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Warrantless Aerial Surveillance After *Ciraolo* and *Dow Chemical:* The Omniscient Eye in the Sky

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Warrantless Aerial Surveillance After *Ciraolo* and *Dow Chemical*: The Omniscient Eye in the Sky

> It was even conceivable that they watched everybody all the time. . . . You had to live—did live, from habit that became instinct—in the assumption that every sound you made was overheard, and except in darkness, every movement scrutinized.
>
> —G. Orwell, 1984*

I. INTRODUCTION

Aerial surveillance permits law enforcement officials to intrude visually into areas that would be difficult or impossible to observe from the ground.[1] Although aerial surveillance is a valuable law enforcement tool,[2] it clearly invades the privacy of an individual's outdoor activities. Numerous courts, however, have held that the individual has no right to expect solitude from government intrusions upon outdoor activities.[3]

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* G. ORWELL, 1984, at 6-7 (1949).

1. Tell, *Suits Sight Spies in Sky*, NAT'L L.J., Dec. 15, 1980, at 28, col. 1. For a discussion of aerial surveillance prior to the Supreme Court's ruling on this issue, see Granberg, *Is Warrantless Aerial Surveillance Constitutional?*, 55 CAL. ST. B.J. 451 (1980); Kaye, *Aerial Surveillance: Private Versus Public Expectations*, 56 CAL. ST. B.J. 258 (1981); Note, *Aerial Surveillance: Overlooking the Fourth Amendment*, 50 FORDHAM L. REV. 271 (1981); Note, *The Fourth Amendment in the Age of Aerial Surveillance: Curtains for the Curtilage?*, 60 N.Y.U. L. REV. 725 (1985) [hereinafter Note, *Curtilage*]; Comment, *Police Helicopter Surveillance*, 15 ARIZ. L. REV. 145 (1973); Comment, *Police Helicopter Surveillance and Other Aided Observations: The Shrinking Reasonable Expectation of Privacy*, 11 CAL. W.L. REV. 505 (1975); Comment, *Aerial Surveillance: A Plane View of the Fourth Amendment*, 18 GONZ. L. REV. 307 (1982-1983); Comment, *Aerial Surveillance and the Fourth Amendment*, 17 J. MARSHALL L. REV. 455 (1984); Recent Development, *Warrantless Aerial Surveillance: A Constitutional Analysis*, 35 VAND. L. REV. 409 (1982).

2. *See* Amicus Brief of Americans for Effective Law Enforcement at 7, California v. Ciraolo, 106 S. Ct. 1809 (1986). In 1982, at least seventy percent of the domestic marijuana seized by the California Bureau of Narcotic Enforcement during search warrant executions resulted from officers initially observing the contraband from an aerial vantage point. *Id.* The Florida Department of Law Enforcement estimated that ninety-five percent of its cultivated marijuana seizures resulted from initial aerial surveillance. *Id.*

Aerial surveillance is used not only by narcotics enforcement agencies, but also by other government agencies, including the United States military for national defense, the Army Corps of Engineers for flood control, the United States Forest Service to monitor changes in vegetation, and the United States Geological Survey for mapmaking. *See* Wash. Post., Dec. 9, 1985, at A1, col. 1, A12, col. 1.

3. *See, e.g.*, Dow Chemical Co. v. United States, 106 S. Ct. 1819, 1827 (no right to

In *California v. Ciraolo*[4] and *Dow Chemical Co. v. United States*,[5] the Supreme Court held that individuals and business proprietors do not have a fourth amendment right to expect privacy in the outdoor areas of residential and commercial property.[6] In both cases, the Court looked to the intrusiveness of the government surveillance technique.[7] The Court concluded that the government's use of airplanes and sophisticated cameras in the navigable airspace was not intrusive enough to constitute a search, triggering fourth amendment protection.[8]

This note will sketch the evolution of fourth amendment jurisprudence. Beginning with the trespass doctrine, the note will discuss how fourth amendment focuses have vacillated between concepts of property and privacy rights. After an examination of the lower courts' treatment of aerial surveillance, the note will discuss *Ciraolo* and *Dow Chemical*. Finally, the note will consider the practical and theoretical ramifications of *Ciraolo* and *Dow Chemical*.

