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# Tying Privacy in Knotts: Beeper Monitoring and Collective Fourth Amendment Rights

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# TYING PRIVACY IN *KNOTTS*: BEEPER MONITORING AND COLLECTIVE FOURTH AMENDMENT RIGHTS

Advances in police surveillance techniques have generated confusion over the interpretation of the fourth amendment prohibition against unreasonable searches and seizures.[1] Equipped with new technology, state and federal law enforcement officials are now capable of making unprecedented invasions of individuals' privacy expectations.[2] One such device, an electronic tracking instrument known as a beeper,[3] has led to inconsis-

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[1] The fourth amendment provides:

> The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

U.S. Const. amend. IV.

[2] The fourth amendment jurisprudence addressing the use of such technologies has a rich history. In Olmstead v. United States, 277 U.S. 438 (1928), the Supreme Court held that wiretapping of a private line was not a fourth amendment search because it did not involve a physical trespass. The Court abandoned the trespass distinction in Katz v. United States, 389 U.S. 347 (1967), and held that electronic eavesdropping of a phone conversation was a search because it violated the "privacy upon which [defendant] justifiably relied." Id. at 353. The Court nevertheless has been reluctant to read *Katz* expansively in other cases involving technological surveillance. See, e.g., Texas v. Brown, 460 U.S. 730 (1983) (use of flashlight to look through car window not a search); Smith v. Maryland, 442 U.S. 735 (1979) (use of pen registers not a search); United States v. White, 401 U.S. 745 (1971) (use of bug on a participant in a conversation with his consent not a search).

Lower courts addressing the fourth amendment implications of other technologically advanced devices have reached varied conclusions. See, e.g., United States v. Ward, 703 F.2d 1058 (8th Cir. 1983) (use of nightscope not a search); United States v. Taborda, 635 F.2d 131 (2d Cir. 1980) (use of telescope to see inside home is a search); United States v. Haynie, 637 F.2d 227 (4th Cir.) (use of x-ray scanner is a search), cert. denied, 451 U.S. 972 (1980); United States v. Albarado, 495 F.2d 799 (2d Cir. 1974) (use of magnetometer is a search); State v. Kender, 60 Hawaii 301, 588 P.2d 447 (1979) (use of telescope to view curtilage is a search); People v. Ferguson, 47 Ill. App. 3d 654, 365 N.E.2d 77 (1977) (use of binoculars to see inside home not a search); State v. Denton, 387 So.2d 578 (La. 1980) (use of nightscope not a search); People v. Dezek, 107 Mich. App. 78, 308 N.W.2d 652 (1981) (videotape in bathroom stalls is a search); Sponick v. City of Detroit Police Dep't, 49 Mich. App. 162, 211 N.W.2d 674 (1973) (videotape in bar not a search); Commonwealth v. Williams, 494 Pa. 496, 431 A.2d 964 (1981) (use of startron to view inside of apartment is a search); Commonwealth v. Hernley, 216 Pa. Super. 177, 263 A.2d 904 (1970) (use of binoculars to see inside office not a search).

[3] "A beeper is a radio transmitter, usually battery operated, which emits periodic signals that can be picked up by a radio receiver." United States v. Knotts, 460 U.S. 276, 277 (1983). Beepers do not intercept the contents of any wire or oral communication and therefore do not fall under the federal wiretap statute, 18 U S.C. §§ 2510-2520 (1982). See State

tent decisions in the lower federal courts regarding the precise nature of fourth amendment privacy interests in this context.[4] The United States Supreme Court held in *United States v. Knotts*[5] that police monitoring of beeper signals from an object did not constitute a fourth amendment search or seizure where the object was located either in an automobile traveling along public roads or on private land.[6] *Knotts* is the first Supreme Court opinion addressing fourth amendment issues arising from the use of electronic tracking devices. As such, it provides an opportunity for criticizing the Court's approach to these issues in light of the principles underlying the prohibition against unreasonable searches and seizures.[7]

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v. Hendricks, 43 N.C. App. 245, 250 S.E.2d 872 (1979). For more information on beeper technology, see Dowling, "Bumper Beepers" and the Fourth Amendment, 13 Crim. L. Bull. 266, 266-67 (1977) ("A radio direction finder operates on the principle that whenever an electromagnetic wave is generated, antennae can determine the direction of origin of the wave. The reception angles of two antennae may be jointly used to triangulate the location of the broadcast source.")

[4] See, e.g., United States v. Brock, 667 F.2d 1311 (9th Cir. 1982) (warrantless monitoring of beeper in chemical canister located in private residence no violation of privacy interests), cert. denied, 460 U.S. 1022 (1983); United States v. Michael, 645 F.2d 252 (5th Cir.) (warrantless installation of beeper on vehicle located in public place no violation), cert. denied, 454 U.S. 950 (1981); United States v. Curtis, 562 F.2d 1153 (9th Cir. 1977) (warrantless installation of transponder on airplane no violation where officers probable cause); United States v. Holmes, 537 F.2d 227 (5th Cir. 1976) (per curiam) (warrantless installation of beeper on vehicle in public place violation where no probable cause existed); see also infra notes 18-28, 36-40 and accompanying text (describing the confusion in the lower courts over the fourth amendment implications of beeper use).

The controversy has generated numerous articles. See, e.g., Carr, Electronic Beepers, 4 Search & Seizure L. Rep., Apr. 1977 No. 4; Marks & Batey, Electronic Tracking Devices: Fourth Amendment Problems and Solutions, 67 Ky. L.J. 987 (1979); Note, Electronic Tracking Devices and Privacy: See No Evil, Hear No Evil, But Beware of Trojan Horses, 9 Loy. U. Chi. L.J. 227 (1977); Note, Finders Keepers, Beepers Weepers: *United States v. Knotts*—A Realistic Approach to Beeper Use and the Fourth Amendment, 27 St. Louis U.L.J. 483 (1983); Comment, Fourth Amendment Implications of Electronic Tracking Devices, 46 U. Cin. L. Rev. 243 (1977); Note, Police Use of Sense-Enhancing Devices and the Limits of the Fourth Amendment, 1977 U. Ill. L.F. 1167; Note, Tracking Devices and the Fourth Amendment, 13 U.S.F.L. Rev. 203 (1978); Note, Tracking *Katz*: Beepers, Privacy, and the Fourth Amendment, 86 Yale L.J. 1461 (1977) [hereinafter cited as Yale Note]; Recent Cases, Search and Seizure—Attachment of a Tracking Device to Automobile Constitutes a Search Subject to Fourth Amendment, 29 Vand. L. Rev. 514 (1976); Recent Developments, Does Installation of an Electronic Tracking Device Constitute a Search Subject to the Fourth Amendment?, 22 Vill. L. Rev. 1067 (1977).

[5] 460 U.S. 276 (1983)

[6] Id. at 281-82, 285.

[7] See infra notes 41-91 and accompanying text. The Supreme Court subsequently addressed the constitutionality of beeper use in United States v. Karo, 104 S. Ct. 3296 (1984), discussed infra text accompanying notes 13-17 and 29-35. This note focuses on *Knotts*, however, as a vehicle for exploring the importance of collective rights in resolving technological

This note examines the primary issues addressed by electronic tracking law and then criticizes *Knotts*. First, it surveys electronic tracking law and discusses the fourth amendment implications of beeper use. This discussion of federal and state court decisions illustrates the confusion in the lower courts and underscores the effect of *Knotts* on electronic tracking law. In Part II, the note analyzes *Knotts* under a conventional individual rights approach and concludes that, despite problems with the reasoning in *Knotts*, the individual rights analysis confirms the permissibility of warrantless vehicle tracking as analogous to conventional police tailing. Part III argues that, even assuming the legitimacy of the *Knotts* individual rights analysis, extensive beeper use significantly threatens the privacy interests of society as a collective body, in violation of the fourth amendment. In reaching this conclusion it evaluates the importance of the privacy of public movement, the psychological need for anonymity and solitude, and the political significance of an unencumbered right to travel. Predicated upon a less conventional reading of the fourth amendment that embraces collective privacy rights, this approach seeks to protect society as a whole from governmental misconduct. Finally, Part IV applies the collective privacy rights analysis to three remaining issues where electronic tracking devices implicate fourth amendment concerns.

## I. Electronic Tracking Devices and the Fourth Amendment

Whether electronic tracking constitutes a fourth amendment search or seizure depends initially on whether such surveillance invades an individual's "legitimate expectation of privacy."[8] Most courts applying this standard have recognized a distinction between beeper installation and subsequent monitoring of the device.[9] This bifurcated analysis, recently adopted by the Supreme Court,[10] reflects the difference between privacy expectations affected by beeper installation and those affected by moni-

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surveillance issues.

[8] The Supreme Court adopted the privacy expectations test in Katz v. United States, 389 U.S. 347 (1967). In Smith v. Maryland, 442 U.S. 735, 740 (1979), the Court added the requirement that the privacy expectation be reasonable, an element first suggested by Justice Harlan in his *Katz* concurrence. 389 U.S. at 361. As the Court stated in United States v. Karo, 104 S. Ct. 3296 (1984), "A 'search' occurs 'when an expectation of privacy that society is prepared to consider reasonable is infringed.'" Id. at 3302 (quoting United States v. Jacobsen, 104 S. Ct. 1652, 1656 (1984)).

[9] See infra text accompanying notes 18-28 and 37-40 (lower court cases discussing installation and monitoring issues separately).

[10] United States v. Karo, 104 S. Ct. 3296, 3301-07 (1984); see also United States v. Knotts, 460 U.S. 276, 279 (1983) (tacitly accepting the bifurcated analysis of beeper use under the fourth amendment). For criticism of this analysis, see 1 W. LaFave, Search and Seizure § 2.7, at 420 (1978).

toring. Installation implicates the expectation that one's possessions will remain secure, while monitoring confronts an expectation that certain information will remain secret.[11]

Application of fourth amendment analysis by the lower courts to the beeper controversy has yielded inconsistent and confusing results. This section analyzes fourth amendment case law, considering in turn the issues of beeper installation and monitoring, and concludes with an examination of *United States v. Knotts*,[12] where the Supreme Court held that public monitoring is not a search.

### *A. Beeper Installation*

#### *1.* United States v. Karo*: Installation Before Transfer*

The Supreme Court held in *United States v. Karo*[13] that the transfer of a beeper-laden object from an informant to respondent was not a search or seizure.[14] The transfer neither conveyed information respondent

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[11] See United States v. Karo, 104 S. Ct. 3296, 3311 (1984) (Stevens, J., dissenting).

[12] 460 U.S. 276 (1983).

[13] 104 S. Ct. 3296 (1984). The facts are found id. at 3300-01. *Karo* involved beeper surveillance of persons suspected of dealing in cocaine by Drug Enforcement Administration (DEA) agents. The DEA learned that respondent Karo (and others) had ordered 50 gallons of ether, used to extract cocaine from clothing imported into the United States, from a government informant. With the consent of the informant, the agents obtained a court order authorizing the installation and monitoring of a beeper in one of the ether cans.

The agents observed as Karo picked up the ether from the informant; they then followed Karo to his home, using both visual and beeper surveillance. Using only the beeper, the agents determined that the ether remained in Karo's home for a period of time, and that it was later moved to another location. After respondents transferred the beeper-laden can to several storage facilities, the DEA agents followed two vehicles, one of which carried the can with the beeper, by visual and electronic surveillance. The vehicles arrived at a house in Taos, and the agents did not maintain visual surveillance. The next day the vehicles left Taos, but the agents, using the beeper, determined that the ether remained in the house. When they suspected that respondents were extracting the cocaine from the clothing with the ether, the agents obtained a warrant to search the Taos residence. The warrant was executed, based in part on information derived from the beeper, and the agents seized the cocaine and laboratory equipment and arrested the respondents.

[14] *Karo* reached the same result as the vast majority of lower court cases had before. See United States v. Braithwaite, 709 F.2d 1450, 1454 (11th Cir. 1983); United States v. Brock, 667 F.2d 1311, 1319 n.4 (9th Cir. 1982), cert. denied, 460 U.S. 1022 (1983); United States v. Bailey, 628 F.2d 938, 943 (6th Cir. 1980); United States v. Lewis, 621 F.2d 1382, 1388 (5th Cir. 1980), cert. denied, 450 U.S. 935 (1981); United States v. Devorce, 526 F. Supp. 191, 199-200 (D. Conn. 1981); United States v. Stephenson, 490 F. Supp. 619, 621 (E.D. Mich. 1979); United States v. French, 414 F. Supp 800, 803 (W.D. Okla. 1976); Dunivant v. State, 155 Ga. App. 884, 273 S.E.2d 621, 625 (1980), cert. denied, 450 U.S. 998 (1981). As was the case in *Karo*, these decisions involved fact situations where the government was in possession of the property at the time of installation or a third party consented to installing the electronic device. But see United States v. Karo, 710 F.2d 1433, 1438 (10th Cir. 1983) ("All

wished to keep private nor interfered with his possessory interests in a meaningful way.[15] The *Karo* Court noted that the "mere transfer of a can containing an unmonitored beeper infringed no privacy interest. It conveyed no information that Karo wished to keep private, for it conveyed no information at all."[16]

The installation inquiry thus rested on the Court's conception of the constitutionally protected privacy interest in this setting—namely, the expectation of individuals that certain information will remain secret and free from governmental intrusion. Even assuming this conception of individual privacy expectations is sound,[17] it remains unclear whether beeper installation under different circumstances constitutes a fourth amendment search. The Court may yet be required to resolve whether installation is a search or seizure when it is accomplished with greater privacy intrusion.

### 2. *The Lower Courts: Installation Involving Greater Intrusion*

The lower federal and state courts face a myriad of fact situations when addressing the constitutionality of nonconsensual beeper installation. Disagreements result from the difficult and controversial nature of electronic

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individuals have a legitimate expectation of privacy that objects coming into their rightful ownership do not have electronic devices attached to them . . . ."), rev'd, 104 S. Ct. 3296 (1984); State v. Hendricks, 43 N.C. App. 245, 258 S.E.2d 872 (1979); see also United States v. Moore, 562 F.2d 106, 112 (1st Cir. 1977) ("the important factor seems to be not that there was or was not a common law trespass *ab initio*, but that a homing device was surreptitiously implanted in private property in order to enhance the agents' ability to shadow the property and its possessors"), cert. denied, 435 U.S. 926 (1978).

[15] The Court held that "[i]t is clear that the actual placement of the beeper into the can violated no one's Fourth Amendment rights." 104 S. Ct. at 3301. This conclusion was based primarily on the fact that Karo had no legitimate expectation of privacy in the can because, at the time of installation, the can belonged to the DEA. Moreover, the Court argued, even if the can did not actually belong to the government, the consent of the third party owner to install the device "was sufficient to validate the placement of the beeper in the can." Id. Hence, *Karo* leaves open the question of whether mere installation constitutes a search or seizure where no third party consent is involved. See infra notes 186-92 and accompanying text.

[16] Id. at 3302.

[17] Justice Stevens, of course, disagreed with the majority's conception of privacy. See supra note 16. In essence, his dissent argued that the installation of the beeper constituted a seizure under the fourth amendment: "When the Government attaches an electronic monitoring device to that property, it infringes [the owner's] exclusionary right; in a fundamental sense it has converted the property to its own use." 104 S. Ct. at 3311 (Stevens, J., dissenting). Stevens thus focused on the intrusiveness of the government action on the property rights of the individual. This note argues that, under an approach that embraces the collective privacy rights of society, beeper installation represents less of a threat to those rights than does the subsequent monitoring of electronic tracking devices. See infra notes 182-92 and accompanying text.

tracking issues.[18] By and large, lower courts, seeking to avoid direct conflicts by distinguishing between different types of electronic surveillance,[19] merely render narrow holdings and avoid the broader philosophical problems generated by beeper surveillance. Consequently, there is no consistent approach to adjudicating fourth amendment rights in this context.

