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Warrantless Aerial Surveillance: A Constitutional Analysis

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RECENT DEVELOPMENTS

Warrantless Aerial Surveillance: A Constitutional Analysis

I. INTRODUCTION

The advent of aerial surveillance as a crime-fighting tool has been hailed by police as a "new era in law enforcement methods."[1] In agricultural states surveillance by airplanes, helicopters, and even the old U-2 spy planes[2] is proving to be an effective weapon in curtailing the cultivation and distribution of marijuana.[3] In addition, federal agencies are using satellite surveillance and aerial photography to detect industries in violation of clean air and water regulations.[4] The success and repeated use of aerial surveillance as a police investigatory tool has spawned a new area of fourth amendment search and seizure analysis.[5]

The Supreme Court's formulation of the "reasonable expecta-

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1. DeFoor, *Houston Police Department's Eye in the Sky,* FBI L. ENFORCEMENT BULL., Sept. 1981, at 1, 2.

2. Tell, Suits Sight Spies in Sky, Nat'l L.J., Dec. 15, 1980, at 1, col. 1, 28, cols. 2-3. This article reports that the U-2 spy planes can locate objects on the ground from up to 65,000 feet in the air.

3. The Tennessee Department of Safety reported that highway patrol helicopter pilots discovered and seized 1.6 million marijuana plants in the state through aerial surveillance during the first eight months of 1981. The marijuana seized and destroyed had an estimated street value of $500 million. The Tennessean, Oct. 17, 1981, at 13, col. 2.

4. The United States Environmental Protection Agency (EPA) is using aerial surveillance to trace air and water pollution back to their industrial sources. The EPA and Dow Chemical Co. are currently engaged in litigation in a Bay City, Michigan, federal court concerning the EPA's aerial surveillance of Dow factories. Nat'l L.J., Sept. 21, 1981, at 17, col. 2.

In 1978, state and federal prosecutors used evidence from satellite photography of the National Aeronautic and Space Administration to convict the Reserve Mining Co. of Minnesota for dumping hazardous wastes into Lake Superior. Tell, *supra* note 2, at 28, col. 1.

5. The fourth amendment provides in relevant part that "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, . . . particularly describing the place to be searched, and the persons or things to be seized." U.S. CONST. amend. IV.

tion of privacy" test in *Katz v. United States*[6] expanded search and seizure analysis to encompass the problems of electronic eavesdropping and bugging. When considering aerial surveillance problems, however, most courts have held that airborne observation of "open fields" or areas in "open view" is not a search and hence not subject to fourth amendment regulation.[7] Even when the defendant has shielded his property from ground view, many courts have held that he did not meet the *Katz* reasonable expec-

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6. 389 U.S. 347 (1967). In *Katz* the Supreme Court held that the government's warrantless eavesdropping on the defendant's phone conversation inside a closed public telephone booth violated the fourth amendment.

7. United States v. Allen, 633 F.2d 1282 (9th Cir. 1980) (warrantless aerial surveillance of seacoast border property upheld), *cert. denied,* 102 S. Ct. 133 (1981); United States v. Mullinex, 508 F. Supp. 512 (E.D. Ky. 1980) (warrantless aerial surveillance upheld because property was in "open view"); United States v. DeBacker, 493 F. Supp. 1078 (W.D. Mich. 1980) (warrantless aerial surveillance upheld because property was in "open view").

A number of state appellate and supreme courts have confronted aerial surveillance issues. The fourth amendment of the federal constitution is made applicable to the states by the fourteenth amendment. Mapp v. Ohio, 367 U.S. 643 (1961). Additionally, many state courts base their search and seizure holdings on state constitutional law.

In California: Tuttle v. Superior Court, 120 Cal. App. 3d 320, 174 Cal. Rptr. 576 (1981) (warrantless aerial surveillance of agricultural lands in open view is constitutional; common habits of farmers do not merit reasonable expectation of privacy in open fields), *cert. denied,* 102 S. Ct. 571 (1981); People v. Joubert, 118 Cal. App. 3d 637, 173 Cal. Rptr. 428 (1981) (common habits; open view); People v. St. Amour, 104 Cal. App. 3d 886, 163 Cal. Rptr. 187 (1980) (warrantless aerial surveillance upheld in places where no reasonable expectation of privacy exists; common habits); Burkholder v. Superior Court, 96 Cal. App. 3d 421, 158 Cal. Rptr. 86 (1979) (common habits); People v. Superior Court, 37 Cal. App. 3d 836, 112 Cal. Rptr. 764 (1974) (five-foot high fence did not obscure stolen auto from ground view, hence no subjective expectation of privacy); Dean v. Superior Court, 35 Cal. App. 3d 112, 110 Cal. Rptr. 585 (1973) (origin of common habits approach). *But see* People v. Sneed, 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973) (warrantless aerial surveillance at altitude of 20-25 feet held unconstitutional).

In Hawaii: State v. Stachler, 58 Hawaii 412, 570 P.2d 1323 (1977) (warrantless aerial surveillance upheld when property in open view). *But see* State v. Knight, 63 Hawaii Adv. Sh. 7246, 621 P.2d 370 (1980) (warrantless visual surveillance unconstitutional when high-powered binoculars used).

In Illinois: People v. Lashmett, 71 Ill. App. 3d 429, 389 N.E.2d 888 (1979) (warrantless aerial surveillance and physical trespass upheld under "open fields exception") *cert. denied,* 444 U.S. 1081 (1980).

In Tennessee: State v. Layne, No. 80-171-III (Tenn. Crim. App.—Nashville June 18, 1981) (warrantless aerial surveillance upheld when property in "open view"). *But see* State v. Lilly, No. 2 (Tenn. Crim. App.—Jackson June 19, 1980) (warrantless aerial surveillance in absence of exigent circumstances is unconstitutional; evidence suppressed on other grounds).

A recent law review note has criticized these cases, which hold that most forms of warrantless aerial surveillance are not constitutionally protected. Note, *Aerial Surveillance: Overlooking the Fourth Amendment,* 50 FORDHAM L. REV. 271 (1981); *see also* Comment, *Police Helicopter Surveillance and Other Aided Observations: The Shrinking Reasonable Expectation of Privacy,* 11 CAL. W.L. REV. 505 (1975).

tation of privacy test because his property could be observed from the air.[8]

This Recent Development will explore this new area of criminal constitutional law and focus on three different approaches courts have taken in responding to fourth amendment challenges to evidence obtained by warrantless aerial surveillance. Questions posed by these challenges include (a) whether a person who conceals his property from ground view has shown a reasonable expectation of privacy; (b) whether the altitude of aerial surveillance determines the unreasonableness of the search; (c) whether police are using aerial surveillance to sidestep the fourth amendment's warrant requirement; and (d) whether technologically aided observation of areas not observable with the naked eye should be subject to the warrant requirement.

Although the case law is sparse, the majority view is that warrantless aerial surveillance does not, in most cases, constitute a "search" within the meaning of the fourth amendment.[9] As a result, courts following the majority view have not subjected aerial observation to the safeguards of the warrant requirement. This Recent Development proposes several modifications in the prevailing constitutional analysis of aerial surveillance that would frequently subject the surveillance to fourth amendment regulation, striking a more appropriate balance between the use of an effective police tool and the privacy rights guaranteed by the Constitution.

II. Legal Background and Development

A. *From the Trespass Doctrine to Reasonable Expectation of Privacy*

The fourth amendment guarantees the public the right to be free from "unreasonable searches and seizures."[10] The words of the fourth amendment are simple, but their application to the realities

8. In United States v. Allen, 633 F.2d 1282 (9th Cir. 1980), *cert. denied*, 102 S. Ct. 133 (1981), defendants' property was obscured from any land or sea observation and was visible only through aerial surveillance. The court reasoned that since the area under surveillance was on the United States seacoast border, which was routinely patrolled by Coast Guard helicopters, the defendants did not have a reasonable expectation of privacy. *Id.* at 1290; *see also* United States v. DeBacker, 493 F. Supp. 1078 (W.D. Mich. 1980) (no reasonable expectation of privacy for areas in open view); People v. St. Amour, 104 Cal. App. 3d 886, 163 Cal. Rptr. 187 (1980) (common habits of farmers do not permit reasonable privacy expectation in their fields).

9. *See supra* note 7.

10. U.S. Const. amend. IV.

of criminal law has been problematic.[11] The English common-law notion of privacy, an essential concept in the development of fourth amendment law, required an actual physical intrusion—a trespass—before a violation of the privacy right would be found.[12] The leading case of *Entick v. Carrington*[13] put forth the maxim that the eye or ear, absent physical intrusion, could not alone commit a search.[14] Therefore, eavesdropping and spying were not violative of the English common-law privacy right.

