¹¹⁵ also allowed the State of Iowa to bring suit in Iowa against five automobile dealerships in Nebraska for their deceptive advertisements in a newspaper distributed in Iowa.¹¹⁶

The advertising cases involving tortious injury best show that advertising alone is insufficient to confer jurisdiction unless the advertising directly caused the tortious injury in the forum state. In the *Pizarro* and *Circus Circus* cases, the courts refused to grant personal jurisdiction over the defendant based solely on the defendant's advertisements in the forum state when the plaintiff's physical tortious injury occurred outside of the forum state.¹¹⁷ However, the courts in *Classic Auto Sales* and *Miller* granted personal jurisdiction over the defendant when the defendant's advertisements caused non-physical tortious injury within the forum state where customers were deceived.¹¹⁸ Thus, the defendant's advertisements in the forum state add nothing to the minimum contacts analysis unless they are part of the defendant's tortious conduct.

However, a few courts have held the minority view that advertising alone may be sufficient to confer jurisdiction if the advertising is sufficiently substantial and targeted to the citizens of the forum state.¹¹⁹ These courts have held that regular advertising in forum state newspapers

[*326] or on forum state television broadcasts meet this standard. n120 Advertisements placed in border state newspapers or broadcasted by border state television stations where the advertisements happen to reach some residents of the forum state have been held to be insufficiently targeted towards the residents of the forum state to confer jurisdiction. n121 Further, advertisements placed in nationally circulated periodicals reaching the forum state have also been held to be insufficient to confer jurisdiction in the forum state. n122 This minority view of advertising is interesting because it provides another way to explain the result of *Bensusan Restaurant Corp. v. King* n123 previously discussed in the trademarks and domain names section of this article. n124

The Internet provides an attractive medium for sellers to advertise their goods and services. The Internet reaches a worldwide audience; it provides inexpensive advertising; the advertisements run continuously; and the seller can change the advertisements quickly. Businesses no longer must compete for slots between television shows and professional sporting events because its advertisements are perpetually available to any Internet user. However, the Internet is similar to other communications mediums for advertising and, therefore, should be subject to the same personal jurisdiction analysis. Although the Internet provides many advantages for advertisers, these advantages are merely a

[*327] combination of those already offered by other modes of communication. For example, some periodicals also reach large audiences. Advertisements in periodicals, like those on the Internet, are continuously available to readers. Newspapers also allow advertisers to update information to readers daily and television broadcasts give the advertiser the technical flexibility to be creative, as does the Internet. Further, Internet advertisements serve the same purpose as any other advertisements, but are generally less intrusive to the public. For example, people are constantly bombarded by billboard advertisements on the side of the road as they are driving to work. People who read the newspaper or magazines constantly see advertisements. Although they can easily flip past them, people who watch television for the news or recreation cannot. Advertisements interrupt television programs every ten to fifteen minutes. In contrast, Internet advertisers merely store their advertisements on their web sites, giving users a choice of whether or not to access them. Of course, if advertising over the Internet did give rise to personal jurisdiction anywhere the advertisement could be accessed, then the cost advantages of the Internet advertisements would disappear. Small local businesses would no longer be able to advertise over the Internet for fear of liability in distant forums.

4. Products Liability

Although products liability is a tort, the courts do not apply the standard tort analysis, thereby making it one of the least clear areas for personal jurisdiction analysis. Historically, in *World-Wide Volkswagen Corp. v. Woodson* concerning products liability, the Supreme Court declined to grant personal jurisdiction in the state in which the injury occurred and where the defendant manufacturer had no other contacts. ⁿ¹²⁵ The Court later delivered a split opinion in *Asahi Metal Industry Co., Ltd. v. Superior Court of California*, ⁿ¹²⁶ on whether the "stream of commerce" test governs personal jurisdiction in product liability cases. The combined decisions of *World-Wide Volkswagen* and *Asahi* have left the lower courts with little guidance.