Lower court treatment of the installation issue tends to focus on the individual's possessory interest in the object at the time the beeper is installed.[20] Where police attach a beeper to the exterior of an automobile in a public place, courts generally agree that a "technical trespass" has occurred but disagree as to whether a search has taken place and, if so, what standard should govern.[21] Some lower courts further complicate the problem by substituting their own approach[22] or by avoiding the search

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[18] As one court observed:

> At the root of the debate is the philosophical question of whether our sense of privacy, and the protection afforded it by the Constitution, does and should adjust to technological advances.
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> With due respect for the complexity of this issue we limit our decision to the precise issue before us . . . .

United States v. Bruneau, 594 F.2d 1190, 1196 (8th Cir.), cert. denied, 444 U.S. 847 (1979).

[19] See, e.g., United States v. Bailey, 628 F.2d 938, 941 (6th Cir. 1980) (beeper surveillance of non-contraband personal property in private areas is search); United States v. Bruneau, 594 F.2d 1190, 1194 (8th Cir.) (transponder monitoring of airplane not a search), cert. denied, 444 U.S. 847 (1979); United States v. Dubrofsky, 581 F.2d 208, 211 (9th Cir. 1978) (beeper indicating both location and status of package not a search).

[20] Before United States v. Karo, 104 S. Ct. 3296 (1984), the lower court decisions addressing this issue fell roughly into three categories: those cases involving no trespass against the defendant, those involving a technical trespass only, and those cases where beeper installation constitutes a substantial trespass. The Court noted in *Karo*, however, that "an actual trespass is neither necessary nor sufficient to establish a constitutional violation," 104 S. Ct. at 3302, and in resolving the installation issue it focused on the reasonableness of the asserted expectation of privacy and not the intrusiveness of the government trespass. See supra note 17. Thus, in the future, lower courts may shift their analysis away from the concern with trespass.

[21] See United States v. Michael, 645 F.2d 252, 257-58 (5th Cir.) (en banc) ("reasonable suspicion" adequate to support warrantless beeper installation under "dual privacy and intrusiveness" analysis), cert. denied, 454 U.S. 956 (1981); United States v. Moore, 562 F.2d 106 (1st Cir. 1977) ("probable cause" necessary and sufficient to support warrantless beeper attachment), cert. denied, 435 U.S. 926 (1978); United States v. Pretzinger, 542 F.2d 517 (9th Cir. 1976) (exterior attachment in a public place is not a substantial intrusion and therefore not a search); United States v. Holmes, 521 F.2d 859, 864 (5th Cir. 1975) (requiring a warrant; "the installation of an electronic tracking device on a motor vehicles is a search within the meaning of the Fourth Amendment"), aff'd by an equally divided court, 537 F.2d 227 (5th Cir. 1976) (en banc).

[22] See, e.g., United States v. Michael, 645 F.2d 252, 254 (5th Cir.) (en banc), cert. denied, 454 U.S. 950 (1981) (adopting a "dual privacy and intrusiveness analysis").

question altogether.[23]

Moreover, a slight change in the fact situation often results in a different analysis and a different conclusion. Beeper installation is a more serious trespass when police enter a vehicle, or open a container, to attach a beeper. Several courts have held that such action constitutes a search.[24] This conclusion, however, turns on such factors as the contents of the container,[25] the unusual status of automobiles and airplanes under the fourth amendment,[26] and the ownership of the vehicle or package.[27] Because the police often obtain either a valid warrant or the owner's prior consent, the courts in many cases never reach the question whether interior installation is a search.[28]

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[23] See, e.g., United States v. Shovea, 580 F.2d 1382 (10th Cir. 1978), cert. denied, 440 U.S. 908 (1979) (finding that probable cause and exigent circumstances obviated the decision whether installation was a search); United States v. Frazier, 538 F.2d 1322 (8th Cir. 1976), cert. denied, 429 U.S. 1046 (1977) (same).

[24] See, e.g., United States v. Butts, 710 F.2d 1139, 1147 (5th Cir. 1983) (interior of airplane), rev'd on other grounds on rehearing, 729 F.2d 1514 (5th Cir.) (en banc), cert. denied, 105 S. Ct. 181 (1984); United States v. Hufford, 539 F.2d 32, 34 (9th Cir.) (agents entered garage and opened hood to install beeper) (dictum), cert. denied, 429 U.S. 1002 (1976); United States v. Cofer, 444 F. Supp. 146 (W.D. Tex. 1978) (agents entered airplane through locked door).

[25] When a lawful inspection reveals that the contents are contraband, the subsequent installation of a beeper is not a search. See, e.g., United States v. Botero, 589 F.2d 430 (9th Cir. 1978) (handbag shipment containing cocaine), cert. denied, 441 U.S. 944 (1979); United States v. Washington, 586 F.2d 1147 (7th Cir. 1978) (mail package containing cocaine); United States v. Pringle, 576 F.2d 1114 (5th Cir. 1978) (mail package containing heroin); United States v. Emery, 541 F.2d 887 (1st Cir. 1976) (mail packages containing cocaine).

[26] The automobile exception to the warrant requirement is based on the assertion that individuals experience a "diminished expectation of privacy" in their cars. See S. Saltzburg, American Criminal Procedure 230-31 (1984). Although the presumption of a diminished privacy expectation provides further justification for permitting the warrantless installation of electronic tracking devices under the fourth amendment, some courts have managed to disassociate (or at least distinguish) the automobile exception from the installation of a beeper in a car. See, e.g., United States v. Butts, 710 F.2d 1139, 1148-50 (5th Cir. 1983) (warrant requirement for beeper installation justified because such governmental action constitutes "a continuing intrusion" of the privacy expectations of the individual), rev'd on other grounds on rehearing, 729 F.2d 1514 (5th Cir.) (en banc), cert. denied, 105 S. Ct. 181 (1984).

[27] See, e.g., United States v. Bruneau, 594 F.2d 1190, 1194 (8th Cir.) (consent of owner of car sufficient to satisfy fourth amendment), cert. denied, 444 U.S. 847 (1979); United States v. Miroyan, 577 F.2d 489, 493 (9th Cir.) (defendant lacked standing to challenge installation of beeper because not owner of the car), cert. denied, 439 U.S. 896 (1978).

[28] See United States v. Cady, 651 F.2d 290, 291 (5th Cir. 1981) (assuming without deciding that interior installation is a search and then finding authorization by valid warrant), cert. denied, 455 U.S. 919 (1982); United States v. Bruneau, 594 F.2d 1190, 1194 (8th Cir.) (although installation "could potentially violate" fourth amendment, analysis unnecessary because airplane's owner consented to installation), cert. denied, 444 U.S. 847 (1979). See also infra note 162 (documenting police use of warrants).

### *B. Beeper Monitoring of Private Places*

The Supreme Court held in *United States v. Karo*[29] that the monitoring of a beeper in a private residence not open to visual surveillance violates the fourth amendment rights of individuals who have a justifiable interest in the privacy of the residence.[30] In *Karo*, federal agents tracked a beeper-laden can while suspects moved it from one house to another. According to the majority, the monitoring of the beeper in a private residence is analogous to the warrantless search of a home and therefore is an unreasonable search under the fourth amendment.[31] The Court concluded that beeper monitoring of a private residence is a search and therefore must be authorized by a warrant.[32] According to the majority, "[i]ndiscriminate monitoring of property that has been withdrawn from public view would present far too serious a threat to privacy interests in the home to escape entirely some sort of Fourth Amendment oversight."[33]

This conclusion depends primarily on the fact that officers monitored the beeper to obtain information from inside a private residence. Since it is well established that individuals in their homes deserve privacy free of governmental intrusion not authorized by warrant,[34] beeper monitoring in this context deserves fourth amendment protection. The question remains whether monitoring is a search in *any* situation where an individual withdraws from public view the beeper-laden object.[35] In short, *Karo* may raise as many questions as it settles.

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[29] 104 S. Ct. 3296 (1984).

[30] Id. at 3303-04. The Court in *Karo* resolved a split in the circuits. Some courts had reasoned that warrantless monitoring of a beeper located in a house violates the fourth amendment. See, e.g., United States v. Bailey, 628 F.2d 938, 944 (6th Cir. 1980); United States v. Moore, 562 F.2d 106, 113 (1st Cir. 1977), cert. denied, 435 U.S. 926 (1978); State v. Hendricks, 43 N.C. App. 245, 258 S.E.2d 872 (1979); see also United States v. Karo, 710 F.2d 1433, 1439 (10th Cir. 1983) (a beeper in a private residence provides "law enforcement officials information that could not be discovered by ordinary visual surveillance, even had that surveillance been constant"), rev'd on other grounds, 104 S. Ct. 3296 (1984). But see United States v. Brock, 667 F.2d 1311, 1322 (9th Cir. 1982) (residence monitoring a "minimal intrusion" and hence not a search), cert. denied, 40 U.S. 1022 (1983); United States v. Taylor, 716 F.2d 701, 706 (9th Cir. 1983) (following *Brock*).

[31] 104 S. Ct. at 3302-05.

[32] Id. at 3304-05. The government argued in *Karo* that, even assuming beeper monitoring in this context is a search under the fourth amendment, a showing of "reasonable suspicion" rather than "probable cause" should suffice to support the execution of a warrant. The Court, however, declined to resolve this question, presumably leaving probable cause as the required standard. Id. at 3305 n.5.

[33] Id. at 3304 (footnote omitted); see supra note 16 and accompanying text.

[34] See Payton v. New York, 445 U.S. 573 (1980) (the fourth amendment prohibits warrantless, nonconsensual entry into a suspect's home to make a routine felony arrest); Johnson v. United States, 333 U.S. 10 (1948) (requiring warrant for search of home).

[35] See supra note 16. It would be possible to distinquish between one's residence and, for example, a commercial building. See, e.g., United States v. Clayborne, 584 F.2d 346, 351

### *C.* United States v. Knotts*: Public Monitoring Allowed*

Before the Supreme Court decided *United States v. Knotts*,[36] the lower courts reached disparate results in deciding the fourth amendment implications of electronic monitoring of public movement. Many courts concluded that tracking an aircraft's airborne location is not a search.[37] Cases addressing automobile monitoring, however, were more divided. One circuit held that monitoring public movement is not a search;[38] two others held that automobile monitoring is a search but disagreed over what standard governed the conduct.[39] The Supreme Court turned to this issue in its first opinion on electronic tracking devices.[40]

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(10th Cir. 1978) (acknowledging resident monitoring is a search, but reaching a different conclusion for a commercial building). The court in *Clayborne* compared the commercial building to the garage in United States v. Hufford, 539 F.2d 32 (9th Cir.), cert. denied, 429 U.S. 1002 (1976). Whether this distinction will work in light of *Karo* is uncertain. The "withdrawn from public view" language is ambiguous. The majority did, however, hold tbat respondents had a reasonable expectation of privacy in a locker of a storage facility; thus, had the beeper disclosed the presence of the can in that *particular* locker, the warrantless monitoring would have violated the fourth amendment at that point. *Karo*, 104 S. Ct. at 3306 n.6. In the context of warrantless beeper monitoring, then, the majority clearly does not limit an individual's reasonable expectation of privacy to his private residence.

The "withdrawn from public view" language appears to be a more expansive reading of fourth amendment protections in this context than the majority intended. Indeed, as Justice Stevens pointed out in his dissent, a person driving on public roads with a can in the trunk of the car is not exposing to the world that he has a can in the trunk. The can is in fact "withdrawn from public view" and, according to the dissent, deserving of constitutional protections. Id. at 3313 (Stevens, J., dissenting). This reading of *Karo* would, however, directly contradict *Knotts*, see infra notes 46-54 and accompanying text, where the Court that such activity did not constitute a search.

[36] 460 U.S. 276 (1983).

[37] See, e.g., United States v. Parks, 684 F.2d 1078, 1086 (5th Cir. 1982) (level of legitimate governmental surveillance "does not constitute a sufficient foundation on which to erect a[n] . . . expectation of privacy for Fourth Amendment purposes"); see also United States v. Bruneau, 594 F.2d 1190, 1197 (8th Cir.) ("the location of all airborne planes . . . [must] be carefully monitored" to prevent collision), cert. denied, 444 U.S. 847 (1979).

[38] See United States v. Dubrofsky, 581 F.2d 208, 211-12 (9th Cir. 1978).

[39] See United States v. Michael, 645 F.2d 252, 258 (5th Cir.) (en banc) (considering together installation and monitoring and requiring reasonable suspicion for both), cert. denied, 454 U.S. 950 (1981); United States v. Moore, 562 F.2d 106, 112-13 (1st Cir. 1977), cert. denied, 435 U.S. 926 (1978) (auto monitoring is a search requiring probable cause); see also supra note 32 (discussing different standards to be applied, assuming beeper monitoring is a search). *Knotts* clearly disposes of cases involving the warrantless *monitoring* of beepers tbat reveal no information that could not have been obtained through visual surveillance. See infra notes 46-54 and accompanying text.

[40] One final electronic tracking issue is the contraband exception. Whether for beeper installation or monitoring, the previous analyses are preempted when the beeper is attached

*1. The Facts*

The factual background of *Knotts* illustrates many of the reported cases involving beeper use. Local narcotics agents in Minnesota began investigating Tristan Armstrong after a chemical company reported that he was stealing chemicals that could be used to manufacture illicit drugs.[41] Visual surveillance revealed Armstrong and David Petchen moving laboratory equipment from a building into a truck. Inside the vacated premises, agents found more equipment and a white powdery byproduct of amphetamine synthesis. The agents then discovered that Armstrong had placed numerous orders for chemicals with another chemical company and was to pick up a drum of chloroform on a particular date. With the permission of the chemical company, the agents provided a drum containing a hidden beeper to use in filling Armstrong's order.

Law enforcement officers followed Armstrong after he picked up the chloroform. Armstrong drove his car to Petchen's residence where the drum was placed into another vehicle. The agents followed this car until losing visual and beeper contact near the Wisconsin border. Using the tracking device, the agents relocated the vehicle across the border in Wisconsin. Some time after the officers reestablished visual contact, Petschen began driving evasively. The agents then terminated surveillance and eventually lost beeper contact as well. One hour later, the agents located the beeper near a remote cabin, and they maintained intermittent visual surveillance until the following day when Petschen left with Leroy Knotts.

Three days later, government agents obtained a warrant authorizing a search of the cabin and surrounding property. The agents found a fully operable drug laboratory in the cabin and the beeper-laden drum just outside. At the trial of Knotts and Petchen, the district court overruled a motion to suppress evidence from the cabin. Defendants claimed that warrantless beeper monitoring violated their fourth amendment rights.