II. The Development of Fourth Amendment Protection

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

Any fourth amendment[9] analysis requires an inquiry into

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privacy from aerial surveillance in the outdoor areas of a tightly secured business complex); *Ciraolo*, 106 S. Ct. at 1813 (no right to privacy in backyard, patio, and pool area from aerial surveillance); United States v. Allen, 675 F.2d 1373, 1381 (9th Cir. 1980) (no right to privacy in outdoor areas of a coastal ranch), *cert. denied*, 454 U.S. 833 (1981); United States v. Mullinex, 508 F. Supp. 512, 514 (E.D. Ky. 1980) (no right to privacy in open fields).

4. 106 S. Ct. 1809 (1986).

5. *Id.* at 1819.

6. *Dow Chemical*, 106 S. Ct. at 1827 (aerial surveillance of private commercial property); *Ciraolo*, 106 S. Ct. at 1813 (aerial surveillance of residential property).

7. *Dow Chemical*, 106 S. Ct. at 1826-27; *Ciraolo*, 106 S. Ct. at 1813.

8. *Dow Chemical*, 106 S. Ct. at 1827; *Ciraolo*, 106 S. Ct. at 1813. The Court in *Dow Chemical* and *Ciraolo* did not address "aerial surveillance[s] in airspace not dedicated to public use and in which the underlying property owner has interests sufficient to be subject to a compensable taking." People v. Sabo, 185 Cal. App. 3d 845, 853, 230 Cal. Rptr. 170, 175 (1986).

9. The fourth amendment to the United States Constitution 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.

whether the governmental intrusion constituted a search[10] or seizure.[11] Early courts measured fourth amendment rights in terms of property concepts.[12] Accordingly, those courts defined a search as a physical government intrusion into a constitutionally protected area and thus developed the trespass doctrine.[13] Constitutionally protected areas were confined to those areas explicitly protected by the fourth amendment, including persons, houses, papers, and effects.[14] Hence, the fourth amendment primarily protected property interests from unreasonable intrusions by the government.[15]

Under the trespass doctrine, in the absence of a physical intrusion upon a constitutionally protected area, evidence obtained by naked or artificially magnified human senses did not constitute a search.[16] For example, in 1928, the Supreme Court held that the

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U.S. CONST. amend. IV.

The fourth amendment applies to the states through the due process clause of the fourteenth amendment. Mapp v. Ohio, 367 U.S. 643, 655 (1961). For a scholarly discussion on the history of the fourth amendment, see J. LANDYNSKI, SEARCH AND SEIZURE AND THE SUPREME COURT 19-42 (1966); N. LASSON, THE HISTORY AND DEVELOPMENT OF THE FOURTH AMENDMENT TO THE UNITED STATES CONSTITUTION 13-105 (1937); T. Taylor, TWO STUDIES IN CONSTITUTIONAL INTERPRETATION 24-46 (1969). For an analytical framework regarding search and seizure law, see C. WHITEBREAD, CRIMINAL PROCEDURE 4.1-4.4, at 85-109 (1980).

10. The Supreme Court has defined "search" for purposes of the fourth amendment by looking to property concepts, individual privacy rights, and more recently, the intrusiveness of the manner of surveillance. *See, e.g., Dow Chemical*, 106 S. Ct. 1819 (1986) (the sophistication of the surveillance technique); *Ciraolo*, 106 S. Ct. 1809 (1986) (the intrusiveness of the search); Katz v. United States, 389 U.S. 347 (1967) (the "reasonable expectation of privacy" standard); Olmstead v. United States, 277 U.S. 438 (1928) (trespass doctrine, i.e., a physical trespass on those areas explicitly protected by the fourth amendment). *See* 1 W. LAFAVE, SEARCH AND SEIZURE 2.1, at 222-24 (1978) [hereinafter W. LAFAVE].

11. A "seizure" of property occurs when there is a "meaningful interference with an individual's possessory interest in that property." United States v. Karo, 468 U.S. 705, 712 (1984). *See* 1 W. LAFAVE, *supra* note 10, 2.1, at 221.

12. *See infra* note 13 and accompanying text.

13. *See, e.g.,* Olmstead v. United States, 277 U.S. 438, 466 (1928); Goldman v. United States, 316 U.S. 129, 134-35 (1942). For examples of cases applying the trespass doctrine, also known as the "constitutionally protected areas" analysis, see Berger v. New York, 388 U.S. 41, 51-53 (1967) (installation of electronic eavesdropping devices in attorney's office was impermissible intrusion into a constitutionally protected area); Silverman v. United States, 365 U.S. 505, 509 (1961) (installation of "spike mike" in the wall of suspect's house was impermissible); On Lee v. United States, 343 U.S. 747, 752-53 (1952) (the use of an electronic eavesdropping device not a search).

14. Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349, 356-57 (1973).

15. *See* Comment, *Defining a Fourth Amendment Search: A Critique of the Supreme Court's Post-Katz Jurisprudence*, 61 WASH. L. REV. 191, 192 (1986).

16. Olmstead v. United States, 277 U.S. 438, 464-66 (1928). In *Olmstead*, the Supreme Court adopted the English maxim from Entick v. Carrington, 19 How. St. Tr.

use of a wiretap to overhear telephone conversations did not constitute a search because the government had not physically entered the defendant's home.[17] Hence, the technological development of electronic surveillance permitted the government to invade intimate home activities without violating the fourth amendment.[18] Consequently, protections under the trespass doctrine were limited.

Application of the trespass doctrine also led to absurd constitutional distinctions. For example, if police officers placed an electronic eavesdropping device against the wall of the defendant's hotel room, no trespass was committed, and consequently, fourth amendment protections were not triggered.[19] On the other hand, if law enforcement authorities used a thumbtack to hold an electronic listening device against the wall of a constitutionally protected area[20] or if they placed the device within the wall,[21] a physical trespass, and consequently a search, was deemed to have occurred.[22] In each of these latter situations, the Court held the warrantless searches unreasonable.[23]

In 1967, the Supreme Court extinguished such technical discussions by overruling the trespass doctrine.[24] In *Katz v. United States*,[25] the Court determined that a fourth amendment search could occur in the absence of a physical intrusion upon a constitutionally protected area.[26] FBI agents in *Katz* acted without a warrant and attached electronic listening and recording devices to the exterior of a public telephone booth.[27] Thereafter, the agents listened to the defendant's conversation.[28] On the basis of these conversations, the defendant was convicted of transmitting wagering

1029, 1066 (1765), that in the absence of a physical trespass, the eye or ear alone could not commit a search. *Olmstead*, 277 U.S. at 464-66.

17. *Olmstead*, 277 U.S. at 464-66.

18. *See* Goldman v. United States, 316 U.S. 129, 134-36 (1942).

19. *Id.*

20. Clinton v. Virginia, 377 U.S. 158 (1964) (per curiam).

21. Silverman v. United States, 365 U.S. 505 (1961). In *Silverman*, the Court refused to sanction the warrantless use of an electronic listening device that penetrated the wall of an adjoining house and touched the heating ducts of the defendant's home. *Id.* at 509.

22. *See supra* note 19-20 and accompanying text.

23. Clinton v. Virginia, 377 U.S. at 158; Silverman v. United States, 365 U.S. at 509.

24. Katz v. United States, 389 U.S. 347, 353 (1967). The Court stated that "the underpinnings of *Olmstead* and *Goldman* have been so eroded . . . that the 'trespass' doctrine there enunciated can no longer be regarded as controlling." *Id.*

25. *Id.* at 347.

26. *Id.* at 353.

27. *Id.* at 348.

28. *Id.*

information.[29]

Before the Supreme Court, the defendant argued that the government should not have been permitted to introduce the tape recorded fruits of the eavesdrop into evidence.[30] The Court agreed and reversed, concluding that the electronic eavesdropping of a closed public telephone booth constituted an unreasonable search under the fourth amendment because it "violated the privacy upon which [the caller] justifiably relied. . . ."[31] The *Katz* Court also noted that, absent a few well-delineated exceptions, warrantless searches were presumptively unreasonable under the fourth amendment.[32] Because electronic surveillance did not fall within an exception to the warrant requirement,[33] the Court concluded that the search violated the fourth amendment.[34]

In overruling the trespass doctrine, the *Katz* Court changed the focus of fourth amendment analyses from the reasonableness of intrusions on property interests to the reasonableness of the governmental invasions upon personal privacy interests.[35] Thus, under *Katz*, the fourth amendment protected that which an individual sought to preserve as private, even in areas accessible to the public.[36]

The majority of courts have interpreted *Katz* as protecting only "reasonable expectations of privacy."[37] The reasonable expectation of privacy test was extracted from Justice Harlan's concurring opinion in *Katz*.[38] Under Harlan's test, a defendant must show that: (1) he had a subjective expectation of privacy in the area, object, or activity upon which the government intruded; and

29. *Id.* at 348 n.1.

30. *Id.*

31. *Id.* at 353.