On one hand, the lower courts have granted personal jurisdiction over a nonresident manufacturer in a products liability action based on that manufacturer's sale of the defective product within the forum state, regardless of whether the injury has occurred inside ⁿ¹²⁷ or outside ⁿ¹²⁸ of the

[*328] forum state. Further, when a nonresident manufacturer undertakes to ship goods to a forum state buyer, based on mail, telephone, or out-of-state negotiations, the lower courts have generally upheld jurisdiction in that forum state. n129 These cases are consistent with the contract jurisdictional analysis which uses the existence of a sales contract between the plaintiff buyer and defendant seller in the forum state as a basis for personal jurisdiction.

On the other hand, the lower courts have departed from the contract jurisdictional analysis by granting jurisdiction over a nonresident manufacturer in a state where that manufacturer sells its products, but did not sell the defective product at issue to the plaintiff. Because the Supreme Court has never addressed this subject, the lower courts have ruled somewhat inconsistently. In these types of cases, the majority of the courts have upheld jurisdiction under a reciprocity notion in which a seller should be subject to the laws of a state if that seller has benefited by being allowed to transact within that state. n130 Even when the defendant is an importer of a product and sells it in the nationwide market, the majority of lower courts have upheld jurisdiction for products liability arising in states other than the one where the importer delivered the defective product. n131 In these cases, the fact that the nonresident manufacturer sells its products within a state makes it subject to the power of that state's courts for product liability actions.

Finally, the lower courts remain divided on whether to grant personal jurisdiction over a nonresident manufacturer who does not actively market its products within the forum state, but where the product was taken by the stream of commerce and caused an injury within the forum state. The Supreme Court has provided insufficient guidance because of its split opinion on the validity of the "stream of commerce"

[*329] test in *Asahi*.¹³² The majority of lower courts have refused to apply the stream of commerce test. For example, in *Boit v. Gar-Tec Products, Inc.*,¹³³ the Court of Appeals for the First Circuit held that a nonresident manufacturer's sale of a product to a mail order company that sold the product in the forum state did not establish personal jurisdiction over the manufacturer because the mere awareness that the product might end up in the state through mail order did not satisfy due process.¹³⁴ Additionally, in *Lesnick v. Hollingsworth & Vose Co.*,¹³⁵ the Court of Appeals for the Fourth Circuit held that the nonresident manufacturer's sale of cigarette filters to a cigarette company that distributed nationally was insufficient to justify personal jurisdiction in the forum state without additional contacts.¹³⁶

The Internet adds little to the courts' analysis of personal jurisdiction in products liability cases. Although the Internet is an attractive medium by which to sell goods and services because it provides a virtual marketplace available to anyone with modest computer equipment, in essence, the buyers and sellers still engage in ordinary market transactions there is still a sales contract upon which the courts can base personal jurisdiction in the buyer's state. Further, the majority of product liability cases involving the Internet will also still include a traditional means of delivery into the forum state because the Internet is only capable of delivering intangible goods, which can be sent to the buyer via electronic mail or downloaded by the buyer from the seller's computer.¹³⁷ For sales of tangible goods, using the Internet is more like using the telephone or mail to place an order from a catalogue because the products must still be physically shipped to the customer. Thus, the current rules governing the sale of goods and services seem adequate to resolve personal jurisdiction issues arising from market transactions over the Internet.

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The issue that should be of concern to Internet merchants who are able to sell and deliver their intangible goods to customers through the Internet is the development of the "stream of commerce" test. Although the state of the "stream of commerce" test is important to all merchants because it may enable a court to acquire jurisdiction over them in any forum they expect their products to reach, it is even more important to Internet merchants because they are aware by the nature of the Internet that it provides a special "stream" capable of carrying intangible products to consumers worldwide. For example, shareware providers load the software that they create on to publicly accessible servers. Other users then download the software, test it out, and send payments to the providers if they like the software. Suppose that an end user downloads a piece of shareware to test it, but that a defect in the programming causes the shareware to erase the end user's hard drive. Technically, no contract existed between the shareware provider and the end user. However, a court applying the "stream of commerce" test still may find personal jurisdiction over the shareware provider in the end user's home state because the shareware provider was on notice that its software could be downloaded by consumers worldwide. n138 Currently, the status of the "stream of commerce" test has not been satisfactorily resolved. Thus, future decisions on the "stream of commerce" test after the Supreme Court's split opinion in *Asahi* n139 will be of special interest to Internet merchants, such as the hypothetical shareware provider.