The English rule gained popularity in the United States, and the Supreme Court followed a trespass-oriented definition of a fourth amendment "search" well into the twentieth century.[15] In the 1928 case of *Olmstead v. United States*[16] the Court, confronted with a case of telephone wiretapping, applied an eighteenth century rule of law to a twentieth century problem. The Court held that wiretapping of a telephone conversation was neither a search nor a seizure under the fourth amendment because mere listening without a physical intrusion was not a trespass.[17]

Olmstead remained good law for almost forty years, but because the use of electronic surveillance by police became so widespread and intrusive, the Court devised a new standard for evaluating fourth amendment claims. The 200-year-old trespass doctrine fell in *Katz v. United States*.[18] Tailored to fit the modern problems of electronic surveillance, *Katz* redefined fourth amendment analysis so that search and seizure were no longer tied to notions of property and trespass. The *Katz* standard for determining if a search or seizure has occurred is whether a person had a "reasonable expectation of privacy" in the area, object, or activity subject to police scrutiny.[19] In *Katz* the Court allowed the defendant to invoke the fourth amendment to protect his conversations over the telephone in a closed public telephone booth.[20] Justice

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11. Consider Justice Frankfurter's often-quoted remark that "[t]he course of true law pertaining to searches and seizures . . . has not . . . run smooth." Chapman v. United States, 365 U.S. 610, 618 (1961) (Frankfurter, J., concurring).

12. *See* Boyd v. United States, 116 U.S. 616, 630 (1886).

13. 19 How. St. Tr. 1029 (1765).

14. "[T]he eye cannot by the laws of England be guilty of a trespass . . . ." *Id.* at 1066.

15. *See, e.g.*, United States v. Lee, 274 U.S. 559, 563 (1927) (use of spyglass does not violate fourth amendment because the eye cannot commit trespass).

16. 277 U.S. 438 (1928).

17. *Id.* at 464-66.

18. 389 U.S. 347 (1967).

19. *Id.* at 360-61 (Harlan, J., concurring).

20. *Id.* at 348.

Harlan's concurring opinion in *Katz* is generally considered the source of the expectation of privacy standard.[21] Under the first prong of the two-part *Katz* test, a defendant must show that he had a subjective expectation of privacy in the area, object, or activity upon which the state intruded.[22] The second part of the test requires that the defendant's subjective expectation of privacy be one that "society is prepared to recognize as 'reasonable.' "[23]

Under the *Katz* test, when police have violated a reasonable expectation of privacy a search has occurred and the fourth amendment warrant requirement is triggered. The Supreme Court has consistently held that warrantless searches are presumptively unconstitutional unless the state can show that exigent circumstances surrounded the search.[24] The Court places a premium on search warrants because the process by which the warrant is issued allows a "neutral and detached magistrate" to determine whether probable cause exists for the search.[25] The rationale for the warrant requirement is that a neutral and detached magistrate's decision on whether a person's privacy right should be invaded is preferable to the same decision made by the law enforcement officer who is directly engaged in ferreting out crime.[26] The policeman, in his zeal to gather evidence of crime, may fail to consider fully society's privacy interests before he decides to make a search. Thus, the warrant requirement subjects the search to two judicial checks—the pre-search warrant proceeding when the magistrate issues the warrant and the suppression hearing at or before trial.

Violation of the fourth amendment warrant requirement invalidates the search and subjects all evidence gathered in the illegal search to suppression at trial.[27] The application of this exclu-

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21. *See, e.g.*, Terry v. Ohio, 392 U.S. 1, 9 (1968) (citing language in Harlan's concurring opinion as the essence of the *Katz* holding).

22. 389 U.S. at 360 (Harlan, J., concurring).

23. *Id.*

24. *Id.* at 357. Exceptions to the warrant requirement include situations in which police conduct a search while engaged in "hot pursuit," after obtaining permission to search, or incident to a lawful arrest. *Id.* at 357-58.

25. United States v. Ventresca, 380 U.S. 102, 105-06 (1965). The Supreme Court says probable cause exists when facts and circumstances within the affiant's knowledge, which is corroborated by trustworthy information, is sufficient to warrant a person of reasonable caution to believe that the alleged offense has occurred or will occur. Berger v. New York, 388 U.S. 41, 55 (1967).

26. United States v. Ventresca, 380 U.S. 102, 105-06 (1965).

27. Mapp v. Ohio, 367 U.S. 643 (1961). *Mapp* extended the exclusionary rule to the states. The Court stated that "the purpose of the rule is to deter—to compel respect for the constitutional guaranty in the only effectively available way—by removing the incentive to disregard it." *Id.* at 656 (quoting Elkins v. United States, 364 U.S. 206, 217 (1960)).

sionary rule to fourth amendment violations sometimes results in the suppression of highly probative evidence and the acquittal of a guilty defendant.[28] In recent years members of the Supreme Court, including Chief Justice Burger, have been highly critical of the exclusionary rule and its effect on efficient law enforcement.[29] Judicial hostility to the rule may result in a limitation of substantive fourth amendment rights because the parameters of the exclusionary rule are determined by a court's definition of "search" and "reasonable expectation of privacy." Therefore, the applicability of the fourth amendment to police conduct is sometimes dependent upon a particular judge's attitude of the proper scope of the exclusionary rule.[30]

B. The Open Fields Exception

One vestige of the pre-*Katz* interpretation of the fourth amendment is the "open fields" exception. In 1924 the Supreme Court held in *Hester v. United States*[31] that a physical intrusion onto an open field, outside the curtilage of the homestead, was not subject to fourth amendment regulation.[32] Justice Holmes' brief opinion stated that "the special protection accorded by the Fourth Amendment to the people in their 'persons, houses, papers, and effects,' is not extended to the open fields."[33]

Since *Katz,* courts and litigants have speculated whether the

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The exclusionary rule is also triggered in fourth amendment cases under the fruit of the poisonous tree doctrine, which makes all information gathered as the result of an illegal search subject to suppression at trial. *See, e.g.,* Wong Sun v. United States, 371 U.S. 471 (1963); *infra* note 129.

28. Judge Cardozo summarized the potential effect of the exclusionary rule: "[T]he criminal is to go free because the constable has blundered." People v. Defore, 242 N.Y. 13, 21, 150 N.E. 585, 587 (1926).

29. In Bivens v. Six Unknown Named Agents, 403 U.S. 388 (1971), Chief Justice Burger, in a dissent, called the exclusionary rule "sterile and practically ineffective." *Id.* at 415 (Burger, C.J., dissenting). In Stone v. Powell, 428 U.S. 465 (1976), the Chief Justice wrote in a concurring opinion that the exclusionary rule is a "Draconian, discredited device." *Id.* at 500 (Burger, C.J., concurring).

30. For example, in Justice Rehnquist's majority opinion in Rakas v. Illinois, 439 U.S. 128 (1978), the Justice, motivated at least in part by a desire to avoid exclusion of evidence essential to the prosecution's case, found that the defendants were not protected by the fourth amendment because they had no reasonable expectation of privacy in the glove compartment of the car in which they were passengers.

31. 265 U.S. 57 (1924).

32. *Id.* at 59. "Curtilage" is the enclosed land and buildings immediately surrounding the dwelling house. United States v. Vlahos, 19 F. Supp. 166, 169 (D. Or. 1937).

33. 265 U.S. at 59.

open fields exception remains viable.[34] If the fourth amendment protects a person in a public phone booth, should it not also protect him in open fields if he can establish a reasonable expectation of privacy in that area? Application of the *Katz* two-part test might allow courts to abandon the open fields exception when a person exhibits a reasonable expectation of privacy. Justice Harlan's concurring opinion in *Katz,* however, may contain the language that has kept the open fields doctrine alive. Harlan noted that "an enclosed telephone booth is an area where, like a home . . . and *unlike a field,* . . . a person has a constitutionally protected reasonable expectation of privacy."[35] Harlan's "unlike a field" comment may be construed to give *Hester* new life under the *Katz* standard and to confirm that a person can never have a reasonable expectation of privacy in an open field. Under this interpretation of *Katz,* there can never be a fourth amendment "search" of an open field.

The leading open fields case after *Katz, Air Pollution Variance Board v. Western Alfalfa Corp.,*[36] reaffirmed *Hester.* In *Air Pollution Variance Board* the Supreme Court held that the fourth amendment did not prohibit a state health inspector's warrantless entry onto the company's grounds to make air pollution tests.[37] Justice Douglas, writing for a unanimous Court, held that the open fields exception applied because the smoke from the factory's chimneys, which was the subject of the inspector's tests, could be seen in the sky by anyone in the immediate area.[38] Thus, sights seen in the open fields are not protected by the fourth amendment, according to the *Air Pollution Variance Board* Court. The Douglas opinion, however, may raise more questions than it answers. *Air Pollution Variance Board* does not cite *Katz,* and the Court's analysis of the fourth amendment issue makes no mention of the reasonable expectation of privacy standard.[39] Relying on *Air Pollu-*

34. *See infra* note 37 and accompanying text.

35. 389 U.S. at 360 (Harlan, J., concurring) (citing Hester v. United States, 265 U.S. 57 (1924)) (emphasis added).

36. 416 U.S. 861 (1974).

37. *Id.* at 864-65. The inspector entered the factory grounds to ohserve the smoke emissions and make the tests. The Court noted that the inspector did not enter any offices or inspect any files or papers. According to the Court his "trespass" was within the open fields exception of *Hester.*

38. *Id.*

39. Justice Douglas may have reasoned that the open fields exception eliminates the possibility of any reasonable expectation of privacy in the area and hence *Katz* could not apply. This explanation, however, was not suggested in his opinion.

tion Variance Board, some courts have held that the fourth amendment does not apply to searches and seizures in open fields.[40] Other courts, unconvinced that *Hester* survived *Katz,* have found that the application of the open fields exception to contemporary fourth amendment analysis is at best unclear.[41] This Recent Development next examines the various approaches courts have taken when analyzing fourth amendment challenges to warrantless aerial surveillance.