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to a known item of contraband. This usually occurs when police have lawfully intercepted controlled substances or illicit drugs in the mail or through undercover operations. A beeper is placed in the package containing the contraband to facilitate a controlled delivery. The courts hold that neither installation nor monitoring is a search, typically reasoning that there is " 'no legitimate expectation of privacy in substances which [citizens] have no right to possess at all.' " United States v. Pringle, 576 F.2d 1114, 1119 (5th Cir. 1978) (quoting United States v. Moore, 562 F.2d 106, 111 (1st Cir. 1977)); see also United States v. Botero, 589 F.2d 430, 432 (9th Cir. 1978); United States v. Washington, 586 F.2d 1147, 1154 (7th Cir. 1978); United States v. Emery, 541 F.2d 887, 889-90 (1st Cir. 1976); United States v. French, 414 F. Supp. 800, 803-04 (W.D. Okla. 1976); Houlihan v. State, 551 S.W.2d 719, 722 (Crim. App. Tex. 1977).

[41] The following discussion is excerpted from the facts presented in United States v. Knotts, 460 U.S. 276, 278-79 (1983).

Reasoning that "[t]he ultimate destination of the can was readily determinable through visual surveillance" of defendants, the district court found neither a subjective nor a reasonable expectation of privacy in this setting.[42] Knotts and Petschen were convicted of conspiracy to manufacture controlled substances.[43] The United States Court of Appeals for the Eighth Circuit reversed as to Knotts,[44] holding that the monitoring of a beeper placed in an item of noncontraband personalty that is carried onto private property constitutes a fourth amendment search.[45]

### 2. *The* Knotts *Holding*

The Supreme Court, per Justice Rehnquist, reversed the Eighth Circuit without dissent and affirmed Knott's conviction.[46] The Court held that

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[42] Brief for Respondent at 2, United States v. Knotts, 460 U.S. 276 (1983).

[43] 460 U.S. at 279.

[44] 662 F.2d 515 (8th Cir. 1981).

[45] Id. at 517-18. The Eighth Circuit panel focused exclusively on the narrow issue presented—that is, whether the monitoring of a beeper placed in an item of noncontraband personalty and carried onto private property is a search under the fourth amendment. The panel emphasized that "[t]his is not a case of a beeper heing attached to an automobile, so the ultimate issue is not whether there can be an expectation of privacy in the route taken by an auto over public roads." Id. at 517. Three times the court characterized the barrel as being "out of public view," as it was found "beneath a wooden barrel in the yard of a remote rustic cabin." Id. at 518. The court concluded that Knotts, a resident of the cabin, "could certainly have a reasonable, legitimate expectation of privacy in the kind and location of objects out of public view on his land." Id. Thus the court viewed the issue as one of private monitoring and decided it much the same way as *United States v. Karo*. See supra notes 29-35 and accompanying text (monitoring of items "withdrawn from public view" is a search).

[46] 460 U.S. at 285. The Supreme Court affirmed Knotts' conviction because it framed (not necessarily reasoned) the issue differently than did the Eighth Circuit. The lower court emphasized that the drum was "out of public view," whereas Justice Rehnquist twice characterized the drum as being in the "open fields." Id. at 282. See United States v. Hester, 265 U.S. 57 (1924) (observation of private property not a search when it occurs in the open fields). The Court repeatedly argued that "there is no indication that the beeper was used in any way to reveal information . . . that would not have been visible to the naked eye from outside the cabin," id. at 285, and that "[t]here is nothing in [the] record indicat[ing] that the beeper sigual was received or relied upon after it had indicated that the drum . . . had ended its automotive journey at rest on respondent's premises." Id. at 284-85. Thus, contrary to the Eighth Circuit's understanding, the "ultimate issue" in *Knotts* was whether there is a reasonable expectation of privacy in the route taken by an auto over public roads.

Justice Stevens concurred and argued that the record did not support the majority's implication that the drum was "parading in 'open fields' . . . in a manner tantamount to its public display on the highways." Id. at 288. Justice Blackmun similarly contended that the Court should have refrained from discussing the "open fields" doctrine, because cases that present the issue more directly had already been admitted to the Court's docket. Id. at 287. Neither Stevens nor Blackmun, however, stated how he would explain the decision without reference to "open fields." Presumably they thought that the beeper transmitted all the data necessary for conviction—the location at which the drugs were manufactured—before

the monitoring of a beeper that merely reveals the movement of an automobile traveling along public roads is not a search or seizure under the fourth amendment.[47] *Knotts* left open the issues of beeper installation and resident monitoring decided subsequently in *United States v. Karo*.[48] After distinguishing the fact situation presented from one in which the beeper monitored property within a private dwelling, the Court offered three arguments for the conclusion that vehicular monitoring is not a search.

First, the Court found no reasonable expectation of privacy in automobile travel, because an automobile's movements are exposed to public observation.[49] Second, the Court analogized the beeper to other technological means of surveillance, specifically the searchlight and pen register. According to recent Supreme Court opinions, police are constitutionally permitted to use these devices to improve law enforcement efficiency.[50] Finally, Justice Rehnquist suggested that beeper monitoring reveals no more information than does visual tailing, a practice clearly permissible under the Constitution.[51]

Although the Court's holding explicitly permits the warrantless monitoring of automobile travel only, its reasoning extends to the surveillance of any public movement.[52] An individual arguably has a greater privacy

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the beeper reached private property.

[47] 460 U.S. at 285.

[48] See infra notes 49-51 and accompanying text. The respondent in *Knotts* did not challenge the constitutionality of the *installation* of the beeper, consequently, the Court did not pass on this issue. 460 U.S. at 279. In the first of three concurrences, however, Justice Brennan suggested that the case "would have been . . . much more difficult" had the respondent raised the installation issue. Id. at 286. Brennan noted that a governmental trespass is still significant in determining whether a search has occurred. Such intrusions may be searches "even if the same information could have been obtained by other means." Id.

The Court also failed to resolve the "contraband exception" to the fourth amendment in this context.

[49] The Court supported this proposition with citations to several cases involving the automobile exception to the warrant requirement. 460 U.S. at 281. Justice Rehnquist reasoned from the diminished expectation of privacy assumption underlying the automobile exception to a complete absence of reasonable privacy expectations in a car traveling over public roads. Id.

[50] Id. at 282-83. Justice Stevens objected to the Court's broad dicta that the fourth amendment does not prohibit "the police from augmenting [their] sensory faculties"; he concluded that such statements conflict with previous readings of the fourth amendment and incorrectly imply that police use of new surveillance technology "does not implicate especially sensitive concerns." Id.

[51] Id. at 284-85.

[52] The Court appeared to say as much in United States v. Karo, 104 S. Ct. 3296 (1984) where it stated one of the questions presented: "[w]e are called upon to address [a] question[] left unresolved in *Knotts*: . . . whether monitoring of a beeper falls within the ambit of the Fourth Amendment when it reveals information that could not have been obtained

expectation in an automobile than in any other mode of transportation. In fact, the Supreme Court noted recently that because of the extensive time spent traveling in cars, individuals probably feel more secure in their automobiles than on a public sidewalk.[53] One exposes more when on foot or riding a bus than when driving a car, and so a police officer can follow an individual walking or riding a bus at least as easily as he can follow someone riding in a car. The *Knotts* argument therefore applies *a fortiori* to warrantless monitoring of pedestrians or of passengers on a common carrier. In short, it is safe to assert that *Knotts* permits warrantless electronic tracking of all public movement.[54]

The following section analyzes each of the three arguments expounded in *Knotts* to support the Court's conclusion that monitoring public movement is not a search.

## II. An Individual Rights Analysis of *United States v. Knotts*

In establishing that the monitoring of beeper signals that reveal the location of a vehicle traveling over public roads is not a fourth amendment search, the Court in *Knotts* offered three arguments. First, the Court found no reasonable expectation of privacy in public automobile movement. Second, it analogized the beeper to other permissible electronic investigative tools. Third, the Court held that beepers merely represent an efficient substitute for visual surveillance. This section analyzes each of these arguments under a traditional view of the fourth amendment as the source and guardian of individual constitutional rights. It concludes that despite problems with the Court's first two rationales,

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through visual surveillance." Id. at 3299. A reasonable inference is that the Court views *Knotts* as having decided that beeper monitoring is not a search when the information could be obtained through visual surveillance. Visual surveillance could in theory reveal all public movement.

[53] Delaware v. Prouse, 440 U.S. 648, 662-63 (1979). The Court's decision in Terry v. Ohio, 392 U.S. 1 (1968), emphasizes this point. In *Terry*, the Court held that a policeman may "stop and frisk" a person on reasonable suspicion that the person poses a risk of danger or has engaged in a crime. Id. at 27, 30. Despite this holding, the fourth amendment still requires probable cause to search the interior of an automobile. See United States v. Ross, 456 U.S. 798, 806-09 (1982); Carroll v. United States, 267 U.S. 132, 153-54 (1925).

[54] This proposition is not trivial; the technology has long existed to conceal beepers in clothing, eyeglasses, wristwatches, and other personal items. See A. Westin, Privacy and Freedom 69-70 (1967) (asserting that a " 'radio pill' . . . tag can be lodged in the stomach of the subject himself"). See also United States v. Bobisink, 415 F. Supp. 1334, 1339 (D. Mass. 1976) ("There is nothing in the nature of these heepers which limits their use to automobiles and large packages. Presumably, no technological problem prevents agents from placing such devices on, for example, a person's clothing."), aff'd in part, rev'd in part, vacated in part sub nom. United Statcs v. Moore, 562 F.2d 106 (1st Cir. 1977), cert. denied, 435 U.S. 926 (1978).

*Knotts* is compelling under the traditional individual rights approach in its characterization of beeper monitoring as a substitute for visual surveillance.

### *A. Privacy Expectations in Automobile Travel*

At the outset, the Court established that, for conduct to constitute a search, the challenged governmental action must intrude upon an expectation of privacy that is "reasonable."[55] Relying on the well established principle that individuals enjoy only a "diminished expectation of privacy surrounding the automobile,"[56] the Court concluded that the public nature of automobile travel negates the existence of any reasonable expectation of privacy. According to the opinion, there is clearly a lessened privacy expectation in items so exposed to the general public and to occasional government inspection.[57] Furthermore, the *Knotts* Court reasoned, because automobile travel along public roads is exposed to bystanders, an individual cannot reasonably expect such information to remain secret.[58]

This analysis resembles that applied in *United States v. White*,[59] in which the Court upheld warrantless electronic eavesdropping where one of the participants in the conversation consented to its recording. The Court in *White* reasoned that because the consenting participant could later recount the conversation, there was no privacy invasion when agents

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[55] The Court began its discussion by tracing the evolution of the meaning of "search or seizure." *Knotts*, 460 U.S. at 280. The modern test of whether there has been a search requires that a legitimate expectation of privacy exist subjectively and that the expectation be "one that society is prepared to recognize as 'reasonable.' " *Knotts*, 460 U.S. at 281 (quoting United States v. Katz, 389 U.S. 347, 361 (1967) (Harlan, J., concurring)). See supra note 8.

[56] Id. at 281.

[57] 460 U.S. at 281 (quoting Cardwell v. Lewis, 417 U.S. 583, 590 (1974) (plurality opinion) (while a car travels on public thoroughfares, "both its occupants and its contents are in plain view")). The Court also cited South Dakota v. Opperman, 428 U.S. 364, 368 (1976), where it had stated that the expectation of privacy in a car is much less than that in a home, because the former is subjected to pervasive and continuing governmental regulation and control. 460 U.S. at 281.

[58] The Court concluded that, given the frequent contact an automobile and its driver have with the public:

> A person traveling in an automobile on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another. When Petschen traveled over the public streets he voluntarily conveyed to anyone who wanted to look the fact that he was traveling over particular roads in a particular direction, the fact of whatever stops he made, and the fact of his final destination when he exited from public roads onto private property.

460 U.S. at 281-82.

[59] 401 U.S. 745 (1971). Compare United States v. Karo, 104 S. Ct. 3296, 3304 n.4 with id. at 3307-10 (O'Connor, J., concurring) (different readings of *White* in the beeper context).

recorded it.[60] Several courts have applied the *White* rationale to electronic tracking cases, holding that because "[t]he defendant's automobile movements were at all times in full view of the public, . . . the public as well as Government agents could have revealed what they saw."[61]

Courts applying the *White* analysis to electronic vehicle tracking ignore the nature of the privacy interest involved in automobile travel. An individual clearly understands that others may see him driving down a road. His privacy interest, however, generally rests on keeping secret the sum and not the parts of his trip. The sum consists of four or five elements: the starting point, the intermediate and/or final destinations, the roads traveled, the identity of the driver and/or passengers, and possibly the contents of the vehicle.[62] The public may observe and determine any of these elements, thereby eliminating any reasonable privacy expectation in them individually. People may observe a driver traveling over particular roads in a particular direction; others may see the driver stop at an unknown residence. Yet because the combination of these elements will be unknown to any single person in almost every case, the driver's privacy remains secure.[63]

Distinctions between the facts of *White* and those of beeper cases further militate against application of this analysis to electronic monitoring of automobiles. *White* involved an informant who consented to the police taping his conversations with a suspect. Public vehicular movements, though, involve no willing participant and only a slight possibility that any individual knows all elements of the driver's trip. Moreover, in *White* the government was able to identify the specific participant in the conversation who consented to the taping. *Knotts* merely assumes a person's consent to identifying the driver's route, if such an observer even exists. If the public actually could reveal the driver's route, it is curious that law enforcement agents do not more often rely on "the public" for such infor-

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[60] 401 U.S. at 751-52.

[61] United States v. Hufford, 539 F.2d 32, 34 (9th Cir.), cert. denied, 429 U.S. 1002 (1976); see also United States v. Bailey, 628 F.2d 938, 940 n.4 (6th Cir. 1980) (no legitimate expectation of privacy in information that a goverment agent could lawfully have acquired under conditions more favorable to sensory reception); United States v. Conroy, 589 F.2d 1258, 1264 (5th Cir.) (no legal right to protect mistaken belief that person in whom one confides will keep one's secrets), cert. denied, 444 U.S. 831 (1979).

[62] See, e.g., A. Westin, supra note 54, at 165; Holder, Privacy Lost, Student Law., Dec. 1983, at 14, 17.

[63] See Yale Note, supra note 4, at 1494 ("An individual may thus be entitled to rely on the privacy of his 'route,' even if segments of it are exposed."); see also LaFave, Nine Key Decisions Expand Authority to Search and Seize, 69 A.B.A. J. 1740, 1740 (1983) ("Only an army of bystanders, conveniently strung out on the route and who not only 'wanted to look' but also wanted to pass on what he observed to the next in line" would truly invade the driver's privacy interest and expectation.).

mation. In short, the need for visual and beeper surveillance belies the claim that identifiable members of the public know and will provide information about a suspect's travels.

With this understanding of route privacy, it becomes evident that the precedent relied on in *Knotts* does not support a diminished expectation of privacy in vehicular movement. The cases cited in *Knotts* involve the physical contents or characteristics of an automobile.[64] Because a car is driven in public, parked in public, and subject to regulatory inspections, people may observe through its windows what rests in "plain view" on the seats, floorboards, or dashboards. Hence, individuals usually do not leave or carry personal items in their car. These generalizations, however, merely establish a diminished privacy expectation in the contents or appearance of automobiles, not in the history of their travel.

Although the public nature of automobile travel reduces one's privacy expectations in the vehicle, some privacy interest remains. In fact, the Supreme Court has rejected the notion that cars are without fourth amendment protection.[65] It reasons that, because individuals spend so much time in their automobiles, some protection is essential.[66] This privacy expectation is reflected in the automobile exception to the warrant requirement. The exception acknowledges a diminished expectation of privacy surrounding a car, but not the absence of any privacy interest. Indeed, although police need not obtain a warrant to search an automobile, the Court consistently holds that the fourth amendment requires a showing of probable cause that the vehicle contains evidence of a crime.[67] Thus, the *Knotts* conclusion that beeper monitoring of vehicular movement invades no reasonable privacy interest contradicts other Supreme Court decisions addressing the privacy expectation surrounding automobiles.[68]

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[64] *Knotts*, 460 U.S. at 281; see supra note 57 and accompanying text.