IV. Future Cybertorts

The technological complexity and flexibility of the Internet opens up new avenues for people to inflict tortious injury upon others. This section addresses these new sources of liability created by the Internet and proposes methods for determining personal jurisdiction by analogizing the new claims to established legal actions. Thus, although the Internet may create new sources of liability, personal jurisdiction issues for these new claims can be resolved under the current body of law.

Computer viruses pose an increasing threat of destruction and corresponding tort liability as more computers link to the Internet allowing viruses to spread globally. A virus is a program with the capacity to corrupt or destroy information as well as disable computer systems. Viruses spread to different computers either through a network or by disk

[*331] sharing. As increasing amounts of information are stored on computers and as business entities rely more substantially upon their computer systems to function, the potential for loss grows rapidly. For example, a Cornell University graduate student unleashed a computer virus that invaded thousands of computers across the United States. n140 The virus was eventually contained, but not before it paralyzed a number of major business, academic, and government computer systems including those at the National Aeronautics and Space Administration (NASA). Although the student was probably "judgment- proof" with respect to the millions of dollars of damage, the student's actions exposed him to considerable tort liability.

The release of a computer virus over the Internet is fairly analogous to the release of environmental pollutants. Just as air or water currents can carry pollutants from one parcel of property to another, a network can carry a virus from one computer to another. Unfortunately, the law governing personal jurisdiction in such environmental pollution cases remains unclear. The U.S. Supreme Court's decision in *Ohio v. Wyandotte Chemical Corp.* n141 sets the framework. The principle issue in the case was whether the U.S. Supreme Court could exercise original jurisdiction over a nuisance action brought by the State of Ohio against a Michigan corporation and a Canadian Corporation. The State of Ohio alleged that the defendants dumped mercury into a stream at a point outside Ohio borders. However, the stream carried the mercury into Lake Erie damaging both the water, vegetation, and wildlife. Although the Court declined to hear the case, it did address the personal jurisdiction issue in dicta:

The Courts of Ohio, under modern principles of the scope of subject matter and in personam jurisdiction, have a claim as compelling as any that can be made out for this Court to exercise jurisdiction to adjudicate the instant controversy. . . . In essence, the State has charged Dow Canada and Wyandotte with the commission of acts, albeit beyond Ohio's territorial boundaries, that have produced and, it is said, continue to produce disastrous effects within Ohio's own domain. While this Court, and doubtless Canadian courts, if called upon to assess the validity of any decree rendered against either Dow Canada or Wyandotte, would be alert to ascertain whether the judgment rested upon an even-handed application of justice, it is unlikely that we would totally deny Ohio's competence to act if the allegations made here are proven true. n142

The Court's language supports the assertion that a party who intentionally dumps pollutants in State A knowing that the pollutants will migrate

[*332] to State B is subject to personal jurisdiction in the courts of State B. n143 The very nature of the Internet as a network of computers puts the computer virus releaser on notice of the potential harm to any computer attached to the Internet. However, courts may be more reluctant to extend personal jurisdiction over the releaser when the foreseeability of harm caused by the virus becomes weaker, such as the case in which the virus is transferred by disk from a computer attached to the Internet to a computer outside the network.