III. THREE APPROACHES TO WARRANTLESS AERIAL SURVEILLANCE

Although the courts have given fourth amendment issues extensive attention, the constitutional problems of warrantless aerial surveillance have not been widely discussed until recently. While the vast majority of the courts have held warrantless aerial surveillance to be constitutional, the courts are divided in their approach to this problem. The Supreme Court's open fields exception makes the constitutional analysis relatively simple—the fourth amendment does not apply to open fields and, therefore, warrantless aerial surveillance of an open field is not regulated by the fourth amendment.[42] Many state and federal courts, however, reject the open fields exception in dealing with aerial surveillance and substitute for it the notion of "open view" and the *Katz* test. Some of these courts have adopted a per se approach and have held that no *reasonable* expectation of privacy can inhere in an area or activity that is in open view, including those only visible from the air.[43]

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40. *See, e.g.,* Giddens v. State, 156 Ga. App. 258, 274 S.E.2d 595 (1980) (warrantless police entry onto defendant's fenced corn field to look for marijuana is not unreasonable search under open fields exception), *cert. denied,* 450 U.S. 1026 (1981); People v. Lashmett, 71 Ill. App. 3d 429, 389 N.E.2d 888 (1979) (warrantless aerial surveillance of farm equipment in open fields is constitutional), *cert. denied,* 444 U.S. 1081 (1980).

41. *See, e.g.,* United States v. Ramapuram, 632 F.2d 1149, 1158 (4th Cir. 1980) ("The application of *Hester* remains unclear."), *cert. denied,* 450 U.S. 1030 (1981); State v. Lakin, 588 S.W.2d 544, 547 (Tenn. 1979) (under federal law, continued applicability of *Hester* after *Katz* is a "very close question").

42. People v. Lashmett, 71 Ill. App. 3d 429, 389 N.E.2d 888 (1979), *cert. denied,* 444 U.S. 1081 (1980).

43. The courts adopting this analysis do not use the term "per se" in describing the approach they take to an aerial surveillance case. This Recent Development refers to this open view approach as a per se standard because it appropriately describes the effect the strict construction of the open view doctrine has on the second part of the *Katz* test—whether defendant's subjective privacy expectation is objectively reasonable. The language these courts use indicates that a defendant may never establish a reasonable expectation of privacy in an open field or area that is visible from the air, regardless of the measures he takes to shield the property from reasonable public view. *See, e.g.,* United States v. Mullinex, 508 F. Supp. 512 (E.D. Ky. 1980) (expectation of privacy not reasonable when

Other jurisdictions, while usually allowing warrantless aerial observations, hold that a person may have a reasonable expectation of privacy in areas and activities in open view, depending on a number of circumstances surrounding the observation.[44] This approach will be referred to as the qualified open view analysis. The circumstances most often influencing the courts adhering to the qualified open view approach include the altitude of the aerial surveillance, whether the area had been concealed from ground view even though not hidden from aerial view, whether the observation was made with the naked eye or with a viewing device, and whether the area under surveillance was subject to frequent overflights.

A. *Open Fields Analysis*

The *Hester* and *Air Pollution Variance Board* decisions developed the open fields exception when they held that fourth amendment privacy protection does not apply to objects and activities in an open field.[45] The Illinois Court of Appeals applied this open fields doctrine to the problem of aerial surveillance in *People v. Lashmett*[46] when it held that warrantless aerial surveillance of stolen farm equipment on rural acreage was constitutional. Citing *Hester* and *Air Pollution Variance Board,* the *Lashmett* court ruled that the farm land under observation was an open field and, therefore, not subject to the fourth amendment's warrant requirement.[47] Under the *Lashmett* analysis, virtually all forms of warrantless aerial surveillance are permissible. As long as the object or activity is in an area open to aerial view, police may freely observe

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area visible from air; open fields approach rejected in favor of *Katz*); United States v. DeBacker, 493 F. Supp. 1078 (W.D. Mich. 1980) (defendant's subjective privacy expectation held unreasonable); Burkholder v. Superior Court, 96 Cal. App. 3d 421, 158 Cal. Rptr. 86 (1979) (no reasonable expectation of privacy violated even though police used high-powered binoculars); Dean v. Superior Court, 35 Cal. App. 3d 112, 110 Cal. Rptr. 585 (1973) (no reasonable expectation of privacy for open agricultural lands).

The California cases use this open view approach in aerial surveillance of agricultural lands. This approach has been further developed in the California cases cited *supra* note 7.

44. *See, e.g.,* United States v. Allen, 633 F.2d 1282 (9th Cir. 1980) (warrantless aerial surveillance constitutional, but exceptions may exist), *cert. denied,* 102 S. Ct. 133 (1981); People v. Sneed, 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973) (altitude of surveillance a determining circumstance); State v. Knight, 63 Hawaii Adv. Sh. 7246, 621 P.2d 370 (1980) (use of highly sophisticated viewing devices a determining circumstance); State v. Stachler, 58 Hawaii 412, 570 P.2d 1323 (1977) (height and duration of aerial surveillance and use of viewing devices determining circumstances); State v. Layne, No. 80-171-III (Tenn. Crim. App.—Nashville June 18, 1981) (adopted *Stachler* approach).

45. *See supra* notes 31-39 and accompanying text.

46. 71 Ill. App. 3d 429, 389 N.E.2d 888 (1979), *cert. denied,* 444 U.S. 1081 (1980).

47. *Id.* at 437, 389 N.E. 2d at 894.

without first obtaining a warrant. Although the *Lashmett* court discussed the *Katz* reasonable expectation of privacy test, it did not apply that test in its open fields analysis. A finding that an object or activity is visible in the open field apparently precludes further fourth amendment consideration under the *Lashmett* analysis.

The Illinois court's use of the open fields doctrine has not been widely followed. In federal jurisdictions, in which *Hester* and *Air Pollution Variance Board* arguably control, many courts nevertheless have expressly rejected the open fields approach in favor of the *Katz* reasonable expectation of privacy test. State courts often resort to state constitutional law in refusing to adopt the open fields exception.[48] Courts that have rejected the open fields doctrine have applied the *Katz* test and extended fourth amendment protection to a property holder who can establish a reasonable expectation of privacy in the area under surveillance.

United States v. DeBacker[49] is an example of a federal court's rejection of the open fields doctrine. The *DeBacker* court refused to follow decisions in the Fifth[50] and Ninth[51] Circuits that would have upheld the open fields doctrine in search and seizure cases. In rejecting the open fields exception, *DeBacker* suggests that a defendant could exhibit an expectation of privacy in open fields.[52] Although the court eventually upheld the warrantless aerial surveillance of the defendant's marijuana crop,[53] the judge noted that excluding open fields from fourth amendment protection "would provide police with a carte blanche to investigate areas outside a homestead's curtilage."[54] In rejecting the open fields analysis *DeBacker* adopted instead the open view approach and the *Katz* test.[55]

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48. *See supra* note 7 and accompanying text.

49. 493 F. Supp. 1078 (W.D. Mich. 1980).

50. *Id.* at 1080-81; *see* United States v. Williams, 581 F.2d 451 (5th Cir.) (open fields doctrine helpful in determining a reasonable expectation of privacy under *Katz* test), *cert. denied*, 440 U.S. 972 (1978).

51. *See* United States v. Basile, 569 F.2d 1053 (9th Cir.) (fourth amendment protection does not extend to open fields; open fields doctrine separate from *Katz* test), *cert. denied*, 436 U.S. 920 (1978).

52. 493 F. Supp. at 1081. The court noted the unfair results that can stem from application of the open fields exception and cited Conrad v. State, 63 Wis. 2d 616, 218 N.W.2d 252 (1974), in which the court allowed police to enter defendants' fields without a warrant and dig 14 or 15 holes until they finally unearthed a body. 493 F. Supp. at 1081.

53. 493 F. Supp. at 1081.

54. *Id.*

55. For a discussion of *DeBacker* as an "open view" case, see *infra* notes 80-84.

Like many state courts, the Tennessee Supreme Court in *State v. Lakin*[56] applied state constitutional law to reject the open fields exception.[57] *Lakin,* although not an aerial surveillance case, held that a person may have a reasonable expectation of privacy in the open fields he cultivates.[58] Two years later in *State v. Layne*[59] the Tennessee Court of Criminal Appeals applied the open view approach rather than the open fields analysis to scrutinize a warrantless aerial surveillance.[60] Citing *Lakin* as having abolished the open fields exception for Tennessee, *Layne* held that the defendant must establish a reasonable expectation of privacy in the area under surveillance to attain constitutional protection.[61] The *Layne* decision embraces the "open view" approach to aerial surveillance problems and contains language that may allow a defendant to establish a reasonable expectation of privacy in areas in open view depending upon several considerations.[62] This Recent Development next examines this open view approach to aerial surveillance analysis, which utilizes the *Katz* reasonable expectation of privacy

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56. 588 S.W.2d 544 (Tenn. 1979). *Lakin* concerned the entry of police onto the defendant's property in an effort to find either marijuana or a moonshine still.

57. The *Lakin* court rejected the open fields exception under article I, § 7 of the Tennessee Constitution, which is identical to the fourth amendment of the federal constitution. The court said that differences in common-law interpretation of the constitutional sections accounted for the different result. 588 S.W.2d at 549 n.2.