[65] See Delaware v. Prouse, 440 U.S. 648, 662 (1979) ("[a]n individual operating or traveling in an automobile does not lose all reasonable expectation of privacy simply because the automobile and its use are subject to governmental regulation").

[66] Id.

[67] See S. Saltzburg, supra note 26, at 234-35 (collecting cases).

[68] See, e.g., Delaware v. Prouse, 440 U.S. 648, 662-63 (1979) ("Were the individual subject to unfettered governmental intrusion every time he entered an automobile, the security guaranteed by the Fourth Amendment would be seriously circumscribed"); Coolidge v. New Hampshire, 403 U.S. 443, 461-62 (1971) ("The word 'automobile' is not a talisman in whose presence the Fourth Amendment fades away and disappears"); see also United States v. Moore, 562 F.2d 106, 112 (1st Cir. 1977) (although the public nature of automobile travel reduces considerably the intrusion occasioned by beeper monitoring, the intrusion cannot be characterized as nonexistent), cert. denied, 435 U.S. 926 (1978).

### *B. Similarity to Other Surveillance Technologies*

The *Knotts* Court also supported its conclusion by analogizing beepers to other technological surveillance devices. Specifically, the Court quoted language from Supreme Court cases holding that use of searchlights and pen registers is not a search. In *United States v. Lee*,[69] for example, the Court upheld the use of a searchlight at night to scan a ship's deck for illegal liquor.[70] Similarly, the Court noted its recent conclusion in *Smith v. Maryland*[71] that the use of pen registers by law enforcement officials to record the numbers dialed for local telephone calls is not a search.[72] These analogies, however, are useful only as examples of the legitimate expectation of privacy test, not as alternatives to it. Unfortunately, the Court failed to explain the similarities between a beeper and a searchlight, flashlight, or pen register for purposes of fourth amendment analysis.

In analyzing the uses of these technological devices, the focus remains on the reasonableness of the privacy expectation vis-à-vis the public. People use artificial light when it is dark, so an expectation that one roaming in public at night will not be exposed to light arguably is unreasonable. Furthermore, the degree and duration of scrutiny necessary to reveal the information represents a more critical distinction between searchlights

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[69] 274 U.S. 559 (1927).

[70] Id. at 563. It should be noted that the Court decided *Lee* under the old trespass distinction of United States v. Olmstead, 277 U.S. 438 (1928), that the Court abandoned in United States v. Katz, 389 U.S. 347 (1967), in favor of a legitimate expectation of privacy test. See supra note 2. Nonetheless, the *Katz* Court cited *Lee* for the proposition that "[w]hat a person knowingly exposes to the public . . . is not a subject of Fourth Amendment protections." *Katz*, 389 U.S. at 351. One month after *Knotts*, the Court again cited *Lee* in holding that a police officer's use of a flashlight to illuminate an automobile interior is not a search under the fourth amendment. Texas v. Brown, 460 U.S. 730, 740 (1983). The Court has thus expressly brought the *Lee* holding within modern privacy expectations doctrine.

[71] 442 U.S. 735 (1979).

[72] Id. at 735. A pen register is an instrument that records the numbers dialed on a telephone. In an investigation, a pen register is usually installed at a central telephone facility rather than near the building containing the telephones. See United States v. New York Tel. Co., 434 U.S. 159, 161-62, 161 n.1 (1977). Because a telephone caller exposes the numbers he dials to the telephone company "in the ordinary course of business," the caller assumes the risk that the phone company will reveal the information to the police and therefore retains no legitimate privacy expectation. Id. at 744. The lower courts have reached similar conclusions by analogizing beepers to other surveillance technologies. See, e.g., United States v. Michael, 645 F.2d 252, 258 nn. 14 & 16 (5th Cir.) (en banc) (pen register and binoculars), cert. denied, 454 U.S. 950 (1981); United States v. Dubrofsky, 581 F.2d 208, 211 (9th Cir. 1978) (binoculars, tracking and sniffing dogs, searchlights, flourescent powders, radar devices, bait money); United States v. Hufford, 539 F.2d 32, 32 (9th Cir. 1976) (binoculars, tracking dogs, searchlights).

and beepers. A single flash may penetrate the secrecy of the dark, whereas beepers require continued observation to discover someone's identity, route, and final destination. Similarly, the use of pen register records differs from beeper monitoring and is analogous to the participant recording permitted in *United States v. White*.[73] The government can point to a particular third party, the telephone company, and can receive consent of that party to examine the records. In sum, the permissibility of these "analogous" technologies that the Court discusses merely establishes that the police may collect information that is actually and frequently, not hypothetically or rarely, revealed to nongovernmental agents.

Not only do people and private corporations frequently use artificial illumination and pen registers, but the information these devices reveal usually has been exposed for some time. And although the use of pen registers is a more recent phenomenon, the Court partially grounded its decision in *Smith* on the fact that this conduct did not offend historical expectations of privacy.[74] In contrast, the electronic beeper represents a new technological development never encountered by most individuals. Hence, its use is not a part of the "understandings that are recognized and permitted by society"[75] that determine legitimate expectations of privacy. The *Knotts* Court's technological analogies thus offer little support for its finding of no fourth amendment protection.

### *C. Making Visual Surveillance More Efficient*

The final argument in *Knotts* is more persuasive. Individuals understand that police sometimes engage in extended visual surveillance. Our society has accepted the ancient surveillance technique of physical shadowing since the founding of our government.[76] The case law establishes that even an extended police tail is not a search, with exceptions for intentionally obtrusive and harassing surveillance.[77] Even if such warrantless surveillance seems difficult to square with the fourth amendment, as some have argued,[78] courts consistently reaffirm its validity.[79]

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[73] 401 U.S. 745 (1971).

[74] *Smith*, 442 U.S. at 744-45 (early phone systems required operator assistance, consequently reducing privacy expectations in person called).

[75] Rakas v. Illinois, 439 U.S. 128, 144 n.12 (1978).

[76] See A. Westin, supra note 54, at 118 ("From the earliest days of the American republic, law and public opinion have accepted such clandestine police techniques as shadowing . . . .").

[77] See, e.g., United States v. Gonzalez-Rodriguez, 513 F.2d 928 (9th Cir. 1975); United States v. McCall, 243 F.2d 858 (10th Cir. 1957).

[78] See Yale Note, supra note 4, at 1494.

[79] See, e.g., United States v. Frazier, 538 F.2d 1322, 1326 (8th Cir. 1976) ("The intrusion

The Court's decision not to regulate visual surveillance might be defended as a realistic recognition of the limited threat this police activity represents. The expense of placing a police tail on a suspect probably restricts its use to cases of reasonable and individualized suspicion.[80] The Court in *Knotts* argued that, given the permissibility of warrantless visual surveillance, beeper monitoring of automobile travel merely represents a more reliable means of tailing suspects.[81] According to the Court, a police car following a defendant throughout his journey could have observed his entire route. Hence, beeper monitoring simply enhances the effectiveness of constitutionally permissible visual tailing that is unquestionably permissible.

In making this point, however, the Court adopted broad and troublesome language: "We have never equated police efficiency with unconstitutionality, and we decline to do so now. . . . Nothing in the Fourth Amendment prohibited the police from augmenting the sensory faculties bestowed upon them at birth with such enhancement as science and technology afforded them in this case."[82] "Efficiency" and "sense enhancement" are ambiguous terms that ignore privacy expectations. The fourth amendment ranks privacy interests above unbridled law enforcement efficiency; indeed, efficiency concerns often have fallen to the superior concerns of privacy. One could argue, as did Justice Stevens in his concurrence, that the Court prohibited the efficiency of certain aural sense enhancements in *United States v. Katz*,[83] where it held unconstitutional the warrantless electronic eavesdropping of a telephone conversation.[84] Furthermore, courts have generally required a warrant for the use of "efficient" devices such as x-rays and magnetometers.[85]

That technological advances will steadily reduce individuals' privacy

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on defendant's privacy was no greater here than an intrusion created by manual, visual surveillance of the car's location, which is clearly permissible *irrespective of fourth amendment considerations*.") (emphasis added), cert. denied, 429 U.S. 1046 (1977).

[80] The possibility that economic restraints may adequately replace judicial control of tailing is explored infra notes 125-33 and accompanying text. There it is argued that resource restraints sufficiently control visual tailing but fail to check technological surveillance such as beepers. Note, however, that focusing on an individual case does not permit consideration of systemic restraints on police. The variable of resource scarcity is relevant only in a social or collective context. See infra Part III.

[81] 460 U.S. at 285 ("scientific enhancement of this sort raises no constitutional issues which visual surveillance would not also raise").

[82] 460 U.S. at 282-84.

[83] 389 U.S. 347 (1967).

[84] Id. at 288 (Stevens, J., concurring).

[85] See, e.g., United States v. Haynie, 637 F.2d 227, 230 (4th Cir.) (use of x-ray scanner is a search), cert. denied, 451 U.S. 972 (1980); United States v. Albarado, 495 F.2d 799, 803 (2d Cir. 1974) (use of magnetometer is a search).

expectations over time represents a more subtle threat to fourth amendment protections.[86] A new technology, once accepted, may lower privacy expectations enough to justify a slightly more intrusive generation of technological surveillance.[87] The Court should guard against the danger of technological evolution by preserving as a minimum the privacy expectations of the past.[88] But Justice Rehnquist's broad dictum in *Knotts* overlooks this threat. In addition to the broad endorsements of police efficiency and sense enhancement, the Court adopts a "wait and see" posture regarding possible abuses of beeper technology. Respondent argued that the police might use beepers to engage in continuous and unsupervised surveillance of any individual. The Court responded that "if such dragnet type law enforcement practices . . . should eventually occur, there will be time enough then to determine whether different constitutional principles may be applicable."[89] This approach ignores the fact that once such practices become routine, they may not be perceived as violating expectations of privacy.

The broad "efficiency" language of *Knotts* may be read to support a narrower, more convincing point. Devices such as x-ray machines and magnetometers collect information previously obtainable only by a search regulated by the fourth amendment. Likewise, electronic eavesdropping equipment replaces the need for police to enter a private place and overhear a conversation, an act that requires a warrant. Beeper monitoring, on the other hand, merely provides information that police can obtain without a search—that is, through visual surveillance. In short, the beeper represents a substitute for an age-old police technique that falls beyond the scope of the fourth amendment.[90]

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[86] After *Katz*, Justice Harlan observed that "[o]ur expectations, and the risks we assume, are in large part reflections of laws that translate into rules the customs and values of the past and present." United States v. White, 401 U.S. 745, 786 (1971) (Harlan, J., dissenting).

[87] See Boyd v. United States, 116 U.S. 616, 635 (1886) ("illegitimate and unconstitutional practices get their first footing . . . by silent approaches and slight deviations from legal modes of procedure").

[88] To prevent such encroachment, one commentator has suggested that "the Court . . . adopt a *principle of conservation* which would focus judicial attention on a historical, pre-electronic, measure of privacy and provide a standard for conserving the level of privacy which has vitalized our society in the past." Comment, Electronic Eavesdropping and the Right to Privacy, 52 B.U.L. Rev. 831, 839 (1972); see also United States v. Knotts, 662 F.2d 515, 517 (8th Cir. 1981) (viewing the beeper issue as part of the larger "philosophical question" of "whether the constitutional protections of privacy must or should diminish with technological innovations in surveillance"), rev'd, 460 U.S. 276 (1983).

[89] United States v. Knotts, 460 U.S. 276, 284 (1983).

[90] Id. at 285; see also *Hufford*, 539 F.2d at 34 ("[T]he [beeper] device only augments that which can be done by visual surveillance alone; with more agents and more automobiles or planes, [defendant's] movements could have easily been followed without the use of a beeper.").

Read narrowly, the Court's efficiency argument thus supports its conclusion that beeper monitoring equals no more than visual surveillance. Because there appears to be no authority or willingness to bring the ancient tactic of visual surveillance under the fourth amendment, courts and commentators advocating constitutional control of beeper monitoring must distinguish the two investigatory techniques.[91] Attempts to make this distinction, however, fail because they focus solely on the effect of surveillance on the individual. The following section argues that the threat of beeper monitoring to society as a whole differs from the threat of such conduct to individuals. Despite the Court's conclusion in *Knotts*, an analysis of the fourth amendment read to embrace collective privacy interests reveals that warrantless beeper monitoring poses an unconstitutional threat to society under a modern notion of the prohibition against unreasonable searches or seizures.

## III. A Collective Privacy Rights Analysis of Beeper Monitoring Under the Fourth Amendment

By focusing on an individual subject of beeper surveillance, it seems obvious that electronic tracking is merely the equivalent of conventional tailing. But in comparing the aggregate police practices of visual versus electronic surveillance, it is not clear that the societal effects are the same. The efficiency of beeper monitoring may facilitate a higher frequency of surveillance, and its technological nature may generate greater societal anxiety. Regardless of how this empirical question is answered, the collective effects of a police practice should be considered in fourth amendment cases like *Knotts*.

### *A. Collective Fourth Amendment Rights*

The effect of the governmental action on the individual's privacy expectation determines whether he has been searched or seized unreasonably. But courts should not focus solely on the invasion of an individual's

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[91] One commentator has accepted the individual rights analysis and in arguing against unrestricted beeper monitoring likewise has condemned visual surveillance. See Yale Note, supra note 4, at 1494-95 & 1494 n.145 (arguing that what one knowingly exposes to the public is only what "reasonably curious persons" might observe and that beeper monitoring is a search because no such person is likely to engage in it; concluding that continuous *visual* surveillance is a search). But see W. LaFave, supra note 10, § 2.7, at 434 (noting that "no court decision has been found adopting this position or even intimating that it might be adopted.") Thus, it appears necessary to distinguish beeper monitoring from visual surveillance to provide an effective argument for applying fourth amendment protections to the use of electronic tracking devices. This note provides such a distinction infra text accompanying notes 102-04.

privacy. The collective effects of a police practice include two components. First, courts must determine the aggregate losses individuals have suffered from police surveillance. Second, to recognize fully the collective interest, courts must measure all the negative effects society suffers from police activity that interferes with individual privacy. The ripple effect of an individual's confrontation with law enforcement officials increases the threat to society as a whole.[92] The knowledge of government surveillance creates an anxiety in individuals not under investigation that the state may treat them similarly. This collective anxiety is clear in instances of patently illegal searches or seizures.[93]

Thus, when courts consider this interest in adjudicating fourth amendment rights, they should focus on both the aggregate of individual police encounters and the synergistic effects of pervasive police practice on society as a whole. This section contends that the fourth amendment does protect collective privacy rights and concludes that *Knotts* undermines societal privacy interests. The language of the fourth amendment as well as the privacy values it embodies dictate this approach.