Another new problem on the Internet that may give rise to tort liability is the misappropriation of information by hackers. Hackers are people who gain unauthorized access to computer systems in order to take confidential programs or information. If the programs or information have patent or copyright protection, then the hackers may be liable under intellectual property infringement law. However, hackers may be more interested in taking information with more liquidable value, such as calling card or credit card numbers. In addition to being criminally punishable, these activities may give rise to civil liability. The hacker's actions may give rise to an action for injury to personal property if the hacker uncovered and disseminated the access codes or installed software onto the computer system to allow future unauthorized access. Thus, the most likely damages would be the cost of repairing the compromised security system. In an action for injury to personal property, the defendant is subject to personal jurisdiction in the state in which the defendant's acts caused the damage. n144 The hacker would then be subject to personal jurisdiction in the state in which the computer system that stored the security program was physically located. If the hacker took and used credit card or calling card numbers, then the hacker's actions may give rise to actions for misappropriation of money or conversion of property. The hacker would be subject to personal jurisdiction where the property was converted, the state in which the information was physically stored. n145

Finally, professionals may provide medical, legal, or financial advice to clients over the Internet, which may give rise to malpractice liability. Professionals may be more tempted to provide advice over the Internet because it has capabilities not previously available with the telephone. Professional can use visual aids, such as pictures or data charts

[*333] on the Internet to help instruct their clients. Doctors can get an audio and visual link with their patients to view injuries, receive records, and transmit prescriptions. Consider a hypothetical in which X is unsure whether he can take interesting articles out of a computer magazine, scan them into his computer, and then post them on his web site for others to read. Suppose that X consults Y, a copyright attorney, over the Internet who tells X that his actions are legal. If Y is wrong, Y may be subject to personal jurisdiction for malpractice in X's home state. Although the courts have been reluctant to extend personal jurisdiction for malpractice claims beyond the borders of the professional's state of licensing and practice, the courts have allowed such extensions when the nonresident professional used a telephone to provide false advice to the client in the client's home state. n146 Because the court focused on the professional's use of the telephone to provide services within the forum state, a court should similarly grant personal jurisdiction over Y in X's home state for advice given over the Internet.

The computer virus, the hacker, and the Internet advisor provide examples of tortious acts made possible by the Internet's advanced capabilities. No previous communications medium has given people the capability to cause widespread destruction to computer systems or to steal information while sitting at home. Further, the advanced communications capabilities of the Internet make it possible for professionals to render their services worldwide without leaving the office. Although these problems are new, modern personal jurisdiction analysis still presents solutions to these new problems through logical analogies, such as treating the spread of a computer virus like the spread of pollution or unauthorized access on to a computer system as trespass. Thus, the future Internet problems proposed in this section can be adequately resolved under the traditional personal jurisdiction analysis established by the courts.

V. Conclusion

The personal jurisdiction analysis presented in this article is an attempt to reconcile the myriad of personal jurisdiction cases founded on the Supreme Court's historical but vague notions concerning the sovereignty of the states and fairness to the defendant. It also examines the ways in which the courts have applied personal jurisdiction requirements

[*334] to transactions involving other communications mediums, such as the telephone and the mail, to get a clearer idea of how the courts will treat transactions involving the Internet. For most interactions involving the Internet, such as with contracting, advertising, or sales of goods or services, no new law is required to decide where personal jurisdiction is proper. In the cases in which the Internet adds something new to the analysis, such as with the computer virus and misappropriation of information by hackers, this article poses solutions from analogous areas of the law. This article provides the basic framework for personal jurisdiction involving interactions over the Internet.

Although the Internet has experienced rapid growth during its three decades of existence, the majority of the growth occurred in the last decade after the Internet was introduced into the private sector. It has become a quintessential element in people's everyday lives, spanning both the personal and business realms. What was once a story from William Gibson's science fiction novel has become reality. The expansion to date seems only to be the tip of the iceberg as start-up companies emerge daily with new innovations to expand the capacities and capabilities of the Internet. Privacy concerns are fading rapidly with the spread of encryption and ever increasing processing speeds will enable the Internet to provide an even wider range of services, such as on-line standardized testing and voting. Videophones will replace telephones and other home electronics will be integrated into the computer, such as has already begun with the new stereo and video playback capabilities of modern personal computers. It is important that people begin to develop a coherent body of law to govern Internet interactions, because the Internet may eclipse more conventional modes of communication more quickly than people expect.

n1 William Gibson, *Neuromancer* 51 (1984).