58. The Tennessee Supreme Court stated that it "has never used the phrase 'open fields', and its decisions applying the state constitution have been somewhat more restrictive than comparable federal cases." *Id.* at 548.

59. No. 80-171-III (Tenn. Crim. App.—Nashville June 18, 1981). Prior to *Layne,* another section of the Court of Criminal Appeals stated that warrantless air surveillance of a defendant's marijuana patch from an altitude of 300 yards "was an illegal intrusion onto the property since there were no exigent circumstances." State v. Lilly, No. 2, slip op. at 5 (Tenn. Crim. App.—Jackson June 19, 1980). The *Layne* court refused to follow the *Lilly* opinion's lead and dismissed as dictum the aerial surveillance language in *Lilly.* No. 80-171-III, slip op. at 4.

60. No. 80-171-III, slip op. at 10. *Layne* held that warrantless aerial surveillance of the defendants' marijuana fields at an altitude of 1,800 feet was not a "search" regulated by the fourth amendment or the state constitution. Since the contraband was in "open view," the defendants had not exhibited a reasonable expectation of privacy that would have triggered fourth amendment protection. *Id.*

61. *Id.* at 6. The Tennessee Supreme Court chose not to review *Layne,* denying application for appeal on Oct. 13, 1981. Thus, the state's law remains uncertain concerning the point at which a person can, under the rule in *Lakin,* establish a reasonable expectation of privacy in an open field subject to aerial surveillance.

62. *Id.* at 9. The *Layne* court adopted the approach taken by the Hawaii Supreme Court in State v. Stachler, 58 Hawaii 412, 570 P.2d 1323 (1977). *Stachler* followed the qualified open view approach. Those considerations noted in *Stachler* and adopted in *Layne* included altitude of surveillance, the use of highly sophisticated viewing devices, the frequency and duration of the surveillance, and the frequency of general aviation overflights in the area. No. 80-171-III, slip op. at 9.

test to determine whether a fourth amendment violation has occurred.

B. The Per Se Open View Analysis

Rejection of the open fields exception in both state[63] and federal[64] jurisdictions has made possible the application of the reasonable expectation of privacy test to aerial surveillance problems. Under the *Katz* test a person must first show a subjective expectation of privacy in the area, activity, or object that is the subject of official scrutiny. Second, and more important, the expectation of privacy must be deemed reasonable in the eyes of society—an objective determination. Many courts applying the expectation of privacy test find that areas in "open view"—visible from the air in an aerial surveillance context—are not protected by the fourth amendment.[65] These courts reason that even though a person exhibits a subjective expectation of privacy by shielding his property from ground view, the area's visibility from the air makes that privacy expectation objectively unreasonable.[66]

Since 1973 California appellate courts have published seven opinions on aerial surveillance, all but one of which upheld the constitutionality of the warrantless observations. In *People v. Sneed*[67] a California Court of Appeal held that warrantless aerial surveillance at an altitude of twenty to twenty-five feet was unconstitutional.[68] Following *Sneed,* however, in *Dean v. Superior*

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63. In Hawaii the supreme court has chosen to follow the *Katz* test instead of the open fields doctrine, although the court has not explicitly rejected *Hester. See, e.g.,* State v. Knight, 63 Hawaii Adv. Sh. 7246, 621 P.2d 370 (1980) (reasonable expectation of privacy exists in greenhouse, the contents of which were obscured from public view, even though greenhouse was in an open field outside the curtilage); State v. Stachler, 58 Hawaii 412, 570 P.2d 1323 (1977) (although citing *Hester,* court applies *Katz* test and an open view analysis).

64. Despite the apparent viability of *Hester* and the open fields doctrine in the federal courts, at least two federal courts examining aerial surveillance cases have rejected the open fields approach. United States v. Allen, 633 F.2d 1282 (9th Cir. 1980) (*Katz* test controlling for fourth amendment issues; *Hester* not even cited), *cert. denied,* 102 S. Ct. 133 (1981); United States v. Mullinex, 508 F. Supp. 512 (E.D. Ky. 1980) (determination that an area is an open field does not, without more, remove it from fourth amendment protection; *Hester* rejected).

65. For examples of this approach to aerial surveillance, see cases cited *supra* note 43.

66. In contrast, *infra* part III, section C discusses a derivation of the open view analysis that allows a reasonable expectation of privacy to exist under certain circumstances, even though the area or activity may be visible from the air. *See* cases cited *supra* note 44.

67. 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973).

68. While the *Sneed* court acknowledged that the defendant had not met the *Katz* reasonable expectation of privacy test, the focus of the court's concern was on the extremely

Court[69] another division of the Courts of Appeal permitted aerial surveillance without a warrant of all agricultural land visible from the air.[70] *Dean* held that *Sneed* was limited to low-altitude surveillance cases.[71] Subsequent decisions have followed the *Dean* analysis, holding that because the land is in open view, even if the property holder has shielded his land from ground ohservation, no objectively *reasonable* expectation of privacy is possible.[72] The rationale for the California rule is that farmers do not normally expect privacy from aerial observation of their crop lands. Therefore, hased on the "common habits" of agriculturalists, society cannot reasonably tolerate a privacy expectation for a farmer who grows marijuana on his acreage.[73]

One of the most recent pronouncements of the California Courts of Appeal occurred in *People v. Joubert*,[74] which held that "anyone who grows marijuana in the open today does so at the risk of being spotted by flying police officers."[75] The *Joubert* court stated that only the agriculturalist who grows his contraband in a hothouse completely obscured from aerial observation may successfully assert a fourth amendment challenge under the *Katz* test.[76] The California rule, however, may be limited to observation of agricultural fields. Aerial surveillance of factory sites,[77] outdoor swimming pools, or sunbathing areas[78] may be subject to fourth amendment protection because they are "areas expectedly private

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low altitude of the surveillance. *Id.* at 543, 108 Cal. Rptr. at 151; *see infra* text accompanying note 71.

69. 35 Cal. App. 3d 112, 110 Cal. Rptr. 585 (1973).

70. The *Dean* court stated that "aside from an uncommunicated need to hide his clandestine activity, the occupant exhibits no reasonable expectation of privacy consistent with the common habits of persons engaged in agriculture." *Id.* at 118, 110 Cal. Rptr. at 590.

71. *Id.* at 116-17, 110 Cal. Rptr. at 588-89. "Reasonable expectations of privacy may ascend into the airspace and claim Fourth Amendment protection." *Id.*

72. *See* Tuttle v. Superior Court, 120 Cal. App. 3d 320, 174 Cal. Rptr. 576 (1981), *cert. denied*, 102 S. Ct. 571 (1981); People v. Joubert, 118 Cal. App. 3d 637, 173 Cal. Rptr. 428 (1981); People v. St. Amour, 104 Cal. App. 3d 886, 163 Cal. Rptr. 187 (1980); Burkholder v. Superior Court, 96 Cal. App. 3d 421, 158 Cal. Rptr. 86 (1979); People v. Superior Court, 37 Cal. App. 3d 836, 112 Cal. Rptr. 764 (1974) (aerial surveillance of stolen auto behind five-foot high fence; only nonagricultural California case).

73. *See, e.g.*, Dean v. Superior Court, 35 Cal. App. 3d 112, 117, 110 Cal. Rptr. 585, 589 (1973).

74. 118 Cal. App. 3d 637, 173 Cal. Rptr. 428 (1981).

75. *Id.* at__, 173 Cal. Rptr. at 434.

76. *Id.* at__, 173 Cal. Rptr. at 434.

77. *Id.* at__, 173 Cal. Rptr. at 432 (reasonable expectation of privacy could exist for "areas used in ordinary business operations.") (quoting Dean v. Superior Court, 35 Cal. App. 3d 112, 117, 110 Cal. Rptr. 585, 589 (1973)).

78. Dean v. Superior Court, 35 Cal. App. 3d at 117, 110 Cal. Rptr. at 589.

according to the common habits of mankind."[79]

The open view approach of the California courts has also been adopted by one federal district court. In *United States v. DeBacker*[80] a Michigan federal court held that a farmer could establish a subjective expectation of privacy by shielding his contraband crop from ground view. That privacy expectation, however, could not be reasonable when the area under surveillance was visible from the air.[81] *DeBacker* held that even though the defendant had a subjective expectation of privacy in his fields, police use of aerial surveillance as a law enforcement tool outweighed the privacy concern.[82] The court expressed little concern that the aerial observation occurred at an altitude of only fifty feet, in apparent violation of Federal Aviation Administration (FAA) safe altitude regulations.[83] Moreover, the *DeBacker* court ignored state court holdings that "reasonable expectations of privacy may ascend into the airspace and claim Fourth Amendment protection."[84]

The single determining element in the open view analysis used by most of the California courts and the *DeBacker* court is whether the area is visible from the air. This narrow interpretation of the open view analysis creates what amounts to a per se rule, not unlike the open fields doctrine. Even though the property holder may demonstrate that he has the subjective expectation of privacy required by the first prong of the *Katz* test, because his property is visible from the air he can never satisfy the second prong of the *Katz* test—a demonstration that his expectation of privacy is one that society recognizes as reasonable. Since most open areas are visible from the air, the result of this per se open view analysis is that open areas cannot receive fourth amendment protection. Thus, police in jurisdictions applying this analysis may employ the potent tool of aerial surveillance unchecked by the warrant requirement.