A close reading of the fourth amendment supports the notion that people *as a group* have a right to be confident that the government will not make unreasonable intrusions into their "persons, houses, papers and effects." The text of the fourth amendment guarantees a "right of the people," whereas the fifth and sixth amendments speak only of a "person" or "the accused."[94] Moreover, the amendment guarantees the people a right to be "secure," a word that means "free from fear, care, or anxiety: easy in mind . . . having no doubt."[95] Manifestly concerned with the repose of the people, the framers of the fourth amendment did not merely create a right of individuals to be free from unreasonable searches or seizures, but

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[92] The idea of collective fourth amendment interests is hardly new. See Brinegar v. United States, 338 U.S. 160, 180 (1949) (Jackson, J., dissenting) ("Among deprivations of rights, none is so effective in cowing a population, crushing the spirit of the individual and putting terror in every heart. Search and seizure is one of the first and most effective weapons in the arsenal of every arbitrary government."). The age of this view strengthens its appeal. This note seeks to provide a clearer understanding of how collective rights should be protected by the judiciary.

[93] For example, when police enter and search a residence at night without a warrant, this conduct disturbs not only those living in the residence, but also neighbors and others aware of the search who fear that the same will happen to them.

[94] See Amsterdam, Perspectives on the Fourth Amendment, 58 Minn. L. Rev. 349, 432-33 (1974) (arguing that the wording of the fourth amendment is not accidental, but reflects a pattern of collective rights found in the first, second, and ninth amendments).

[95] Webster's Third International Dictionary of the English Language 2053 (unabridged ed. 1971). The word "free" is a plausible substitute for "secure" in the fourth amendment. Focusing on the right to be free from unreasonable searches might eliminate concern for collective fear of such activity. Thus there is reason to believe that the framers' choice of "secure" was deliberate.

a societal right to be free from the fear such practices create. When the police ransack a house in the middle of the night, a neighbor is still "free from" searches but not "secure . . . against" them.

Interest balancing under the fourth amendment also supports the collective rights approach. In applying the privacy expectations test, the Court must balance law enforcement needs against fourth amendment privacy interests. Under Justice Harlan's formulation, the test requires not only a subjective privacy expectation, but also one that society recognizes as reasonable.[96] Thus, to determine socially reasonable expectations the Court inquires whether a defendant's subjective privacy expectation comports with the subjective expectations of other members of society.[97] Because subjective expectations do not exist in a vacuum, the Court's decisions are one important factor influencing the actual expectations of members of society and, hence, determining socially reasonable behavior.

The Court's determination, as Harlan recognized, represents a normative evaluation and not a neutral description. Indeed, Harlan warned that judges "should not . . . merely recite the expectations and risks without examining the desirability of saddling them upon society."[98] Motivated by this concern, the Supreme Court observed in *Smith v. Maryland*[99] that the test of reasonable privacy expectations is inadequate where the government eliminates those expectations essential to a democracy by publicizing a policy of intrusion. The Court echoed Harlan's conclusion that

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[96] United States v. White, 401 U.S. 745, 786 (1971) (Harlan, J., dissenting).

[97] Courts addressing this issue are then able to avoid deciding what privacy expectations "ought" to be "reasonable." The judge merely looks to the common expectations of society and determines whether the defendant's expectation is shared by other members of society. Of course, there is a problem in deciding how many other members of society must share the privacy expectation before it becomes reasonable.

Development of a neutral definition of reasonable expectations, however, is a futile and unnecessary effort. If courts were sincerely interested in defining "reasonable" privacy expectations neutrally, they would rely upon sophisticated opinion surveys and the like to determine what expectations are common. But the courts are far more likely to apply their own notions of what privacy expectations are reasonable and then attribute those expectations to the bulk of the population. Compare Smith v. Maryland, 442 U.S. 735, 743 (1979) ("Although subjective expectations cannot be scientifically gauged, it is too much to believe that telephone subscribers, under these circumstances, harbor any general expectation that the numbers they dial will remain secret.") with id. at 749 n.1 (Marshall, J., dissenting) ("Lacking the Court's apparently exhaustive knowledge of this Nation's telephone books and the reading habits of telephone subscribers . . . I decline to assume general public awareness of how obscene phone calls are traced."). Justice Marshall apparently thinks that such "neutral" reasoning merely represents the majority's view of reasonable expectations, and he suggests that the Court focus rather on "the risks [an individual] *should* be forced to assume in a free and open society." Id. at 750 (emphasis added).

[98] United States v. White, 401 U.S. 745, 786 (1971) (Harlan, J., dissenting).

[99] 442 U.S. 735 (1979).

in such cases a normative inquiry is proper in determining legitimate expectations of privacy.[100] Clearly, whenever the Court decides not to protect a privacy claim because it is unsupported by actual expectations among members of society, the Court makes the normative judgment that the privacy interest is not fundamental and that society can exist without it.[101]

It is illogical not to include collective interests in making such utilitarian decisions. All the variables of social utility become relevant once the question is one of social desirability.[102] The language and intent of the fourth amendment suggest that the synergistic effects of individual police encounters on collective security should be a primary factor in this inquiry. The Court must not focus merely on a single individual in a single encounter with the police, but it must focus also on the effect of the encounter on uninvolved individuals.[103] Indeed, police misuse of new technologies may exacerbate societal fears, not because a surveillance technique significantly disturbs an affected individual, but because society, subject to these new techniques, feels threatened by police investigation.[104]

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[100] Id. at 740 n.5. The Court stated that "where an individual's subjective expectations had been 'conditioned' by influences alien to well recognized Fourth Amendment freedoms, those subjective expectations obviously could play no meaningful role in ascertaining what the scope of Fourth Amendment protection was." Id.

[101] See, e.g., *Smith*, 442 U.S. at 750 (Marshall, J., dissenting). Responding to the majority's contention that in some circumstances "a normative inquiry would be proper," id. at 741 n.5, Justice Marshall noted, "No meaningful effort is made to explain what those circumstances might be, or why this case is not among them." Id. at 750. See Josephson, Book Review, 15 UCLA L. Rev. 1586, 1599 (1968) (reviewing A. Westin, supra note 54) ("[The Court must] discover and define the residuum of privacy which is so inviolable that no amount of notice could justify its invasion.")).

[102] See A. Westin, supra note 54, at 25 (suggesting that the "constant search in democracies must be for the proper boundary line in each specific situation and for an over-all equilibrium that serves to strengthen democratic institutions and processes."); see also United States v. Martinez-Fuerte, 428 U.S. 543, 555 (1976) ("In delineating the constitutional safeguards applicable in particular contexts, the Court has weighed the public interest against the Fourth Amendment interest of the individual . . . .").

[103] See A. Miller, The Assault on Privacy 207 (1971) (with "electronic surveillance, the climate or atmosphere of suspicion created by an accumulation of invasions of privacy is of far greater concern than the direct harm caused by the incidents themselves"); see also Josephson, supra note 101, at 1599 ("Even quite reasonable surveillance practices which should be permissible in themselves, may in the aggregate form be the basis of a terribly oppressive society.").

[104] The Court requires a "structured and rational weighing process" within which it might consider collective privacy interests. A. Westin, supra note 54, at 370. Justice Harlan suggested that the question of what is a search "must, in my view, be answered by assessing the nature of a particular practice and the likely extent of its impact on the individual's sense of security balanced against the utility of the conduct as a technique of law enforcement."

The fourth amendment thus dictates the use of collective privacy rights analysis to identify logically relevant interests that determine reasonable expectations of privacy. If the use of a surveillance device creates an intolerable risk of undermining our free and open society, then the Court is obliged to impose constitutional restraints on its use. The *Knotts* characterization of beeper monitoring as a mere substitute for visual surveillance becomes less compelling under this analysis. In fact, empirical factors regarding the effect of beeper use on society highlight the stark distinction between visual and electronic surveillance. The next section will consider *Knotts* from the perspective of societal interests.

### *B. The Threat of Beeper Monitoring to Collective Privacy Interests*

#### *1. Individual Interests*

Collective fourth amendment interests are measured in part by the effect of aggregated individual privacy losses on society's feeling of security. Beeper monitoring of automobile travel, and of public movements generally, may threaten the individual's informational privacy, undermine his efforts at anonymity and solitude, and chill his constitutional right to

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United States v. White, 401 U.S. 745, 786 (1971) (Harlan, J. dissenting). Similarly, recognizing this collective threat to society, Professor Amsterdam has suggested that the fourth amendment be considered not a refuge of atomistic individual rights but a "regulatory canon requiring government to order its law enforcement procedures in a fashion that keeps us collectively secure in our persons, houses, papers, and effects." Amsterdam, supra note 94, at 367. Another commentator has argued tbat this conclusion is implicit in the Court's exclusionary rule opinions. See Doernberg, "The Right of the People": Reconciling Collective and Individual Interests Under the Fourth Amendment, 58 N.Y.U. L. Rev. 259, 287 (1983) ("The Court's repeated insistence that the exclusionary rule is not personal to the accused but is a judicially created remedy designed to vindicate a societal interest is thus an affirmation of the existence of a juridically cognizable societal interest.") Doernberg concludes that "the Court should explicitly recognize the societal interest for what it is—a collective constitutional right." Id. at 294.

Although this note embraces Doernberg's conclusion, it criticizes his reasoning. He argnes that the exclusionary rule proves that there are collective fourth amendment rights. But the means of enforcing rights do not necessarily reveal the nature of the rights enforced. It would be perfectly consistent to recognize only individual rights under the fourth amendment, and then to protect those rights with the exclusionary rule. An individual's right under the amendment is to be free from unreasonable searches; the collective right is to be *confident* that one will not be unreasonably searched. Clearly, the exclusionary rule could be used solely to vindicate an individual constitutional right. Indeed, the exclusionary rule covers violations of the fifth amendment privilege against self-incrimination and the sixth amendment right to counsel, as well as the fourth amendment guarantees. Hence, in deciding the parameters of the exclusionary rule, courts could weigh only the detriment to individuals actually affected by police encounters, and not the effect on the collective fear of surrounding individuals not searched. Doernberg's reasoning would make almost every right "collective" because society often protects individual rights by collective laws or policies.

travel. This section discusses these individual interests and then argues that, although visual surveillance affects these interests, electronic tracking may compound individual losses to create a far greater collective danger.

*a. Informational Privacy*

Although the Supreme Court in *Knotts* refused to recognize a reasonable expectation of privacy in public movements, individuals are entitled to have secrets, and constant surveillance of their movements might reveal those secrets to watchers. The problem drinker who goes to an Alcoholics Anonymous meeting, the patient who drives to his psychiatrist's office, the homosexual who visits a gay bar, the spouse who has a rendezvous with another lover, the teenager or adult who skips school or work to go fishing, would all be exposed if someone constantly tracked their public movements.[105] For the most part, however, individuals in these situations retain their secrets and hence their informational privacy despite exposing their movements.

Associational freedom, a distinguishing characteristic of any free society, similarly involves privacy interests. The first amendment, for example, protects the privacy of associational membership,[106] and the Court has interpreted it to guarantee the right of political associations to refuse to disclose membership lists.[107] Although the Court has indicated that the identity cloak does not provide an absolute immunity from governmental investigation,[108] constant surveillance of a person's movements could, over time, reveal associational tendencies as thoroughly as a membership list.

One jurist, emphasizing the importance in a free society of protecting information about one's travels from technological intrusions, has concluded that "privacy of movement itself is deserving of Fourth Amendment protections."[109] Such a privacy interest promotes democratic values by facilitating informational secrecy and by protecting associational free-

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[105] It is arguable that these acts deserve no privacy protection because they are transgressions. But privacy rights must function to shield individuals from constant reprisal for violating ambivalent social norms. See A. Westin, supra note 54, at 35 (observing that "[i]f there were no privacy to permit society to ignore these deviations—if all transgressions were known—most persons in society would be under organizational discipline or in jail, or could be manipulated by threats of such action").

[106] See, e.g., Talley v. California, 362 U.S. 60 (1960).

[107] NAACP v. Alabama ex rel. Patterson, 357 U.S. 449 (1958).

[108] Id. at 463.

[109] United States v. Bailey, 628 F.2d 938, 948 (6th Cir. 1980) (Keith, J., concurring) ("our idea of freedom is offended and necessarily shrinks at the continual monitoring of personal movement").

doms.[110] Whether or not it has a specific constitutional basis, informational privacy must be considered in evaluating the police practice of beeper monitoring.

*b. Freedom from Attention*

In addition to an interest in the concealment of information, the notion of privacy also includes freedom from attention[111] or "control over who can sense us."[112] This uncontroversial proposition challenges the Court's assumption that privacy involves only informational secrecy.[113] This privacy interest in freedom from attention may be protected by the solitude of being physically alone, or by the anonymity of blending into a large number of indifferent people. First, because people seek anonymity in public, the ability to move about without detection represents a major component of privacy.[114] In these situations, the individual "does not expect to be personally identified and held to the full rules of behavior and role that would operate if he were known to those observing him. In this state the individual is able to merge into the 'situational landscape.' "[115]

Second, people's tendencies to seek solitude in the outdoors supports the contention that seclusion is essential for self-reflective and religious contemplation. Thus, when an individual searches for his "guardian spirit," he often seeks privacy in the forest or on the beach.[116] Furthermore, children, adolescents, and indigents rely on the outdoors for privacy they lack when under supervision or in a crowded residence.[117] In striking down a vagrancy statute as unconstitutionally vague, Justice

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[110] Indeed, one feature distinguishing a totalitarian regime from an open society is the totalitarian regime's refusal to overlook minor transgressions and its prohibition of private associations. See, e.g., United States v. Michael, 645 F.2d 252, 272 (5th Cir.) (en banc) (Godbold, C.J., dissenting), cert. denied, 454 U.S. 950 (1981); see also Aptheker v. Secretary of State, 378 U.S. 500, 519 (1964) (Douglas, J., concurring) ("Free movement by the citizen is of course as dangerous to a tyrant as free expression of ideas or the right of assembly and it is therefore controlled in most countries in the interests of security.").

[111] See Gavison, Privacy and the Limits of Law, 89 Yale L.J. 421, 432-33, 447 (1980).

[112] Parker, A Definition of Privacy, 27 Rutgers L. Rev. 275, 280-81 (1974).

[113] Id. at 280. Parker gives the example of the woman who suffers a loss of privacy when a former lover peers through the window at her undressed. Even if no new information is revealed, the woman nonetheless loses "control over who, at the moment, can see her body." Id.

[114] See A. Westin, supra note 54, at 69.

[115] Id. at 31.

[116] Id. at 19.

[117] See Laufer & Wolfe, Privacy as a Concept and a Social Issue: A Multidimensional Development Theory, J. Soc. Issues, No. 3, at 22, 30 (1977) (reporting based on study "that suburban/rural children and adolescents frequently named the outdoors as a private place, and it was more often mentioned by respondents who shared a bedroom and lived in a household with more than seven occupants").