n2 See generally, Daniel C. Lynch & Marshall T. Rose, *Internet System Handbook*, chs. 1-3 (1993); Ed Krol, *The Whole Internet* 13-34 (1992); Harley Hahn & Rick Stout, *The Internet Complete Reference*, chs. 1-5 (1994).

n3 Matthew R. Burnstein, *Conflicts on the Net: Choice of Law in Transnational Cyberspace*, 29 *Vand. J. Transnat'l L.* 75, 81 (1996).

n4 See *supra* note 2

n5 *Id.*

n6 *Id.*

n7 *Id.*

n8 *Id.*

n9 *Id.*

n10 *Id.*

n11 *Id.*

n12 MCI is an example of an Internet Service Provider that gives direct access to consumers, often corporations, through a copper wire or fiber optics connection.

n13 America Online and Compuserve are examples of Internet Service Providers that give consumers Internet access and private on-line services, such as video games and airline ticket reservation software.

n14 The Garter Group is a business research firm located in Stamford, Connecticut.

n15 Lee Stites, *Internet Access: Deja Vu All Over Again?*, *Bus. Communications Review*, Aug. 1, 1996, at 2.

n16 *American Civil Liberties Union v. Reno*, 929 F. Supp. 824, 831 (E.D. Pa. 1996).

n17 Each domain name contains one or more components, which serves as both an Internet address and a primary identifier for a user. Businesses commonly use their business names with the designation ".com" to identify themselves as commercial entities (e.g. IBM.com).

n18 Evan Ramstad, *Domains Are Their Game; Names Taken in Vain? Network Solutions Holds Title to Power*, *The San Diego Union-Tribune*, Sept. 17, 1996, at 2.

n19 326 U.S. 310 (1945).

n20 *Pennoyer v. Neff*, 95 U.S. 714, 722 (1877).

n21 *Id.* at 733.

n22 326 U.S. at 310.

n23 *Id.* at 316.

n24 *Id.* at 318.

n25 *Id.* at 321.

n26 *Hansen v. Denckla*, 357 U.S. 235, 253 (1958).

n27 *Id.* at 255.

n28 *Burger King v. Rudzewicz*, 471 U.S. 462 (1985).

n29 *Id.* at 487.

n30 *Id.* at 477.

n31 *Id.* at 487.

n32 444 U.S. 286 (1980).

n33 480 U.S. 102 (1987).

n34 *World-Wide Volkswagen*, 444 U.S. at 295.

n35 *Id.* at 299.

n36 *Asahi Metal Indus. Co., Ltd.*, 480 U.S. at 116.

n37 *Id.*

n38 *Id.* at 112.

n39 *Creech v. Roberts*, 908 F.2d 75, 80 (6th Cir. 1990).

n40 *International Shoe*, 326 U.S. 310 (1945).

n41 1 Robert C. Casad, *Jurisdiction in Civil Actions*, 4.02[2] (1991).

n42 *Id.* at 4.01.

n43 *Id.* at 7.02.

n44 See, e.g., *Calder v. Jones*, 465 U.S. 783 (1984); *Keeton v. Hustler Magazine, Inc.*, 465 U.S. 770 (1984).

n45 Electronic mail allows an Internet user to transmit a message as "packets" of data across communications lines directly to the Internet address of another user. The message is then stored on a server until accessed by the recipient.

n46 465 U.S. 783 (1984).

n47 *Id.* at 790.

n48 *Id.* at 789.

n49 *Fallang v. Hickey*, 40 Ohio St. 3d 106 (1988).

n50 *Brown v. Flowers Indus., Inc.*, 688 F.2d 328 (5th Cir. 1982).

n51 *Casano v. WDSU-TV*, 464 F.2d 3 (5th Cir. 1972).

n52 *California Software, Inc. v. Reliability Research, Inc.*, 631 F. Supp. 1356 (C.D. Cal. 1986).

n53 *Id.* at 1363.

n54 *Id.* at 1361.

n55 See also, *Edias Software Int'l v. Basis Int'l Ltd.*, 947 F. Supp. 413 (D.Ariz. 1996).