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79. *Id.*

80. 493 F. Supp. 1078 (W.D. Mich. 1980).

81. *Id.* at 1081.

82. The *DeBacker* court cited support for the notion that the *Katz* standard actually might be a balancing test. Surprisingly, this support came from a dissenting opinion by Justice Harlan, originator of the two-part reasonable expectation of privacy test. *Id.; see* United States v. White, 401 U.S. 745, 786 (1971) (Harlan, J., dissenting).

83. 493 F. Supp. at 1081. The California Courts of Appeal have expressed greater concern about the altitude of surveillance. *See infra* note 92.

84. State v. Stachler, 58 Hawaii 412, 418, 570 P.2d 1323, 1328 (1977); *see also* People v. Sneed, 32 Cal. App. 535, 108 Cal. Rptr. 146 (1973) (warrantless aerial observation at 20-25 feet unconstitutional).

C. *The Qualified Open View Approach*

Some courts analyzing aerial surveillance problems have carved out exceptions to the per se open view rationale and find that under certain circumstances the fourth amendment may protect areas openly observable from the air. These courts hold that a person may establish a reasonable expectation of privacy in an open field or an area in open view. Circumstances that may determine whether a reasonable expectation of privacy exists include the altitude of surveillance,[85] the use of technological viewing aids in the observation,[86] the frequency of overfiights in the area,[87] and the frequency and duration of aerial surveillance.[88]

The circumstance most frequently determining the outcome of a case in a court following the qualified open view approach is the altitude of surveillance. Courts are also becoming increasingly sensitive to the warrantless use of scientific viewing aids to observe what could not be seen with the naked eye.[89] The other two circumstances—frequency of overflights and frequency and duration of the actual aerial surveillance—are often mentioned in opinions, but no published case has held warrantless aerial surveillance unconstitutional because of them.

The central question in this analysis becomes at what point the conduct of the property holder creates a *reasonable* expectation of privacy. Must a person cover his property with an opaque dome to obscure the view of overflying lawmen? If not, at what point short of construction of an opaque dome will a person establish a constitutionally protected privacy right? The courts have not clearly answered these difficult questions. This Recent Development suggests that after the defendant's conduct satisfies the first prong of the *Katz* test—after he has asserted a subjective expectation of privacy—the focus of the inquiry should shift to the nature of the investigatory techniques police used to gather the evidence. If the police found it necessary to resort to extraordinary tech-

85. People v. Sneed, 32 Cal. App. 535, 108 Cal. Rptr. 146 (1973) (warrantless aerial surveillance at 20-25 feet is unconstitutional).

86. Stata v. Knight, 63 Hawaii Adv. Sh. 7246, 621 P.2d 370 (1980) (warrantless visual surveillance unconstitutional when high-powered hinoculars used).

87. United States v. Allen, 633 F.2d 1282 (9th Cir. 1980) (frequent aerial surveillance of seacoast border reduced defendant's expectation of privacy in that area), *cert. denied*, 102 S. Ct. 133 (1981).

88. State v. Stachler, 58 Hawaii 412, 418, 570 P.2d 1323, 1328 (1977) (continual aerial surveillance for prolonged time periods could be a consideration, although not relevant to instant case).

89. *See* State v. Knight, 63 Hawaii Adv. Sh. 7246, 621 P.2d 370 (1980).

niques to spot the incriminating evidence, then the defendant's expectation of privacy should stand a greater likelihood of being deemed reasonable. The necessity for police to use the more intrusive investigative techniques indicates that the defendant has taken measures to establish a privacy expectation society should deem reasonable. This Recent Development next examines the altitude of surveillance and technology considerations and discusses a third issue not usually considered by the courts—the necessity of preserving the warrant requirement in aerial surveillance.

1. Altitude of Surveillance

In *People v. Sneed*,[90] the first case to confront the constitutionality of warrantless aerial surveillance, a California Court of Appeal held that airborne observations at an altitude of twenty to twenty-five feet constituted an unreasonable search. The marijuana plants observed by the police helicopter pilot were shielded from public view and near, but not within the curtilage of, the defendant's house.[91] The *Sneed* court noted that the low-flying helicopter probably was in violation of state and federal aviation safety laws.[92] Subsequent California cases have upheld the constitutionality of warrantless aerial surveillance, but have appeared to keep the *Sneed* altitude-of-surveillance standard intact.[93] Neither the *Sneed* decision nor any other case has formulated an absolute minimum altitude for warrantless aerial surveillance, although the FAA safe altitude regulations are often given as guidelines.[94]

In other states, courts have been quick to acknowledge *Sneed*'s altitude-of-surveillance concerns.[95] But while many juris-

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90. 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973).

91. *Id.* at 539, 108 Cal. Rptr. at 148.

92. The *Sneed* court cited CAL. PUB. UTIL. CODE § 21403 (West Supp. 1981), which provides in part that "[f]light in aircraft over the land and waters of this State is lawful, unless at altitudes below those prescribed by federal authority." *Id.* at 543 n.1, 108 Cal. Rptr. at 151 n.1.

The applicable federal regulations are contained in the FAA regulations on minimum safe altitudes, 14 C.F.R. § 91.79 (1981). The regulations limit overflights over congested areas to altitudes "1,000 feet above the highest obstacle." *Id.* § 91.79(b). For overflights over "other than congested areas" the altitude limit is "not . . . closer than 500 feet te any person, vessel, vehicle, or structure." *Id.* § 91.79(c). Helicopters are exempt from the altitude restrictions so long as they are operated in a safe manner. *Id.* § 91.79(d).

The *Sneed* court erroneously refers to these regulations as being promulgated by the Civil Aeronautics Board. 32 Cal. App. 3d at 543 n.1, 108 Cal. Rptr. at 151 n.1.

93. Subsequent California decisions have not followed *Sneed*, but the cases have distinguished *Sneed* because of the very low altitude of observation.

94. *See supra* note 92 (FAA regulations).

95. *See* State v. Stachler, 58 Hawaii 412, 418, 570 P.2d 1323, 1327 (1977); State v.

dictions have stated that the fourth amendment would apply to low-altitude surveillance, none since *Sneed* has suppressed evidence because of the low altitude of observation. In *State v. Stachler*[96] the Hawaii Supreme Court affirmed the constitutionality of aerial surveillance at 300 feet, but noted in dictum that "[i]f the lower court had found that the height of a helicopter was unreasonably low or violated applicable laws and regulations, . . . we might well decide differently."[97] In *State v. Layne*[98] the Tennessee Court of Criminal Appeals adopted the *Stachler* aerial surveillance analysis[99] and discussed the height-of-surveillance issue.[100] The *Layne* court cited the Air Commerce Act of 1926, FAA regulations, and state common law to reject the ancient *ad coelum* doctrine[101] and held that warrantless surveillance at 1800 feet was proper.[102]

A contrasting viewpoint to *Sneed* and the dictum in *Stachler* is the opinion in *United States v. DeBacker*[103] in which warrantless aerial observation at fifty feet was held constitutional. The *DeBacker* decision demonstrates the difference between the per se open view analysis, which does not recognize any objectively reasonable expectation of privacy in open areas visible from the air, and the qualified open view analysis, which considers several circumstances in determining whether the property owner has met the second prong of the *Katz* test. The visibility of the property from the air is the main consideration that removes that area from fourth amendment protection in the *DeBacker* analysis. Under *Sneed* and *Stachler,* however, other circumstances may influence whether the surveillance becomes a "search" and attains constitutional protection.

If the proper test to apply in a fourth amendment privacy analysis is whether the state intruded on a reasonable expectation of privacy, then arguably the altitude of surveillance is irrelevant. A warrantless search that intrudes on a reasonable expectation of privacy from an altitude of fifty feet is just as unconstitutional as the warrantless search from one thousand feet. In either instance

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Layne, No. 80-171-III, slip op. at 9 (Tenn. Crim. App.—Nashville June 18, 1981).

96. 58 Hawaii 412, 570 P.2d 1323 (1977).

97. *Id.* at 418-19, 570 P.2d at 1328.

98. No. 80-171-III (Tenn. Crim. App.—Nashville June 18, 1981).

99. *See supra* note 62.

100. No. 80-171-III, slip op. at 10.

101. "Cujus est solum, ejus est usque ad coelum et ad infernos. (The owner of a piece of land owns everything above or below it to an indefinite extent)." *Id.*

102. *Id.*

103. 493 F. Supp. 1078 (W.D. Mich. 1980).

the *Katz* reasonable expectation of privacy test should determine whether the fourth amendment has been violated. The low altitude concern in aerial surveillance is reminiscent of the trespass doctrine—which tied the degree of physical intrusion to a fourth amendment violation—abandoned by the Supreme Court in *Katz*. The weakness in the altitude-of-surveillance standard is also evident in situations in which the government employs a telescopic satellite, miles above the earth, to make the observations.[104] The government's spy satellites,[105] which silently and omnisciently observe and photograph the activities of its subjects, may be more offensive to fourth amendment rights than the low-flying helicopter in *Sneed*.