Douglas emphasized the importance of free public movement to the political liberty Americans have historically enjoyed:

> [T]hese activities [wandering or strolling] are historically part of the amenities of life as we have known them. . . . These unwritten amenities have been in part responsible for giving our people the feeling of independence and self-confidence, the feeling of creativity. These amenitites have dignified the right of dissent and have honored the right to be nonconformists and the right to defy submissiveness. They have encouraged lives of high spirits rather than hushed, suffocating silence.[118]

Electronic surveillance of any kind focuses attention on people, consequently interfering with the feeling of independence, confidence, and freedom that "wandering and strolling" otherwise provides.[119]

*c. The Constitutional Right to Travel*

The most established constitutional right relevant to a collective privacy analysis of beeper use is the right to travel. Based on the need for an integrated national economy, this right originally applied only to interstate travel. In *Shapiro v. Thompson*,[120] however, the Court focused on constitutional concepts of personal liberty and argued that this liberty "require[s] all citizens [to] be free to travel throughout the length and breadth of our land uninhibited by statutes, rules, or regulations which unreasonably burden or restrict this movement."[121]

Although the Supreme Court has never addressed whether this liberty interest encompasses *intra*state travel, the lower courts consistently have protected the right to travel within a state as equal to the right of interstate movement.[122] Indeed, the liberty rationale for the right to travel

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[118] Papachristou v. City of Jacksonville, 405 U.S. 156, 164 (1972). In *Papachristou*, the Court declared unconstitutional on vagueness grounds a vagrancy ordinance that outlawed, among other things, "wandering or strolling around from place to place without any lawful purpose or object." Id. at 156 n.1. According to Professor Tribe, *Papachristou* recognized a protected right to move about. L. Tribe, American Constitutional Law 956 n.20 (1978). In light of the Court's acknowledgement that the freedom to move about free from the attention of the authorities represents an important source of individual liberty, it is important to consider the effects of beeper monitoring on the collective exercise of an established liberty interest and an arguably implicit constitutional right.

[119] See A. Westin, supra note 54, at 31 ("Knowledge or fear that one is under systematic observation in public places destroys the sense of relaxation and freedom that men seek in open spaces and public arenas.").

[120] 394 U.S. 618 (1969).

[121] Id. at 629.

[122] See L. Tribe, supra note 118, at 954.

clearly applies with equal force to local movement.[123] Because the right to travel is "a virtually unconditional personal right,"[124] the Court must consider the possible chilling effect of extensive beeper use on this constitutional guarantee.

### 2. *The Distinguishing Characteristics of Electronic Tracking*

Beeper surveillance inhibits informational privacy, freedom from attention, and the constitutional right to travel. This section argues that there are three primary factors determining the collective fear or anxiety generated by police activity: (1) the intrusiveness of the conduct; (2) the pervasiveness or frequency of the conduct; and (3) the salience of the police practice to the public. Traditionally the courts consider only intrusiveness; the collective rights approach focuses on the societal effect of a police practice, including its pervasiveness and salience. This section concludes that under the collective rights analysis, beepers represent a far greater threat to collective privacy interests than does visual surveillance.

#### a. *The Potential Pervasiveness of Beeper Monitoring*

When considering the potentially widespread use of beeper monitoring, the critical question is the extent to which the police will use a technique in the absence of constitutional restraints. When police behavior falls outside the protections of the fourth amendment, the police may act as unreasonably and as frequently as they desire.[125] Other factors, however, such as the cost of a technique, may limit the scope of such practices. The government in *Knotts*, for example, argued that the expense of physical shadowing and beeper monitoring prevented their excessive and unjustified use.[126]

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[123] See Aptheker v. Secretary of State, 378 U.S. 500, 520 (1964) (Douglas, J., concurring) ("This freedom of movement is the very essence of our free society, setting us apart. . . . Once the right to travel is curtailed, all other rights suffer, just as when curfew or home detention is placed on a person."); see also Boim, The Passport System in the USSR, 2 Rev. Socialist L. 15, 17 (1976) (explaining the USSR's internal passport system as an exercise of internal political control).

[124] Shapiro v. Thompson, 394 U.S. 618, 642-43 (1969) (Stewart, J., concurring).

[125] See People v. Mayherry, 31 Cal. 3d 335, 345, 644 P.2d 810, 816, 182 Cal. Rptr. 617, 623 (1982) (Bird, C.J., dissenting) ("Police actions not amounting to searches or seizures may, with only limited exceptions, be as unreasonable, arbitrary, or groundless as the officers please to make them."(footnote omitted)); see also 1 W. LaFave, supra note 10, § 2.2 at 269 ("To say that a particular type of police practice is not a search is to conclude, in effect, that such activities 'may be as unreasonable as the police please to make them.' "(citations omitted)).

[126] Brief for the United States at 20 n.10, United States v. Knotts, 460 U.S. 276 (1983) ("apply[ing] these techniques randomly or without real suspicion of wrongdoing . . . would

Resource scarcity clearly restrains visual surveillance. A number of policemen, for example, are necessary for effective moving tails.[127] Consequently, tailing a suspect is too costly ever to be used in a dragnet manner. In practice, moreover, the police usually tail suspects only when probable cause or reasonable suspicion justifies the expense.[128] Thus, because of the inherent limits on the pervasiveness of visual surveillance, the collective analysis provides a rigorous justification for permitting unregulated visual surveillance.

The use of beepers is by and large not subject to the same restraints as visual surveillance.[129] For example, police conducting visual surveillance focus their efforts solely on the suspect and, because of the cost, terminate surveillance whenever it appears the suspect is unlikely to reveal incriminating evidence. Beeper monitoring, however, is indiscriminate, because "[o]nce in place on a vehicle, it permits agents to trace the private movements of any person who happens to ride in it, regardless of his relation to the primary investigation."[130] Furthermore, a beeper may work long after the reasons for visual surveillance have disappeared, so more information will be available in the aggregate.[131] Finally, although government attorneys have claimed otherwise,[132] the use of more than one beeper in an area will not diminish the utility of the device; the police can monitor several beepers in close quarters apparently without confusion.[133]

Because there are few technological or economic restraints on the moni-

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ordinarily prove to be an exceptionally inefficient and unproductive use of scarce law enforcement resources").

[127] See D. Schultz & L. Norton, Police Operational Intelligence 122-25 (1973); A. Sutor, Police Operations 166, 170-74 (1976).

[128] See D. Schultz & L. Norton, supra note 127, at 112, 114.

[129] See Marx, I'll Be Watching You: Reflections on the New Surveillance, Dissent, Winter 1985, at 26, 30 ("It has become much less expensive per unit watched, because technical developments have dramatically altered the economics of surveillance.").

[130] United States v. Bobisink, 415 F.Supp. 1334, 1338 n.6 (D. Mass. 1976), aff'd in part, rev'd in part, vacated in part sub. nom. United States v. Moore, 562 F.2d 106 (1st Cir. 1977), cert. denied, 435 U.S. 926 (1978).

[131] See United States v. Reyes, 595 F.2d 275, 278 (5th Cir. 1979) (transponder inserted in airplane forgotten for 14 months; subsequent detection and investigation uncovered drug possession). For some courts, this is a primary concern. See, e.g., United States v. Curtis, 562 F.2d 1153, 1156 (9th Cir. 1977) ("Law enforcement agencies should not have carte blanche power to conduct indiscriminate surveillance for unlimited periods of time of varying numbers of individuals."), cert. denied, 439 U.S. 910 (1978).

[132] See Supplemental Brief for the United States on Rehearing En Banc at 13 n.5., United States v. Butts, 729 F.2d 1514 (5th Cir.) (en banc), cert. denied, 105 S. Ct. 181 (1984).

[133] See United States v. Moore, 562 F.2d 106 (1st Cir. 1977) (agents able to monitor several beepers in close proximity), cert. denied, 435 U.S. 926 (1978); United States v. Dubrofsky, 581 F.2d 208 (9th Cir. 1978) (beeper not only allowed agents to track package but signaled when package was opened).

toring of beepers, self-restraint may be the only barrier to unreasonable use. Generally, however, self-restraint is inadequate to control police conduct amounting to a search.[134] Law enforcement officials pressed to solve a crime have at times rounded up large numbers of individuals, expecting one of them to be the perpetrator.[135] Politicians sometimes employ police forces improperly to gather incriminating evidence to damage or threaten opponents.[136] Notwithstanding the significant privacy invasion, officials also tie into airline computers to follow an individual's movements and to monitor his associations.[137] In short, because police have indicated a willingness to use technology to fight crime,[138] mere awareness of the possible impropriety of their conduct is unlikely to deter government misbehavior.[139]

Beeper monitoring thus has considerable potential to become widespread. The most significant threat to collective privacy interests posed by electronic surveillance is that it allows the police simultaneously to monitor many more individuals than visual surveillance permits.[140] Ad-

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[134] The warrant requirement itself is based upon a distrust of police who in their zeal may value too lightly and invade too quickly the privacy interests of the people they encounter. See Johnson v. United States, 333 U.S. 10, 14 (1948) (probable cause must be determined by a "neutral and detached magistrate," not "the officer engaged in the often competitive enterprise of ferreting out crime").

[135] See, e.g., Davis v. Mississippi, 394 U.S. 721 (1969), (police took 24 black youths to the station for questioning and fingerprinted all but one of them in looking for a single perpetrator).

[136] See A. Westin, supra note 54, at 128-29.

[137] See A. Miller, supra note 103, at 41-42 (describing use of computer to analyze airplane travel of individuals).

[138] The police have made extensive use of other surveillance technology. See A. Westin, supra note 54, at 121, 127, 130; see also President's Comm'n on Law Enforcement and Admin. of Justice, National Symposium on Science and Crininal Justice 69 (1966) (describing theoretical advances in surveillance technology).

[139] There is reason to believe that law enforcement agencies would use beepers in a far more pervasive manner than their use of visual surveillance. Federal officials now spend large amounts on computer-based investigation methods, especially in drug cases where beepers are a major tool. See, e.g., 1981 Att'y Gen. Ann. Rep. 41 (describing computer capacity of the Federal Bureau of Investigation); 1979 Att'y Gen. Ann. Rep. 47-48 (outlining seven computer systems of the Drug Enforcement Admin.).

One example of law enforcement use of sophisticated computer systems to fight crime is the El Paso Intelligence Center (EPIC), which uses "the latest in computer and communications equipment" to track aircraft and sea vessels. Drug Enforcement Admin., U.S. Dep't of Justice, Fact Sheet, The Office of Intelligence 2 (Dec. 1978). In 1981, EPIC conducted over 220,000 watch transactions. Drug Enforcement Admin., U.S. Dep't of Justice, Appropriations Hearings 21 (1983). Now that the military may assist EPIC in stopping drug traffic, id. at 87, there is every indication that beeper surveillance and similar technological monitoring will increase. EPIC portends a greater role for new technology in meeting law enforcement needs.

[140] See Marx, supra note 129, at 30 (noting that new technology makes it easier for a few

vances in computer technology[141] and the expansion of data banks[142] may enable the beeper to overcome any resource restraints that might exist.[143] Although the ability of the electronic tracking device to monitor many individuals at once is uncertain, continuing technological advances[144] suggest that fourth amendment jurisprudence must begin to take account of the potential for unprecedented privacy invasions of society as a whole through widespread use of the beeper.[145]

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people to monitor many). Indeed, one court has explicitly expressed this fear. See United States v. Bobisink, 415 F. Supp. 1334, 1339 (D. Mass. 1976) (warning of "a '1984' network of such beepers connected to a master monitoring station which would keep track of each of our movements for the benefit of the powers that be"), vacated, 562 F.2d 106 (1st Cir. 1977).

[141] Computer technology is capable of receiving, organizing, and recording extensive amounts of information, including reports from surveillance devices. See A. Miller, supra note 103, at 39, 46. One example Miller offers is how a computer linked to pen registers could analyze an individual's phone calls and determine his associations. Id. at 43. *Knotts* relies on an analogy between beepers and the pen register that Smith v. Maryland, 442 U.S. 735 (1979), held was not a search. See supra note 72 and accompanying text; see also Ervin, The First Amendment: A Living Thought in the Computer Age, 4 Colum. Hum. Rts. L. Rev. 13, 16 (1972) (computer technology "extends the power of government a millionfold").

[142] Modern data banks can help monitor an individual by quickly piecing together information about his movements. See A. Westin, supra note 54, at 165; Holder, supra note 62, at 15-18 (explaining how computer technology threatens privacy by its efficiency).

[143] The expense of large-scale beeper monitoring is difficult to ascertain. See United States v. Devorce, 526 F. Supp. 191, 201 n.5 (D. Conn. 1981) (concluding that resource scarcity at present does deter police dragnetting because "the beeper must be followed by air and ground surveillance, at considerable government expense and effort"); see also Marx, supra note 129, at 28-29 (describing experiments with large scale electronic tracking and central receiving stations).

[144] See A. Westin, supra note 54, at 81 ("Viewed as a whole, then, 'natural obstacles' are not a *major* limitation on the new [beeper] surveillance.").

[145] Unfortunately it is necessary to speculate on the state of the art in electronic tracking capability. Secrecy is typical of law enforcement agencies with respect to their surveillance activities and devices. See Note, Police Undercover Agents: New Threats to First Amendment Freedoms, 37 Geo. Wash. L. Rev. 634, 639 (1969) (noting the "reluctance of police agencies to reveal the nature of their clandestine investigative efforts"). The author also notes that Senator Edward Long had difficulty getting cooperation from federal police agents, as did legal scholars. Id. at 639-40. The author of this note was unsuccessful in learning anything about beeper technology from Freedom of Information Act requests from the Federal Bureau of Investigation and the Drug Enforcement Administration. One DEA officer indicated that the agency typically removes all references to beepers from information provided citizens under the Freedom of Information Act. Telephone interview with DEA agent (Mar. 14, 1984) (notes on file with the Virginia Law Review Association). The agency does not keep any aggregate records of beeper use. Thus, there is a substantial barrier to determining what danger current beeper technology entails.

*b. The Salience of Beeper Use*

If the public is unaware of or apathetic about a certain police practice, then the practice is unlikely to create significant societal fear or anxiety. Nevertheless, the public is apparently more sensitive to social changes that involve technological advances than to those that involve economic or political changes.[146] One study found that the public's greatest concern regarding technology is its threat to privacy.[147]

Public attitudes toward law enforcement methods reflect this increased awareness of technological advances. Although society is generally interested in and optimistic about "exotic applications" of science to criminal investigations,[148] there remains a concern over the possibility that these technologies might invade sensitive privacy interests.[149] Society has become accustomed to visual surveillance and probably seldom considers the implications of its use, yet new technologies such as beeper monitoring weigh more heavily in the collective mind. Because society is more likely to be apprehensive and anxious about technological surveillance, a heightened scrutiny of new technological law enforcement techniques is justified under the fourth amendment.

*3. The Collective Inhibition of Individual Rights*

The pervasiveness and salience of beeper monitoring poses a significant collective threat to the three individual interests identified above. Electronic surveillance clearly encroaches upon society's informational privacy interest more than visual surveillance does because more individuals can and will be tracked for longer periods of time. What is more significant, a computer analyzing information collected from extensive beeper monitoring of public travel is capable of determining personal and group associations. Inferential analysis might be equally as threatening to freedom of association as the compelled disclosure of official membership lists. Yet, because the *Knotts* Court upheld electronic surveillance by characterizing beepers as mere substitutes for permissible visual surveillance, beeper

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[146] See LaPorte & Metlay, Public Attitudes Toward Present and Future Technologies: Satisfactions and Apprehensions, 5 Soc. Stud. Sci. 373, 379 (1975) [hereinafter cited as Public Attitudes]; La Porte & Metlay, Technology Observed: Attitudes of a Wary Public, 188 Science, Apr. 11, 1975, at 121; Taviss, A Survey of Popular Attitudes Toward Technology, 13 Tech. & Culture 606 (1972).

[147] See Public Attitudes, supra note 146, at 385 ("Over forty percent of the sample felt that [with regard to personal records] technology poses a definite threat to an essential civil liberty.").

[148] Note, supra note 145, at 638.