n56 *California Software, Inc.*, 631 F. Supp. at 1361.

n57 *Id.*

n58 See Rebecca Quick, *On-Line: Internet Addresses Spark Storm in Cyberspace*, *The Wall Street Journal*, Apr. 29, 1997, at B1.

n59 *Dakota Indus., Inc. v. Dakota Sportswear, Inc.*, 946 F.2d 1384, 1388, 20 U.S.P.Q.2d (BNA) 1450, 1455 (8th Cir. 1991).

n60 *Id.*

n61 *Id.* at 1388.

n62 See, *Vanity Fair Mills, Inc. v. T. Eaton Co.*, 234 F.2d 633, 639, 109 U.S.P.Q. (BNA) 438, 444 (2d Cir. 1956), cert. denied, 352 U.S. 871 (1956); *Tefal, S.A. v. Products Int'l Co.*, 529 F.2d 495, 496 n.1, 189 U.S.P.Q. (BNA) 385 n.1 (3d Cir. 1976); *Schieffelin & Co. v. Jack Co.*, 725 F. Supp. 1314, 1319, 13 U.S.P.Q.2d (BNA) 1704, 1709 (S.D.N.Y. 1989).

n63 *Dakota Indus., Inc.*, 946 F.2d at 1388, 20 U.S.P.Q.2d (BNA) at 1453.

n64 See, *Acrison v. Inc. v. Control & Metering, Ltd.*, 730 F. Supp. 1445, 1448, 14 U.S.P.Q.2d (BNA) 1833, 1836 (N.D. Ill. 1990).

n65 *Tefal, S.A.*, 529 F.2d at 496 n.1, 189 U.S.P.Q. (BNA) at 385 n.1.

n66 *Id.* at 496, 189 U.S.P.Q. (BNA) at 386.

n67 *Vanity Fair Mills, Inc.*, 234 F.2d at 637, 109 U.S.P.Q. (BNA) at 442.

n68 *Id.*

n69 *Acrison, Inc.*, 730 F. Supp. at 1445, 14 U.S.P.Q.2d (BNA) at 1833.

n70 *Id.* at 1448, 14 U.S.P.Q.2d (BNA) at 1836.

n71 *Id.* at 1449, 14 U.S.P.Q.2d (BNA) at 1836.

n72 *Inset Systems, Inc. v. Instruction Set, Inc.*, 937 F. Supp. 161 (D. Conn. 1996).

n73 *Maritz, Inc. v. Cybergold, Inc.*, 947 F. Supp. 1328, 40 U.S.P.Q.2d (BNA) 1729 (E.D. Mo. 1996).

n74 *Panavision Int'l. v. Toeppen*, 938 F. Supp. 616 (C.D. Cal. 1996).

n75 *Bensusan Restaurant Corp. v. King*, 126 F.3d 25, 44 U.S.P.Q.2d (BNA) 1051 (2d Cir. 1997).

n76 *Id.* at 29, 44 U.S.P.Q.2d (BNA) at 1054.

n77 The average practitioner would be especially dissatisfied if the majority approach indicated that the proper forum was California and the minority approach indicated that the proper forum was New York. The two different approaches allow for the possibility of widely divergent results.

n78 *Panavision Int'l.*, 938 F. Supp. at 622.

n79 *Delta Educ., Inc. v. Langlois*, 719 F. Supp. 42 (D. N.H. 1989).

n80 *Id.* at 49.

n81 Restatement (Second) of Conflicts of Law 187(2) (1971).

n82 See also, U.C.C. 1-105(1) (1994) ("[W]hen a transaction bears a reasonable relationship to this state and also to another state or nation the parties may agree that the law either of this state or of such other state or nation shall govern their rights and duties.").

n83 499 U.S. 585 (1991).

n84 *Id.* at 587.

n85 *Id.*

n86 *Id.* at 587-88.

n87 *Id.* at 588.

n88 *Id.* at 594-95.

n89 See *America On-Line, Inc.*, Terms of Service Contract 11A.