2. Technology

The Supreme Court has long recognized the special intrusiveness of electronic surveillance and expanded fourth amendment protection to encompass the problems of bugging and eavesdropping.[106] Courts, however, have been reluctant to require a warrant as a prerequisite to the use of sophisticated viewing devices. The majority rule is that devices such as high-powered binoculars, telescopic cameras, and infra-red telescopes only enhance what could be seen with the naked eye and, therefore, their use does not constitute a fourth amendment search.[107] These courts reason that if the policeman is in a place where he has the right to be, anything he observes is in open view. A growing number of courts, however, hold that a law officer may not make warrantless, technologically aided observations of areas within the privacy zone when those areas could not be viewed with the naked eye.[108]

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104. Satellite surveillance and reconnaissance have been used widely in international intelligence gatbering. One writer has noted that the development of film quality and the advent of the *Titan* booster allow satellites 100 miles in the air to film objects on earth less than a foot in length. Greenwood, RECONNAISSANCE, SURVEILLANCE AND ARMS CONTROL 7 (Adelphi Paper No. 88, 1972).

105. *See supra* note 4. State governments also make use of satellite photographs from the Earth Resources Observation Satellite Data Center, in Sioux Falls, S.D., for detection of large marijuana fields. Tell, *supra* note 2, at 28, cols. 1, 3.

106. *See* Katz v. United States, 389 U.S. 347 (1967).

107. *See generally* United States v. Allen, 633 F.2d 1282 (9th Cir. 1980) (extensive use of technological aids without a warrant did not violate reasonable expectation of privacy), *cert. denied,* 102 S. Ct. 133 (1981); United States v. Moore, 562 F.2d 106, 112 (1st Cir. 1977) (such devices only "magnify" senses).

108. United States v. Taborda, 635 F.2d 131 (2nd Cir. 1980) (warrantless telescopic viewing inside a person's house unconstitutional); United States v. Kim, 415 F. Supp. 1252 (D. Hawaii 1976) (same); People v. Arno, 90 Cal. App. 3d 505, 153 Cal. Rptr. 624 (1979)

In aerial surveillance cases the use of high-powered binoculars or telescopic photography on helicopter overflights increases the potency—and intrusiveness—of the aerial observation. In *United States v. Allen*[109] the Ninth Circuit noted,

> We agree with the defendants that a person need not construct an opaque bubble over his or her land in order to have a reasonable expectation of privacy regarding the activities occurring there in all circumstances. Given the sophistication of electronic photographic devices today, there probably are few unenclosed locations which could not be observed from some airborne location.[110]

Two recent Hawaii cases expressed concern about the intrusiveness of technologically aided observations by police. In *State v. Stachler*[111] the Hawaii Supreme Court ruled that aerial observation with binoculars of defendants' fields was constitutional.[112] The Hawaii court, however, noted that if "highly sophisticated viewing devices"[113] had been employed, the warrantless observation might have violated a section of the state constitution that specifically prohibits governmental invasion of privacy.[114] The *Stachler* court declined to hold that the use of a helicopter or binoculars to observe the defendant's fields constituted the employment of "highly sophisticated viewing devices."[115] Three years later, in *State v. Knight*,[116] Hawaii's highest court exhibited greater sensitivity to the use of technological aids. Although the court held that aerial observation by helicopter of defendant's land and greenhouse was proper, a subsequent warrantless observation of the inside of the greenhouse with high-powered binoculars was held to be an unreasonable search.[117] *Knight* adopted the rule that a warrant is required for use of technologically aided viewing devices that allow observation of areas not normally visible to the naked eye.[118]

At least one commentator has suggested that helicopters and

(warrantless use of binoculars to view obscene films unconstitutional).

109. United States v. Allen, 633 F.2d 1282 (9th Cir. 1980), *cert. denied*, 102 S. Ct. 133 (1981).

110. *Id.* at 1289.

111. 58 Hawaii 412, 570 P.2d 1323 (1977).

112. *Id.* at 421 n.6, 570 P.2d at 1329 n.6.

113. *Id.* at 419, 570 P.2d at 1328.

114. HAWAII CONST. art. 1, § 5 (1968).

115. 58 Hawaii at 419, 570 P.2d at 1328.

116. 63 Hawaii Adv. Sh. 7246, 621 P.2d 370 (1980).

117. *Id.* at__, 621 P.2d at 373. The difference between *Stachler* and *Knight* appears to be that in *Stachler* the observation with the binoculars could have been made with the naked eye. In *Knight* the police needed the telescopic aids to make the observation. *See* State v. Ward, 62 Hawaii 509, 617 P.2d 568 (1980).

118. 63 Hawaii at__, 621 P.2d 373; *see supra* note 108 and accompanying text.

other aircraft used in aerial surveillance be treated as highly sophisticated viewing devices.[119] Although this position has received no judicial support,[120] a strong argument could be made that when aircraft are equipped with sophisticated viewing and photographic devices they become observation aids that should be regulated by the fourth amendment. Even if a helicopter is not classified as a viewing device per se, a telescopic satellite should always be considered a viewing device. Technological advances in observation satellites allow the viewing and recording of activities on tbe ground[121] without putting the subject of satellite surveillance on notice that he is being watched. As satellite technology develops, satellite surveillance is likely to become more intrusive upon privacy rights. Courts, therefore, must invoke the fourth amendment to protect against the improper use of this effective, though potentially invasive, police tool.

3. The Warrant Requirement

A finding that aerial surveillance is not a "search" removes the observation from fourth amendment regulation and frees police to use this tactic without the issuance of a warrant. In almost all aerial surveillance cases considered by the appellate courts, the police have undertaken the observations only after receiving information about the area to be searched.[122] Thus, aerial surveillance has been used to corroborate information, or, in some cases, to effect a search of the area. In many of these cases the police have used aerial surveillance to obtain information that could not otherwise be obtained without a search warrant.

Sometimes police aerial surveillance is a prelude to other warrantless privacy intrusions, such as physical trespass or electronic surveillance. An example of this use is found in *United States v.*

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119. *See* Granberg, *Is Warrantless Aerial Surveillance Constitutional?*, 55 CAL. ST. B.J. 451, 454 (1980) (analysis of California aerial surveillance cases). For an opposing view see Kaye, *Aerial Surveillance: Private vs. Public Expectations*, 56 CAL. ST. B.J. 258 (1981).

120. For example, in United States v. Moore, 562 F.2d 106, 112 (1st Cir. 1977), the court characterized helicopters, binoculars, and radar as objects that merely "magnify" the observer's senses. The court said these devices were not as intrusive to privacy as an electronic beeper, which does more than magnify the police officer's senses.

121. *See supra* notes 4 & 104-05.

122. For a listing of all reported aerial surveillance cases, see *supra* note 7. In all of those cases that reported the authorities' motivation for the aerial search, the police had made the surveillance after obtaining information that contraband might be found on the property. The observations were not made inadvertently by police on routine patrol. The quality and detail of the information given to police prior to the aerial search varies from case to case and is often difficult to ascertain from facts given.

Allen,[123] in which the Coast Guard, on aerial patrol along the seacoast border, observed suspicious activity around defendant's property. Subsequent aerial surveillance led authorities to suspect the defendant was engaged in a large drug smuggling operation. Further warrantless surveillance occurred from the air and sea and on the ground in the form of electronic heat sensors that monitored entrances and departures from the property. The Ninth Circuit acknowledged holdings that limited the warrantless use of technological aids, but, using the qualified open view approach, held that an unconstitutional search had not occurred.[124]

Another example of the extent to which police may be allowed to engage in warrantless observation is apparent in *State v. Layne*.[125] In *Layne* a Tennessee Highway Patrol pilot, acting on an informant's tip, surveyed the defendant's property from an altitude of 1800 feet and determined that marijuana was being cultivated on the land. The pilot landed the helicopter on defendant's property and, along with several other patrolmen, captured a group of persons who were tilling the fields. The police also observed, apparently in plain view, the contents of a barn "chock-full" of harvested marijuana.[126] The raid, which reportedly netted seven to eight tons of marijuana, was carried out without a search warrant and, apparently, without any attempt to obtain a warrant.[127]

The *Layne* court determined that the defendants did not have a reasonable expectation of privacy in fields that were in the "open view" of the airborne patrolman. The court analogized the aerial observation to the situation of a police officer, acting on a tip, who sees a husband assaulting his wife in the front yard of their house.[128] The *Layne* court reasoned that the officer is justified in going on the property to make the arrest because he has viewed a crime in progress. The *Layne* court's analogy, however, ignores the special intrusiveness of aerial surveillance. Furthermore, in the *Layne* situation the police could have attempted to obtain a search warrant following their observation instead of effecting an immedi-

123. 633 F.2d 1282 (9th Cir. 1980), *cert. denied*, 102 S. Ct. 133 (1981).

124. *Id.* at 1288, 1290.

125. No. 80-171-III (Tenn. Crim. App.—Nashville June 18, 1981).

126. *Id.*, slip op. at 2.

127. The *Layne* court stated that the warrantless intrusion on the property was proper because the airborne patrolmen saw the unharvested marijuana in the field and "[o]bserving a felony being committed in their presence, they clearly were justified in descending to the ground to arrest these appellants." *Id.* at 11.

128. *Id.* at 11-12.

ate physical search and seizure of the contraband.[129] The police would not have risked losing the evidence because, as the court noted, the marijuana plants were so large that it took two days for police using chainsaws to harvest them. [130] Since the evidence probably would not have been destroyed while a warrant was being sought, any exigent circumstances argument proffered to justify the warrantless search must be considered tenuous.