[149] Public Attitudes, supra note 146, at 385.

monitoring does not violate any first amendment right of association.[150]

Beeper monitoring threatens freedom from attention as well. Anonymity and solitude facilitate relaxation by freeing one from "the pressure of playing social roles."[151] Knowledge that one is being tracked destroys the feeling that one is alone or unidentified.[152] Actual surveillance, however, is not necessary to chill freedom from attention.[153] A pervasive and salient monitoring practice inhibits individuals from fully enjoying anonymity or solitude. "Wandering" or "strolling" will cease to carry the same feelings of independence and creativity[154] if individuals are apprehensive about being monitored by government agents using advanced technology. Because surveillance creates a fear of social evaluation, extensive beeper monitoring chills behavior that might be interpreted as deviant, abnormal, or politically dissident.[155]

Public knowledge of the possibility of electronic tracking also inhibits the right to travel.[156] The right to travel, according to Justice Douglas, is a necessary first step to ensuring the availability of many other political rights.[157] Even the innocent will be deterred from fully exercising this right when they fear the government may be monitoring their travel. As with informational privacy, if the government monitors and records an individual's travels, that individual becomes concerned with making a "good record." Consequently, the individual avoids traveling to certain places or at certain times. Instances where electronic tracking of someone's movements leads to disgrace, resignation, or imprisonment will condition others not to reveal any unconventional personal traits through their travel. Hence, the government effectively restrains the right to travel without resorting to impermissible rulemaking by creating fear and anxiety over the exercise of this right.

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[150] See NAACP v. Alabama ex rel. Patterson, 357 U.S. 449, 463-64 (1958) (protecting constitutional right of association).

[151] See A. Westin, supra note 54, at 34.

[152] Id. at 31 ("Knowledge *or fear* that one is under systematic observation in public places destroys the sense of relaxation and freedom that men seek in open spaces and public arenas."(emphasis added)).

[153] Askin, Surveillance: The Social Science Perpective, 4 Colum. Hum. Rts. L. Rev. 59, 72 (1972).

[154] Papachristou v. City of Jacksonville, 405 U.S. 156, 164 (1972); see supra note 118 and accompanying text.

[155] Id. at 73.

[156] See Shapiro v. Thompson, 394 U.S. 618, 629 (1969); supra notes 120-24 and accompanying text.

[157] Aptheker v. Secretary of State, 378 U.S. 500, 520 (1964) (Douglas, J. concurring). See supra note 123 and accompanying text.

*4. The Interest of Law Enforcement in Beeper Monitoring*

The impact of beeper monitoring on society's sense of security must be balanced against its utility to law enforcement agencies.[158] As a means of enforcing drug laws, the need for beepers is great.[159] Moreover, given the importance and difficulty of conventional surveillance, electronic tracking devices are a considerable asset to law enforcement agencies. Police often use visual surveillance when "there is no other manner available to acquire the needed information,"[160] and under many circumstances it turns out to be ineffective.[161] Electronic tracking, on the other hand, is easily used, allows police officers to trail at a great enough distance to avoid detection, and enables police to relocate a lost suspect.

Accepting that beepers are valuable to law enforcement officials, the need arises to assess the costs of bringing electronic tracking within the ambit of the fourth amendment. Assuming that courts require the fullest protection of a warrant before permitting beeper monitoring, the law enforcement costs are apparently low. That timing is typically not a problem is demonstrated by the high number of cases in which a warrant was obtained[162] or the court found that there was ample time to have ob-

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[158] See Askin, supra note 153, at 70-71.

[159] Only five cases have been found that did not involve a drug investigation. See United States v. Cooper, 682 F.2d 114 (6th Cir.) (theft), cert. denied 459 U.S. 850 (1982); United States v. Frazier, 538 F.2d 1322 (8th Cir. 1976) (attempted extortion from a bank president), cert. denied, 429 U.S. 1046 (1977); United States v. Bishop, 530 F.2d 1156 (5th Cir.) (armed robbery), cert. denied, 429 U.S. 848 (1976); United States v. Devorce, 526 F.Supp. 191 (D. Conn. 1981) (armed robbery); People v. Colon, 96 Misc. 2d 659, 409 N.Y.S.2d 617 (Sup. Ct. 1978) (murder).

[160] D. Schultz & L. Norton, supra note 127, at 112.

[161] Id. at 114.

[162] Warrants were obtained to install and/or monitor beepers in a wide variety of circumstances. See, e.g., United States v. Henderson, 746 F.2d 619, 621 (9th Cir. 1984) (beeper installed in a chemical container); United States v. Lee, 743 F.2d 1240, 1243-44 (8th Cir. 1984) (plane); United States v. Taylor, 716 F.2d 701, 704 (9th Cir. 1983) (box of chemicals); United States v. Bentley, 706 F.2d 1498, 1502 (8th Cir. 1983) (tablet press), cert. denied, 104 S. Ct. 2397 (1984); United States v. Kupper, 693 F.2d 1129, 1130-31 (5th Cir. 1982) (per curiam) (plane); United States v. Sweeney, 688 F.2d 1131, 1142 (7th Cir. 1982) (chemical drum); United States v. Parks, 684 F.2d 1078, 1080 (5th Cir. 1982) (plane); United States v. Cooper, 682 F.2d 114, 115 (6th Cir.) (package), cert. denied, 459 U.S. 850 (1982); United States v. Ellery, 678 F.2d 674, 676 (7th Cir.) (package), cert. denied, 459 U.S. 868 (1982); United States v. Dunn, 674 F.2d 1093, 1096 (5th Cir. 1982) (hot plate stirrer), vacated, 104 S. Ct. 2380 (1984); United States v. Long, 674 F.2d 848, 851 (11th Cir. 1982) (plane); United States v. Whitley, 670 F.2d 617, 618 (5th Cir. 1982) (plane); United States v. Flynn, 664 F.2d 1296, 1299 (5th Cir.) (plane), cert. denied, 456 U.S. 980 (1982); United States v. Cady, 651 F.2d 290, 291 (5th Cir. 1981) (plane), cert. denied, 455 U.S. 919 (1982); United States v. Sporleder, 635 F.2d 809, 811 (10th Cir. 1980) (cardboard box); United States v. Bailey, 628 F.2d 938, 939 (6th Cir. 1980) (drum); United States v. Lewis, 621 F.2d 1382, 1385 (5th Cir.) (chemical drum), cert. denied, 450 U.S. 935 (1980); United States v. Chavez, 603 F.2d 143,

tained one.[163] In cases where the police have obtained warrants, the courts have been willing to resolve close questions in their favor.[164] These cases demonstrate the relatively low cost of imposing fourth amendment requirements on electronic surveillance.

### C. *The* Knotts *Response to the Problem of Extensive Beeper Monitoring: The Practicality of Waiting*

In response to respondents' argument that, absent fourth amendment regulation, beeper surveillance could possibly become widespread, the *Knotts* Court stated that "the fact is that the 'reality hardly suggests abuse.' "[165] The Court concluded that "if such dragnet type law enforcement practices should eventually occur, there will be time enough then to determine whether different constitutional principles may be applica-

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145 (10th Cir. 1979) (plane), cert. denied, 444 U.S. 1018 (1980); United States v. Reyes, 595 F.2d 275, 278 (5th Cir. 1979) (plane); United States v. Bruneau, 594 F.2d 1190, 1193 (8th Cir.) (plane), cert. denied, 444 U.S. 847 (1979); United States v. Washington, 586 F.2d 1147, 1150 (7th Cir. 1978) (package); United States v. Crowell, 586 F.2d 1020, 1027 (4th Cir. 1978) (plane), cert. denied, 440 U.S. 959 (1979); United States v. Miroyan, 577 F.2d 489, 491 (9th Cir.) (plane), cert. denied, 439 U.S. 986 (1978); United States v. Pretzinger, 542 F.2d 517, 519 (9th Cir. 1976) (plane).

[163] See LaFave, supra note 63, at 428 (citing cases where time existed to get a warrant).

[164] See, e.g., United States v. Sager, 743 F.2d 1261 (8th Cir. 1984) (applying good faith exception of United States v. Leon, 104 S. Ct. 3405 (1984), to uphold convictions despite unconstitutional transponder installation); United States v. Bentley, 706 F.2d 1498, 1504 (8th Cir. 1983) ("We are also mindful of the fact that courts 'evince a strong preference for searches made pursuant to a warrant, and, in some instances, may sustain them where warrantless searches based on a police officer's evaluation of probable cause might fail.' ") (quoting United States v. Carlson, 697 F.2d 231, 237 (8th Cir. 1983), quoting in turn United States v. Brown, 584 F.2d 252, 256 (8th Cir. 1978), cert. denied, 440 U.S. 910 (1979)), cert. denied, 104 S. Ct. 2397 (1984); United States v. Cooper, 682 F.2d 114, 116 (6th Cir.) (" 'One of the best ways to foster increased use of warrants is to give law enforcement officials the assurance that when a warrant is obtained in a close case, its validity will be upheld.' ") (quoting United States v. Giacalone, 541 F.2d 508, 513-14 (6th Cir. 1976)), cert. denied, 459 U.S. 850 (1982); United States v. Cady, 651 F.2d 290 (5th Cir. 1981) (in holding monitoring reasonable, court focused on 17 days beeper actually used instead of 90 days warrant authorized), cert. denied, 455 U.S. 919 (1982); see also United States v. Shovea, 580 F.2d 1382 (10th Cir. 1978) (court finding probable cause and exigent circumstances, thus excusing any warrant requirement), cert. denied, 440 U.S. 908 (1979); United States v. Frazier, 538 F.2d 1322 (8th Cir. 1976) (same), cert. denied, 429 U.S. 1046 (1977).

The costs of fourth amendment regulation would be lower still if the judiciary dispensed with the warrant requirement and required only probable cause or reasonable suspicion. See United States v. Michael, 645 F.2d 252, 258 (5th Cir. 1981) (en banc), (requiring reasonable suspicion for vehicular monitoring), cert. denied, 454 U.S. 950 (1981); United States v. Moore, 562 F.2d 106, 112 (1st Cir. 1977) (requiring probable cause for same), cert. denied, 435 U.S. 926 (1978).

[165] 460 U.S. at 283-84 (quoting Zurcher v. Stanford Daily, 436 U.S. 547, 566 (1978)).

ble."[166] Yet, as Professor La Fave has observed, it is difficult to determine "what reasoning would support a later conclusion that use of a beeper against one person is no search but that its indiscriminate use against many is."[167] Instead of addressing the potential for widespread use through a collective notion of the fourth amendment, the Court adopts a "wait and see" attitude by essentially ignoring the concern.

The decision to wait for abuse is unwise for several reasons. Initially, one can question the Court's use of precedent supporting its "wait and see" posture. The Court cited *Zurcher v. Stanford Daily*,[168] where it held permissible newsroom searches supported by a warrant. With respect to the concern about police abuse of this practice, the Court pointed out that the news media is quite capable of defending itself against unreasonable police practices by publicizing police abuse.[169] Newsroom searches require warrants, and the Court could rely on magistrates to deny warrants in the face of publicized police abuse. But individual suspects will not necessarily know, nor be able to prove, that they have been electronically tracked. Even assuming that an individual can prove the abuse, there is no check on it—such as the refusal of magistrates to grant warrants—short of the Court overruling *Knotts*.[170]

Second, it is inherently difficult to determine whether police are using beeper monitoring in a dragnet fashion. Generally, law enforcement agencies are not receptive to investigations into their use of surveillance techniques.[171] Defendants often have enormous difficulty discovering the techniques police used in investigating their case.[172] In several instances, the government has denied that it engaged in electronic surveillance when

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[166] Id. at 284 (citing Zurcher v. Stanford Daily, 436 U.S. 547, 566 (1978)).

[167] LaFave, supra note 63, at 1741-42.

[168] 436 U.S. 547 (1978).

[169] Id. at 566.

[170] Davis v. Mississippi, 394 U.S. 721 (1969), might be seen as a case against police "dragnetting." In *Davis*, the Court held that fingerprinting, though not a search by itself, was impermissible when the 23 suspects to be fingerprinted were first gathered through an impermissible round-up. In a later case the Court held: "*Davis* is plainly inapposite to a case where the initial restraint does not itself infringe the Fourth Amendment." United States v. Dionisio, 410 U.S. 1, 11 (1973). In *Dionisio*, the Court held that the initial subpeona by a grand jury was not a search, even when conducted en masse; consequently the subsequent use of voice exemplars was not a search either. The Court thus appears to have closed the door on any doctrine that raises nonsearch activity to the level of a search merely because it occurs extensively.

[171] See Note, supra note 145, at 638-40 (describing the difficulties of academics and others in obtaining surveillance information from law enforcement agencies).

[172] See Weidner, Discovery Techniques and Police Surveillance, 7 U.C.L.A.-Alaska L. Rev. 190, 190 (1978) ("When working on a defense case trying to discover illegal surveillance, an attorney faces a situation much like that where one finds the fox guarding the chickenhouse.").

in fact it had.[173] Because "this is an area where there is little utility to the government in keeping accurate records of the fact of its electronic surveillance activities," isolated examples will not prove widespread abuse.[174] Search warrants check abuse partially by monitoring the frequency of police activity.

Third, the *Knotts* holding teaches lower courts addressing these issues to engage in an analysis that ignores collective interests, permits uncontrolled police efficiency, and eliminates any recognition of privacy interests in public acts. Other techniques are becoming available for tracking the movements of people in public,[175] as well as for collecting more information about people in public or other open areas.[176] One court has already relied on *Knotts* in upholding the warrantless use of a nightscope to observe a suspect walking on private property in the dark.[177] Recognizing privacy only within the walls of a private residence clearly limits the permissible reach of the fourth amendment.[178] By focusing on the individual, however, *Knotts* envisions a fourth amendment that ignores how pervasive technological practices might become and how much collective fear they create. Because the reasoning of *Knotts* supports the use of similar technologies that together present a threat to associational freedom, anonymity, solitude, and the right to travel, the most significant danger of these technologies is the cumulative and synergistic effects of their interaction.[179]

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[173] Nat'l Lawyers Guild, Raising and Litigating Electronic Surveillance Claims in Criminal Cases 1-10 (1977); see also A. Westin, supra note 54, at 121 ("the [FBI's] use of electronic eavesdropping and hidden cameras goes beyond the subject areas it has admitted to publicly").

[174] Nat'l Lawyers Guild, supra note 173, at 2-21.

[175] Another way to track a person's movements is to use optical scanners to read license plates and feed the information to a computer. See A. Miller, supra note 103, at 45. This system is used in Hong Kong to monitor the traffic flow at key intersections to allow the government to bill citizens for road use. See A. Miller, supra note 103, at 45. Credit card use and electronic funds transfers, when tied into computer banks, provide a "paper trail" for investigators. See A. Westin, supra note 54, at 165; A. Miller, supra note 103, at 42.

[176] See Note, Police Use of Remote Camera Systems for Surveillance of Public Streets, 4 Colum. Hum. Rts. L. Rev. 143 (1972) (discussing use of low light cameras to monitor continuously a public street in Mount Vernon); Note, Electronic Visual Surveillance and the Fourth Amendment: The Arrival of Big Brother?, 3 Hastings Const. L.Q. 261, 266-69 (1976) (discussing use of miniature cameras hidden so as to see through walls). After *Knotts*, the use of these devices to monitor activities in public places has few boundaries.

[177] See United States v. Ward, 703 F.2d 1058, 1061-62 (8th Cir. 1983).

[178] See A. Westin, supra note 54, at 58. *Knotts* apparently permits constant public surveillance, if we are to take seriously the Court's statement that there is no expectation of privacy about that which could be determined by someone in the public who "cared to look;" and that police efficiency is always permissible.