n90 See supra notes 83-88 and accompanying text.

n91 See supra note 88.

n92 Restatement (Second) of Conflicts of Law 188 (1971).

n93 355 U.S. 220 (1957).

n94 *Id.* at 223.

n95 *Id.* at 221-22.

n96 *Id.* at 223.

n97 *Id.*

n98 *Id.*

n99 A digitized signature is basically a graphics file containing the stored image of the users signature, which can then be copied on to any contract. However, graphics files are easily duplicated by identifying the coordinates of every pixel comprising the file.

n100 Encryption requires both a public and a private key. The public key is a complex mathematical algorithm that transforms a message and the sender's identity into an unintelligible array of data. It is usually given out to the various people expected to send messages to the receiver. The receiver keeps the private key and uses it to restore the unintelligible array of data back to its original form. The public and private keys are basically inverses of each other. While it is theoretically possible to derive the private key from the public key, the derivation process may require an infeasible amount of time for a well-designed public key.

n101 See supra notes 93-98 and accompanying text.

n102 For example, stock brokerage transactions are often conducted over the Internet allowing clients to transmit buy or sell orders to their brokers. Further, many stock brokers provide Internet services that allow clients to monitor the progress of their accounts.

n103 See, e.g., *Hankins v. Somers*, 251 S.E.2d 640 (N.C. Ct. App. 1979).

n104 See, e.g., *Witbeck v. Bill Cody's Ranch Inn*, 411 N.W.2d 439, 445 (Mich. 1987); *Now Foods Corp. v. Madison Equip. Co.*, 386 N.W.2d 363, 367 (Minn. Ct. App. 1986), review denied, 395 N.W.2d 926 (Minn. 1986).

n105 642 S.W.2d 434 (Tex. 1982).

n106 *Id.* at 435-36.

n107 *Id.* at 436.

n108 See supra notes 93-98 and accompanying text.

n109 907 F.2d 1256 (1st Cir. 1990).

n110 *Id.* at 1260.

n111 854 P.2d 461 (Or. 1993).

n112 *Id.* at 466.

n113 832 P.2d 233 (Colo. 1992).

n114 *Id.* at 234.

n115 456 N.W.2d 371 (Iowa 1990).

n116 *Id.* at 377.

n117 See supra notes 109-112.

n118 See supra notes 113-16.

n119 See, *Creech v. Roberts*, 908 F.2d 75 (6th Cir. 1990); *Gavigan v. Walt Disney World Co.*, 630 F. Supp. 148 (E.D. Pa. 1986).

n120 See, *Creech*, 908 F.2d at 80; *Gavigan*, 630 F. Supp. at 151.

n121 See, *Erickson ex rel Erickson v. Spore*, 618 F. Supp. 1356, 1359 (D. Minn. 1985).

n122 See, e.g., *Witbeck v. Bill Cody's Ranch Inn*, 411 N.W.2d 439, 445 (Mich. 1987); *Now Foods Corp. v. Madison Equip. Co.*, 386 N.W.2d 363, 367 (Minn. Ct. App. 1986), review denied, 395 N.W.2d 926 (Minn. 1986).

n123 *Bensusan Restaurant Corp. v. King*, 126 F.3d 25, 44 U.S.P.Q.2d (BNA) 1051 (2d Cir. 1997).

n124 Generally, Internet advertisements are insufficiently targeted towards the citizens of a given state and instead are more oriented to mass marketing by the nature of the Internet. However, a small service-oriented business may target consumers within its state and the surrounding states through its web site. In *Bensusan*, the defendant established a web site to advertise his jazz club. The web site displayed the club's name, location, and calendar of events. Although consumers could reserve tickets, the advertisement stated that consumers could only pick them up at the Missouri box office because the defendant would not mail or otherwise transmit tickets. The court refused to grant personal jurisdiction over the Missouri defendant in New York, the plaintiff's primary place of business, for the trademark infringement action. Because the web site advertisement required the consumers to travel to the Missouri box office to receive the tickets, the court may have deemed it insufficiently targeted towards citizens of New York. Thus, the court would have denied personal jurisdiction over the defendant in New York. Although earlier in this paper, the court's decision was explained under a trademark personal jurisdiction analysis, it could also be explained under this minority view of advertisements.