The extent of the warrantless intrusion in *Layne* becomes even more disturbing when one considers the premium placed on search warrants. The United States Supreme Court has long expressed a strong preference for search warrants.[131] The Tennessee Supreme Court places a similar premium on searches pursuant to warrants. In *State v. Lakin,*[132] a case that suggests a person may have a reasonable expectation of privacy in an open area,[133] the court noted that "the obtaining of a warrant does not ordinarily impose insurmountable difficulties, particularly in the absence of an emergency."[134]

Authorities have often used warrantless aerial surveillance to corroborate informants' tips as a means of establishing sufficient probable cause to obtain a search warrant. The officer's first-hand observation of the contraband would clearly meet the probable cause requirement for issuance of a warrant. While this use of aerial surveillance as corroboration before seeking a search warrant is less offensive to the warrant requirement than a warrantless physical search, the initial aerial observation may still involve a "search" of a constitutionally protected zone of privacy. In *United States v. DeBacker*[135] and *State v. Knight*[136] police obtained search warrants *after* their aerial observations. Under traditional

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129. If the police had sought a warrant before conducting the raid, at least a portion of the police conduct would have been subject to some degree of scrutiny by a magistrate. Obtaining a search warrant after the initial aerial observation would have been less intrusive than the immediate search and seizure. If, however, the initial observation constituted an illegal warrantless search, then a subsequent search warrant based on that illegally obtained information would be invalid under the fruit of the poisonous tree doctrine. *See supra* note 27; *infra* note 137.

130. No. 80-171-III, slip op. at 2.

131. United States v. Ventresca, 380 U.S. 102, 105-06 (1965). The Court stated that a system which allows a "neutral and detached magistrate" to make the decision whether to invade the suspect's privacy is better than allowing the law enforcement officer to make that decision.

132. 588 S.W.2d 544 (Tenn. 1979).

133. *See supra* note 61 and accompanying text.

134. 588 S.W.2d at 548.

135. 493 F. Supp. 1078 (W.D. Mich. 1980).

136. 63 Hawaii Adv. Sh. 7246, 621 P.2d 370 (1980).

fourth amendment analysis, the issuance of search warrants after the surveillance does not cure the taint of the initial warrantless observation.[137] This analysis was applied in *Knight* and the warrantless telescopic observation of defendant's greenhouse was held unconstitutional because police obtained a warrant after gathering the "tainted" evidence.[138] In a similar fact situation the *DeBacker* court found that no search had occurred and, hence, that the fourth amendment did not apply.[139] In both *DeBacker* and *Knight* the police acted properly in seeking warrants. Arguably, the officers were using aerial surveillance as the least intrusive method to corroborate information so that they would have probable cause to obtain a search warrant. Even though the initial police surveillance was not subject to prior judicial scrutiny, at least "a neutral and detached magistrate"[140] provided a check on the police activity before the physical search and seizure of the contraband. Certainly both cases concerned police behavior preferable to that in *Layne*. The *Layne* court allowed aerial surveillance, physical intrusion onto the property, search of a barn, and arrest of suspects without the safeguards of a warrant.

IV. Analysis and Proposals

The existing case law has not provided adequate guidance in determining when an area visible from the air becomes constitutionally protected. The open fields and open view per se approaches allow warrantless aerial surveillance in virtually all circumstances. The courts applying the qualified open view approach often indicate that they will extend fourth amendment protection to subjects of warrantless aerial surveillance, but holdings in the defendant's favor are rare.[141] As a result, the aerial surveillance case law is greatly weighted in favor of law enforcement officials. Important personal privacy interests and the constitutional warrant requirement, which protects privacy interests, have not been furthered by the courts' analyses in the three approaches. When a person shields his property from every reasonable public

137. Under the "fruit of the poisonous tree" doctrine information gathered in an illegal search that leads to subsequent issuance of a warrant renders that warrant invalid. *See* Wong Sun v. United States, 371 U.S. 471 (1963).

138. 63 Hawaii at_, 621 P.2d at 373.

139. 493 F. Supp. at 1081.

140. *See supra* note 131.

141. People v. Sneed, 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973) (held warrantless aerial surveillance unconstitutional).

view—except an aerial view—he has asserted an important privacy interest to which a judge should give substantial consideration. Furthermore, the courts should express a strong preference for search warrants to ensure adequate control of police activity that infringes upon privacy interests.[142]

This Recent Development endorses the qualified open view approach, but proposes a new list of considerations to be applied when evaluating an aerial surveillance case. This proposed analysis rejects the open fields doctrine. Instead, courts should apply the *Katz* test to aerial surveillance. The per se open view approach, however, which holds that no reasonable expectation of privacy can exist in any open area visible from the air, is too narrow to ensure protection of the public's privacy rights. A broader view of the open view approach, which will subject government air surveillance to the warrant requirement in certain circumstances, strikes a more satisfactory balance between the use of a potent investigatory tool and the preservation of constitutionally guaranteed privacy. Once the defendant has established a subjective expectation of privacy under the first part of the *Katz* test, the reasonableness of the warrantless observations should be examined.

The following considerations should guide the court in determining both the reasonableness of a warrantless search and the reasonableness of the subjective privacy expectation. First, the courts should examine whether the property holder exhibited a subjective expectation of privacy by shielding his property from any reasonable public view. An area, object, or activity obscured from all reasonable observation except an aerial view should not be denied constitutional protection on the ground that it is in open view. When the property holder has done all he reasonably can to establish a privacy interest in the area despite its visibility from the air, more should not be required. Second, to preserve the integrity of the warrant requirement, the courts should examine whether police made the aerial observation inadvertently during a routine patrol or pursuant to a planned and focused "search" of a specified area. If observation is not inadvertent, the police should be required to obtain a search warrant prior to the surveillance or make a good faith showing that they did not have enough information to obtain a warrant.[143] In effect, the courts would be applying

142. *See supra* part III, section C.

143. If the jurisdiction were to adopt the reasonable suspicion standard for aerial search warrants proposed *infra* part IV, section B in place of the probable cause requirement, then police would not have an excuse for failing to obtain a warrant before an over-

a similar inadvertence requirement to aerial surveillance cases that they apply to plain view searches.[144] Last, the courts should follow those holdings that prohibit warrantless use of highly sophisticated viewing devices to monitor areas that could not be seen with the naked eye.[145]

A. *Public View Versus Open View*

Many courts uphold warrantless aerial surveillance because the subject of the surveillance is in "open view." These courts reason that since the area under observation can be viewed from the air, the person in control of that area has not shown an expectation

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flight prompted by an informant's tip.

144. The inadvertence requirement for the plain view doctrine is discussed in Coolidge v. New Hampshire, 403 U.S. 433 (1971). Some courts confuse "plain view" with "open view." In "plain view" the observation takes place after an intrusion on a reasonable expectation of privacy has occurred. If the original intrusion is justified, such as by consent, hot pursuit, a warrant, or as incident to an arrest, objects in plain view will be admissible if the view was inadvertent and the object was incriminating on its face.

In "open view" no search has occurred and, if the observer is legitimately on the premises, the fourth amendment and the inadvertence requirement do not apply. For a more detailed discussion of the differences between "plain view" and "open view," see State v. Stachler, 58 Hawaii 412, 417, 570 P.2d 1323, 1327 (1977).

145. In considering the elements of public view, inadvertence, and highly sophisticated viewing devices in an analysis of aerial surveillance problems, these three hypotheticals may be helpful.

(a) Officer *A* is on a routine aerial patrol. Using only his unaided powers of observation, he sees contraband growing in a large field. The property holder has made no serious efforts to shield his contraband from public view.

Result: The open view doctrine should apply. Warrantless aerial surveillance was proper because the suspect did not show a subjective expectation of privacy.

(b) Officer *A*, acting on an informant's tip, put *B's* farm under aerial surveillance. *A* suspects *B* of growing contraband on the premises, but he does not obtain a search warrant. After a brief period of surveillance, *A* sees, with his unaided vision, the contraband growing between two rows of corn.

Result: In this case the suspect showed a subjective privacy expectation by planting the contraband between rows of corn. Officer *A* may have had information enough to obtain a search warrant before the aerial surveillance took place. His observations of *B's* field were more like a focused "search" than an inadvertent sighting of something in open view. In a jurisdiction with a modified probable cause standard, police could have obtained a search warrant on their reasonable suspicions. In that case the warrantless intrusion should be deemed unreasonable and the court should act to protect *B's* privacy interest.

(c) Officer *A*, acting on an informant's tip, puts *B's* property under aerial surveillance on the suspicion that *B* is growing contraband. On the first overflight, *A* is unable to confirm the tip. But on a subsequent overflight, *A*, armed with a high-powered telescope, is able to see contraband growing under a canopy.