[179] The greatest threat is the interaction of beepers with all the other losses of privacy occurring in the 1980s, some of which seem sanctioned by the *Knotts* opinion. The synergis-

Finally, it will be difficult for the Court to apply fourth amendment requirements to future beeper use. Because the *Knotts* standard effectively lowers privacy expectations by allowing beeper monitoring of public movements, it will become even more difficult to consider electronic surveillance to be a search.[180] Furthermore, along with extensive beeper monitoring would come rationalizations for it, making it harder for a future Court to then restrict beeper use. There is little wisdom in waiting to address the potential of indiscriminate electronic surveillance.[181]

## IV. The Status of Collective Privacy Rights After *Knotts*

The collective privacy rights analysis demonstrates that focusing solely on individuals who encounter a pervasive police practice may overlook society's loss of security. Yet the Supreme Court, as reflected in its decisions in *Knotts* and *Karo*, is reluctant to consider such analysis of electronic surveillance techniques under the fourth amendment. This section examines under the collective privacy rights analysis three questions left open after *Knotts*. Recognition of collective fourth amendment rights significantly clarifies those issues generated by electronic surveillance.

### *A. Beeper Monitoring: A Possible Dragnet Exception to* Knotts

Although *Knotts* clearly holds that the monitoring of vehicular movement is not a search,[182] the Court, as noted, arguably creates an "abuse" exception to this general proposition.[183] It is possible that the Court did not mean to create such an exception; instead, it might simply believe that the possibility of widespread and random use of beeper monitoring is nonexistent and may be dismissed with a perfunctory promise to deal with the problem if it occurs.

Yet the Court may be consciously reserving judgment on truly abusive monitoring, intending to formulate and refine an exception at a latter time. *Knotts* involved beeper monitoring of only two days where the po-

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tic effects may be immense. See Josephson, supra note 101, at 1599.

[180] The cumulative results will certainly lower subjective privacy expectations. See A. Westin, supra note 54, at 101 (suggesting that the use of technology dissolves social conventions against their use in privacy invasions); Marx, supra note 129, at 33 ("Once these surveillance systems are institutionalized and taken for granted in a democratic society, they can be used for harmful ends.").

[181] See A. Miller, supra note 103, at 4-5; see also id. at 123 ("It would be unwise to deal with each new technological application on an individual basis divorced from the broader issues, or to delay until its privacy-invading excesses have come to pass."); cf. Carter, Book Review, 93 Yale L.J. 581, 584 n.14 (1984) ("The fact that the danger has not made itself manifest does not mean that the danger does not exist.").

[182] 460 U.S. 276, 285 (1983).

[183] Id. at 284.

lice arguably had probable cause.[184] Although it did not indicate that such factors were relevant to its holding, the Court might later distinguish a case where the monitoring was prolonged or without individualized justification. Extensive and prolonged beeper monitoring poses a substantial threat to collective privacy interests protected by the fourth amendment. Given the reality of *Knotts*, and the fact that the Court should not wait until police abuse occurs, the best solution is to recognize a "dragnet" exception to the principle enunciated in *Knotts*.

Such an exception would prohibit the warrantless monitoring of public automobile travel when conducted in a dragnet fashion, as, for example, where a substantial number of people are tracked without individualized suspicion, or an individual is tracked for an extended length of time. The collective rights analysis provides the theoretical basis for such an exception, because the extensiveness of a police practice is an important factor in determining whether a search occurred. The cumulative effect of beeper dragnets represents enough of a threat to collective security to require fourth amendment protection. Although the standard for proving police abuse under this dragnetting exception would be difficult to fashion, lower courts have already begun isolating key variables in determining the reasonableness of beeper use.[185]

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[184] Id. at 278. Cf. United States v. Butts, 729 F.2d 1514, 1518 n.4 (5tb Cir.) (en banc) ("[a]s did the Supreme Court in *Knotts*, we pretermit any ruling on worst-case situations"), cert. denied, 105 S. Ct. 181 (1984).

[185] First a defendant might charge that the extended duration of the beeper monitoring amounted to a police dragnet. See United States v. Butts, 710 F.2d 1139 (5th Cir. 1983) (search warrant inadequate because warrant contained time limit of 30 days plus a 30 day extension which was not obeyed), rev'd on other grounds on rehearing, 729 F.2d 1514 (5th Cir. 1984) (en banc), cert. denied, 105 S. Ct. 181 (1984); United States v. Cofer, 444 F. Supp 146 (W.D. Tex. 1978) (warrant invalid because it contained no time limit). But see United States v. Long, 674 F.2d 848 (11th Cir. 1982) (upholding warrant that allowed beeper use for 90 days on ground that actual time used—seven days—was reasonable); United States v. Cady, 651 F.2d 290 (5th Cir. 1981), cert. denied, 455 U.S. 919 (1982) (same, actual time used was seventeen days).

Second, a defendant might invoke the dragnet exception if he knew the police were monitoring large numbers of people without individualized suspicion. This creates a difficult line-drawing problem—determining how many individuals the police may monitor before such tracking constitutes a fourth amendment search. No court has attempted to formulate such a standard. Perhaps the courts should limit police to warrantless monitoring of only the number of persons the police have probable cause to believe are involved in the crime. But making this determination involves taking into consideration a myriad of variables. The "reasonable" number of persons will vary according to the seriousness of the crime, the suspected dangerousness of the perpetrator, the availability of other investigatory channels, and perhaps the duration of the tracking. There may simply be no bright line number that simultaneously provides police with the necessary discretion to pursue a reasonable tracking strategy and eliminates the possibility of abusive dragnetting.

Ad hoc review will undoubtedly result in inconsistent decisions that create uncertainty for

### *B. Beeper Installation*

*Karo* held that installation of an electronic tracking device does not constitute a fourth amendment search where the police obtained the consent of a third party to install the device.[186] Yet the *Karo* opinion leaves open the question of the fourth amendment implications of beeper installation in circumstances not involving third party consent. The inconsistency of lower court cases considering more intrusive installation may require the Supreme Court to decide whether such action is a search. This section seeks to identify the collective interests in making that decision.

Justice Steven's dissent in *Karo* and, implicitly, Justice Brennan's concurrence in *Knotts* argue that beeper installation alone is a fourth amendment search or seizure.[187] But the installation of *any* object prior to a person taking possession is certainly not a search. For example, if the police or other governmental agents installed in a vehicle an identification tag, speed governor, or airbag, it could hardly be considered a search.[188] Hence, under the Stevens/Brennan view there must be something in the nature of a beeper not found in these other items that causes its installation to be a fourth amendment search. The beeper's ability to monitor location would seem to be the relevant characteristic.

The Stevens/Brennan analysis is thus fundamentally at odds with the holding of *Knotts*. Their view can be characterized as an attempt to limit the harms of beeper monitoring through the regulation of beeper installation. Their opinions focus on the fact that the purpose and effect of in-

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police investigators. Defendents will also have to rely upon uncooperative law enforcement agencies for information to prove police abuse of beeper technology. See supra notes 145, 171-73 and accompanying text. These problems reflect the inherent limitations of the *Knotts* decision, even when read to exempt abusive monitoring. As long as beeper monitoring is not considered a search, there will be difficulties in formulating a standard to prove the existence of abuse in a particular case.

[186] See supra notes 13-17, 29-35 and accompanying text (discussing *Karo*).

[187] See supra note 48 (Brennan's concurrence in *Knotts*); supra note 17 (Stevens' dissent in *Karo*).

[188] Justice Stevens argues that installation of a beeper interferes with an owner's right to exclusive use of his own property. 104 S. Ct. at 3311. "[I]n a fundamental sense [the government] has converted the property to its own use." Id. He concludes that the interference is "meaningful" because "the character of the property is profoundly different when infected with an electronic bug than when it is entirely germ free." Id.

This argument proves too much, for the government also denies exclusive use of property when it installs a speed regulator or airbag into an automobile to facilitate its safety policies. The government converts the property to its own use. The same could be said for the installation of a secret adhesive identification number that aids in future law enforcement. Yet even if an owner were unaware of these devices, there is no tenable fourth amendment interest in their installation. The "character of the property" changes so profoundly only because of the beeper's capacity for subsequent monitoring.

stallation is to facilitate monitoring.[189] Under an individual rights analysis, treating installation as a proxy for monitoring is illegitimate, for *Knotts* recognizes no fourth amendment interest in limiting public monitoring.[190] The only cognizable interest is the proprietary damage created by the beeper installation. Where the installation intrusion is slight, as in the case of exterior attachment, the individual rights analysis perceives no search.

The Stevens/Brennan result—weighing monitoring harms in deciding whether installation is a search—is justified by a respect for collective privacy rights. The individual rights analysis cannot distinguish beeper monitoring of public movement from visual surveillance by a police officer, though the former activity threatens collective security.[191] Despite the apparent consistency with *Knotts*, Stevens and Brennan employ the fact of installation as the means of distinguishing visual surveillance and thereby of controlling the harms of beeper monitoring. The collective rights analysis supports their view that *any* installation should trigger full fourth amendment protection. Thus, future courts should regulate installation to the fullest extent consistent with *Karo*.[192]

### C. *The Contraband Exception*

The contraband exception generally permits beeper installation and monitoring of containers of known contraband without any fourth amendment restraint.[193] The Supreme Court has not addressed the contraband exception, although two recent decisions have demonstrated its willingness to embrace the concept in other contexts.[194] The collective

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[189] See id.

[190] Justices Brennan and Stevens might respond that given *Karo*, it is proper to weigh the potential that any installation will result in monitoring of private places. This reasoning would reconcile their installation position with *Knotts'* rejection of public monitoring concerns only if Brennan and Stevens were concerned with installation on property potentially hidden from visual surveillance. Visual surveillance alone reveals the location of a truck, for example, such that installation will not result in monitoring of private places. But Stevens seems to state that *any* installation is a seizure, obscuring the fact that in many cases the only harm is public monitoring. Thus the analysis relies upon the beeper's capacity to monitor, held permissible in *Knotts*, to argue warrantless installation is impermissible.

[191] See supra text accompanying note 90.

[192] Obviously *Karo* does not permit a holding that installation is a search where installation took place before complainant acquired the relevant property. See supra notes 12-17 and accompanying text.

[193] See supra note 40.

[194] See Illinois v. Andreas, 103 S. Ct. 3319, 3325 (1983) ("absent a substantial likelihood that the contents have been changed, there is no legitimate expectation of privacy in the contents of a container previously opened under lawful authority"); Texas v. Brown, 460 U.S. 730, 739 (1983) ("requiring police to obtain a warrant once they have obtained a first-

rights analysis provides both a sounder justification and a more focused scope to the rule than an individual rights analysis.

The individual privacy rights explanation for the contraband rule is that no individual may have a reasonable expectation of privacy in a good that is possessed illegally.[195] It is not clear, however, why only contraband is made an exception,[196] or why the exception should be limited to crimes of possession. If the illegality of possession negates any reasonable privacy expectation, then the illegality of an act should also negate its reasonableness.[197] This reasoning suggests that courts should not recognize privacy expectations in *acts* that an individual has no legal right to commit. Such an analysis would, however, be limitless, as it would apply in every case in which the police suspect criminal behavior.[198]

On the other hand, to limit the scope of the contraband exception, an individual rights analyst might argue that a court cannot find a privacy expectation to be unreasonable by the hindsight knowledge that the defendant is guilty. This argument, however, limits the exception's scope by denying its very justification, for the contraband exception in fact judges a defendant's expectation unreasonable because hindsight proves his guilt. For example, when the beeper is installed, and for at least part of the time it is monitored, the police do not even know who they will arrest, much less who will be convicted. The individual rights analysis strains to explain why the police can always use a beeper in contraband cases, but can never wiretap a private phone conversation no matter how certain they are as to the defendant's guilt. At best, the courts are making very fine distinctions of degree.

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hand perception of contraband . . . would be a 'needless inconvenience' "). In *Brown*, the Court held that a policeman's seizure of a party balloon from defendant's hand after seeing plastic vials, loose white powder, and more balloons in his glove compartment, was justified under the plain view doctrine. Id. *Andreas* permitted the warrantless reopening of a container previously opened under a lawful customs inspection and found to contain marijuana. 103 S. Ct. at 3325.

[195] See, e.g., United States v. Pringle, 576 F.2d 1114, 1119 (5th Cir. 1978) (there is "no legitimate expectation of privacy in substances which [people] have no right to possess at all"); United States v. Emery, 541 F.2d 887, 889-90 (1st Cir. 1976) (the beeper was "inserted into a package containing contraband, property which he had no right to possess").

[196] United States v. Knotts, 662 F.2d 515, 519-20 (Henley, J., dissenting in part) (8th Cir. 1981) ("The rationale and policy considerations underlying the contraband exception can safely be applied to certain non-contraband items."), rev'd, 460 U.S. 276 (1983).

[197] See United States v. Brock, 667 F.2d 1311, 1320 n.9 (9th Cir. 1982), cert. denied, 103 S. Ct. 1271 (1983) ("Would the warrantless physical search of a residence be reasonable because the occupants had no 'legitimate' expectation of privacy in the heroin they kept in the house?").

[198] W. LaFave, supra note 10, § 2.7, at 426 (arguing that the contraband exception is at odds with Katz v. United States, 389 U.S. 347 (1967), because arguably there is no "legitimate" privacy expectation in illegal communications).

The collective rights approach reveals a more sustantial distinction between the possession of contraband and other criminal acts. The distinction has nothing to do with expectations of privacy regarding illegal acts or possessions. Rather, the contraband exception is justified because the police practice will generate minimal societal insecurity. First, the practice is limited to cases where the police lawfully intercept a package and determine with practical certainty that it contains contraband,[199] thus limiting its potential pervasiveness. Second, the practice is unlikely to be particularly salient to the public, because the salience of a search probably turns on whether or not the police discover proof of criminality. When a neighbor's house is searched and incriminating evidence found, society takes solace in the fact that the police only search criminals. When police search an innocent neighbor, however, the psychological cost to society in terms of its feeling of security is much more significant. Because the police will make few search mistakes in controlled deliveries of goods they have established to be contraband, "searches" involving beepers probably will not generate much societal fear or anxiety.

This collective justification better defines the scope of the contraband exception. The use of the exception under the collective analysis should be limited to circumstances where the police will commit few errors, and hence public salience is likely to remain low. The exception, therefore, should not be expanded to include noncontraband items, nor items that are merely suspected of being contraband, for such a step would greatly increase the pervasiveness and salience of the warrantless police practice. So although the collective rights analysis provides a means of justifying the contraband exception it does not support a practice where the police are always justified in violating privacy expectations of those strongly believed to be engaged in criminal activity.

## V. Conclusion

The Supreme Court traditionally has examined the extent to which a police practice intrudes on individual privacy interests in determining whether that practice constitutes a fourth amendment search. Yet the nature of conventional surveillance techniques prevents their widespread and random application. Such practices therefore pose little threat to collective privacy interests.

On the other hand, because of its efficiency, technological surveillance endangers collective security despite its limited intrusion on a given individual. The collective privacy rights analysis is useful in evaluating the pervasiveness of a police practice and its impact on societal interests. By

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[199] See supra note 40.

ignoring this analysis in *Knotts*, the Court overlooked an important component of fourth amendment privacy. It is incumbent on the Court to apply the collective rights analysis when addressing the fourth amendment implications of police use of modern surveillance technologies.

*R.H.M.*