n125 444 U.S. 286 (1980).

n126 480 U.S. 102 (1987).

n127 See, *Henry Heide, Inc. v. WRH Products Co.*, 766 F.2d 105 (3d Cir. 1985); *Hendrickson v. Reg O Co.*, 657 F.2d 9 (3d Cir. 1981); *Texas Metal Fabricating Co. v. Nothern Gas Products Corp.*, 404 F.2d 921 (10th Cir. 1968);

n128 See, *Bastoe v. Sterling Drug, Inc.*, 683 F. Supp. 586 (S.D. Miss. 1988); *Penwest Development Corp. v. Dow Chemical Co.*, 667 F. Supp. 436 (E.D. Mich. 1987); *Schreiber v. Allis-Chalmers Corp.*, 611 F.2d 790 (10th Cir. 1979).

n129 See, *Papachristou v. Turbines Inc.*, 902 F.2d 685 (8th Cir. 1990); *Davidson Pipe Supply Co. v. G.W. Sales, Inc.*, 685 F. Supp. 332 (E.D.N.Y. 1988); *Smith Lighting Sales, Inc. v. Blahut*, 462 F. Supp. 434 (W.D. Okla. 1978); *Aquarium Pharmaceuticals, Inc. v. Industrial Pressing & Packaging, Inc.*, 358 F. Supp. 441 (E.D. Pa. 1973).

n130 See, e.g., *Dalton v. Blanford*, 383 N.E.2d 806 (Ill. App. Ct. 1978).

n131 See, *Gatewood v. Fiat S.p.A.*, 617 F.2d 820 (D.C. Cir. 1980); *Gorso v. Bell Equip. Corp.*, 376 F. Supp. 1027 (W.D. Pa. 1974); *Fayette v. Volkswagen of Am., Inc.*, 273 F. Supp. 323 (W.D. Tenn. 1967).

n132 *Asahi*, 480 U.S. 102 (1987).

n133 967 F.2d 671 (1st Cir. 1992).

n134 *Id.* at 682-83.

n135 35 F.3d 939 (4th Cir. 1994).

n136 *Id.* at 946.

n137 The process of downloading requires that a direct link between the computer downloading the program and the computer storing the program be established. The information is copied from one computer to another over the direct link in real time. In contrast, an electronic mail message is sent by one user to another user's Internet address. The message is then stored on the computer's hard drive at that address until the recipient accesses it. Thus, the recipient does not have to be on-line when the message arrives to receive it.

n138 This hypothetical assumes that the shareware provider has no other contacts with and is not a resident of the end user's home state.

n139 *Asahi*, 480 U.S. 102 (1987).

n140 See, *United States v. Morris*, No. 90-1336 (D.C.N.Y. 1990), *aff'd*, 928 F.2d 504 (2d Cir. 1991).

n141 *Wyandotte*, 401 U.S. 493 (1971).

n142 *Id.* at 500.

n143 See, 1 Michael Dore, *Law of Toxic Torts-Litigation Defense Insurance* 13.04[4][b], at 13-7 to 13-9 (1990).

n144 See, *Elkhart Engineering Corp. v. Dornier Werke*, 343 F.2d 861 (5th Cir. 1965); *McKeithen v. M/T Frosta*, 435 F. Supp. 572 (E.D. La. 1977).

n145 See, *Boit v. Emmco Insurance Co.*, 271 F. Supp. 366 (D. Mont. 1967); *Von Palffy-Erdoed v. Bugescu*, 708 P.2d 816 (Colo. Ct. App. 1985).

n146 See, *McGee v. Reikhof*, 442 F. Supp. 1276, 1279 (D. Mont. 1978) (holding that "it would be fundamentally unfair to patients to permit doctors to telephonically render services and treatment in [the forum state], yet shield them from suit in [the forum state]").