Result: This warrantless aerial surveillance should be an unconstitutional search. All three elements—protection of property from public view, absence of police inadvertance, and the use of sophisticated viewing devices—militate against a warrantless search and the courts should act to preserve *B's* privacy interest.

of privacy and, therefore, is not protected by the fourth amendment. This simple analysis becomes complicated when the person in control of the area shields it from routine public view. For example, a marijuana farmer who hides his illegal crop behind a tall fence and between rows of corn and barley has effectively obscured it from his neighbor's view. Under the first part of the *Katz* test the farmer has exhibited a subjective expectation of privacy by concealing his property from ground view. The crucial second question is whether the farmer's expectation of privacy is one that society deems reasonable. Most courts have answered this question in the negative.[146]

The California courts hold that agriculturalists do not expect privacy from aerial observations of their fields. These courts, however, indicate that nonagricultural uses of open areas may create an expectation of privacy society could deem reasonable.[147] Although the courts have not ruled on what activities in open fields may warrant constitutional protection, dicta in several cases hint that industrial complexes, swimming pools, and sunbathing areas may merit fourth amendment protection.[148]

This listing of protected activities is too narrow. Persons who take measures to secure privacy from ground-level observation arguably expect privacy from aerial observation. The person who chooses to live in an isolated area or who builds a fifteen-foot high fence to block the view of his prying neighbor subjectively expects privacy, whether it be from the ground or from the air. This expectation surely is one that society would deem reasonable. The first question courts should address then is whether the subject of the surveillance has made reasonable attempts to shield the area from non-aerial observation.[149] Once the property holder's subjective privacy expectation has been established, the focus of the inquiry should shift to the nature of the police surveillance to determine the objective reasonableness of the privacy expectation. If the police found it necessary to use aerial surveillance to circumvent the warrant requirement, then the courts should hold the subjective

146. *See* cases cited *supra* note 7.

147. *See supra* note 77 and accompanying text.

148. *Id.; see also* People v. Joubert, 118 Cal. App. 3d 637,_, 173 Cal. Rptr. 428, 435 (1981) (the California "common habits" rule may be limited to agricultural areas).

149. Virtually all activities in open areas are to some degree visible from the air. Yet, at least some of these activities merit privacy protection. A person should not be put to the enormous difficulty and expense of concealing his actions from overhead view to ensure privacy. Surely a person should not have to enclose himself in an opaque dome to obtain the protection of the fourth amendment.

privacy expectation to be reasonable, even though the area may have been visible from the air.

A finding that a person can show a reasonable expectation of privacy by obscuring his area from traditional public view would not severely limit aerial surveillance as a police tool. Before the police embarked on an aerial surveillance of a suspect whose property was obscured from ground view, they would be required only to obtain a warrant—the condition precedent to conventional government searches. Considering the great potential for privacy violation inherent in any aerial observation, courts must subject this potent police tool to the warrant requirement.

B. Inadvertence

Courts could also uphold the integrity of the warrant requirement by imposing an inadvertence requirement on warrantless aerial observations. This requirement, to be used in determining whether an area under surveillance is constitutionally protected, would be similar to the inadvertence required in the plain view doctrine.[150] In most of the cases discussed in this Recent Development, police made their aerial observations of specific targets following tips from informants and not while on routine aerial patrols.[151] The police put a specific area belonging to a specific person or persons under surveillance without a warrant and "searched" the area from their aerial vantage point. While society unquestionably should continue to allow routine aerial police patrols, once these patrols focus on a particular person, activity, or area, the surveillance takes on characteristics of a "search," and the fourth amendment warrant requirement should apply.

If the police have a reasonable suspicion that contraband exists on a suspect's property that is only observable from the air, then they should seek the judicial authorization of a warrant before invading the suspect's privacy.[152] This "reasonable suspi-

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150. An inadvertence requirement was suggested in People v. Sneed, 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973), which held that low-altitude warrantless aerial surveillance was an unreasonable search. The *Sneed* court stated, "[T]he officers were at the Fowler ranch for the purpose of exploring the premises for the marijuana plants. They had no other legitimate purpose for flying over the property. The marijuana plants were not discovered by happenstance as an incident to other lawful activity." *Id.* at 542, 108 Cal. Rptr. at 150.

151. *See supra* note 122.

152. "Reasonable suspicion" not amounting to probable cause should be sufficient proof for the issuance of an aerial search warrant. Police could satisfy the reasonable suspicion requirement by informing the magistrate of the need for the aerial surveillance, the inability of normal police investigative procedures to confirm the suspicion, and a descrip-

cion" standard would function in the same way as the modified probable cause requirement in electronic surveillance cases. The surveillance would be subject to "the procedure of antecedent justification before a magistrate"[153] before police could implement it. If the courts allowed aerial search warrants on a modified showing of probable cause, then police would have no excuse for not obtaining judicial authorization prior to an overflight. The reasonable suspicion standard, therefore, would eliminate the necessity of warrantless aerial surveillance to corroborate informant's tips.[154] Furthermore, since police could obtain a search warrant more easily, they would be able to avoid the current problem of having evidence excluded at trial as a result of their good faith efforts to corroborate information needed to meet the full probable cause standard. In other words, the modified probable cause standard ensures that law enforcement will not have to resort to extraordinary—and intrusive—investigative techniques to meet the warrant requirement.

C. *The Technology Consideration*

Courts should follow the example of the Hawaii Supreme Court in *Knight* and closely scrutinize police use of highly sophisticated viewing devices in both ground and aerial surveillance. Aerial surveillance with high-powered telescopic and infra-red viewing aids is an effective police tool, but its potential for privacy intrusion is great. Warrantless use of technologically aided observation should be prohibited in most cases. To effectuate this general rule, a precise and easily understood definition of technologically aided surveillance is necessary. The Hawaii court, for example, provided

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tion of the specific intrusion on the privacy right. A lesser hurden is justified for the issuance of an aerial search warrant than for a traditional search warrant because properly limited aerial surveillance—under the court's control—is less intrusive than a full physical search. The Supreme Court has authorized the use of a modified probable cause standard in electronic surveillance cases. *See* Osborn v. United States, 385 U.S. 323 (1966).

153. *Id.* at 330; *see also* Omnibus Crime Control and Safe Streets Act of 1968, 18 U.S.C. § 2518 (1976 & Supp. III 1979). Electronic surveillance warrants require evidence of probable cause and a showing that ordinary investigatory procedures have been, or will be, unsuccessful. 18 U.S.C. §§ 2518(3)(a)-(d). The Supreme Court rejected a less-than-probable cause standard for electronic surveillance warrants in Berger v. New York, 388 U.S. 41 (1967) ("reasonable ground" for electronic surveillance is insufficient).

154. Use of aerial surveillance as corroboration occurred in State v. Knight, 63 Hawaii Adv. Sh. 7246, 621 P.2d 370 (1980) and United States v. DeBacker, 493 F. Supp. 1078 (W.D. Mich. 1980). In *Knight* the court held the warrantless observation unreasonable because it was made with highly sophisticated viewing devices that enabled the officers to see that which was not observable with the naked eye.

the needed certainty by defining a viewing aid as a device that allows a person to see something which otherwise would not be observable with the naked eye.[155] Under this simple and practical definition, a helicopter is not a "viewing device" because observations from the aircraft could be made with the naked eye. Binoculars and telescopes, however, fit within the definition when they are powerful enough to allow observation of areas not ordinarily viewable. The definition also is broad enough to encompass potentially more intrusive observation devices such as "close look" satellites and other forms of high technology aerial monitoring.[156]

While law enforcement's aggressive use of new technology in crime fighting should not be discouraged, courts must be willing to expand their interpretation of the fourth amendment to ensure the preservation of important privacy rights. The Supreme Court met this challenge in *Katz* when it confronted the problem of electronic surveillance. The Court, as well as state supreme courts, must continue to scrutinize closely the technological advances in law enforcement and their impact on the public's constitutional rights.

V. Conclusion

Aerial surveillance is a valuable and effective police tool. Accordingly, most courts have shown great deference to law enforcement in applying the *Katz* reasonable expectation of privacy test and in determining whether aerial observation is subject to the warrant requirement. This Recent Development has illustrated that aerial surveillance, like electronic eavesdropping, should be subjected to the checks and balances of the fourth amendment's warrant requirement.

Many courts are applying the reasonable expectation of privacy test to aerial surveillance situations, but their application of the test, which too often results in aerial observation not being classified as a "search," does not fully consider society's interest in the privacy safeguards of the warrant requirement. When a person shields the area outside his home from public view, he expects privacy. While open fields and areas outside the home traditionally have not been given the legal protection the dwelling house has enjoyed, the growing intrusiveness of law enforcement, through

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155. State v. Ward, 62 Hawaii 509, ___, 617 P.2d 568, 572 (1980); *see also* People v. Arno, 90 Cal. App. 505, 509, 153 Cal. Rptr. 624, 625-26 (1979) (viewing aid defined as device that allows a person to see that which is unobservable with the naked eye).

156. *See supra* notes 104-05.

electronic and aerial surveillance, has created a need for further privacy protection. This privacy protection must be greater than that most courts now give to targets of warrantless aerial surveillance.

An inadvertence requirement would encourage police to go through the judicial process of obtaining a search warrant before they place specific areas or persons under aerial surveillance. The courts applying the inadvertence standard should also apply a modified probable cause standard to preserve the spirit of the warrant requirement without penalizing the good faith efforts of police to use the least intrusive means to corroborate informants' tips. Finally, courts should be willing to modify their constitutional analysis to encompass the use of highly sophisticated viewing devices.

As aerial surveillance becomes a more widely used police technique, courts will be required to modify their long-held positions of what constitutes "open view." Although aerial surveillance is an effective law enforcement tool, it should not be exempt from the constitutional safeguards of the warrant requirement. Rather, the courts should carefully act to prevent this efficient and aggressive police surveillance technique from becoming the watchful eye of "Big Brother."

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