32. *Id.* at 357. *See also* United States v. Karo, 468 U.S. 705, 714-15 (1984). The Supreme Court, however, has carved many exceptions to the warrant requirement. *See* Shneckloth v. Bustamonte, 412 U.S. 218 (1973) (consent to search); Coolidge v. New Hampshire, 403 U.S. 443 (1971) (plain view); Chambers v. Maroney, 399 U.S. 42 (1970) (automobile exception); Chimel v. California, 395 U.S. 752 (1969) (search incident to arrest); Terry v. Ohio, 392 U.S. 1 (1968) (stop and frisk); Warden v. Hayden, 387 U.S. 294 (1967) (hot pursuit of a fleeing felon); Johnson v. United States, 333 U.S. 10 (1948) (search to prevent the destruction or removal of evidence).

33. *Katz*, 389 U.S. at 357-58.

34. *Id.* at 359.

35. *Id.* at 351. The *Katz* Court held that people, rather than places, are protected by the fourth amendment. *Id.*

36. *Id.* at 351-52.

37. *See, e.g.*, Rakas v. Illinois, 439 U.S. 128 (1978). In *Rakas*, the Court adopted the two-prong "reasonable expectation of privacy" test enunciated in Justice Harlan's *Katz* opinion. *Id.* at 143 n.12.

38. *Katz*, 389 U.S. at 361 (Harlan, J., concurring).

(2) this expectation of privacy is one that society also considers reasonable.[39] When a person thus exhibits a reasonable expectation of privacy, the government usually must comply with fourth amendment strictures.[40]

B. The Role of the Home, Curtilage, and Open Fields After Katz

The trespass doctrine established a bright line rule concerning the degree of fourth amendment protection afforded the home, curtilage, and open fields.[41] The fourth amendment never applied to the open fields under the trespass doctrine.[42] Instead, only physical government intrusions of the home and curtilage constituted fourth amendment searches.[43] Although contemporary courts differ in their approach to this problem,[44] distinctions concerning the home, curtilage, and open fields have survived *Katz*.[45]

1. The Home

The language of the fourth amendment unequivocally establishes the proposition that at the core of the amendment stands an individual's right to retreat into the sanctity of his home and be free from unreasonable government intrusions.[46] Applying the reasonable expectation of privacy test to the home, Justice Harlan, concurring in *Katz*, stated that an individual's home is a place where he has a reasonable expectation of privacy.[47] Nevertheless, when an individual exposes activities within the home to "plain view,"[48] the fourth amendment no longer provides protection.[49]

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39. *Id.* (Harlan, J., concurring).

40. *Id.* at 358. *See also* Rakas v. Illinois, 439 U.S. 128, 148-49.

41. *See infra* notes 42-43 and accompanying text.

42. Hester v. United States, 265 U.S. 57, 59 (1924).

43. Olmstead v. United States, 277 U.S. 438, 464-66 (1928).

44. *See* Note, *Curtilage, supra* note 1, at 736-39 (discussion of the different approaches concerning the viability of the curtilage and open fields doctrines after *Katz*).

45. Dow Chemical Co. v. United States, 106 S. Ct. 1819 (1986); California v. Ciraolo, 106 S. Ct. 1809 (1986); Oliver v. United States, 466 U.S. 170 (1984).

46. *See Dow Chemical*, 106 S. Ct. 1819, 1825; *Ciraolo*, 106 S. Ct. 1809, 1812; Oliver v. United States, 466 U.S. 170, 180 (1984); United States v. Karo, 468 U.S. 705, 714-15 (1984); Welsh v. Wisconsin, 466 U.S. 740, 748-49 (1984); Michigan v. Clifford, 464 U.S. 287, 292 (1984) (plurality opinion); Steagald v. United States, 451 U.S. 204, 211-12 (1981); Payton v. New York, 445 U.S. 573, 586 (1980).

47. Katz v. United States, 389 U.S. 347, 361 (Harlan, J., concurring).

48. Justice Harlan's use of the term "plain view" referred to unobstructed observation of incriminating evidence by a law enforcement officer from a place he reached without violating the fourth amendment. State v. Rickard, 420 So. 2d 303, 305 (Fla. 1982) (when the officer is in a "non-constitutionally protected area" and views contraband, no search has occurred). In essence, Justice Harlan's use of the term "plain view" alluded to

For purposes of the fourth amendment, courts have treated private commercial property and the home similarly.[50] The businessman, like the occupant of residential property, has a "constitutional right to go about his business free from unreasonable official entries upon his private commercial property."[51] Although an owner of private commercial property is entitled to freedom from unreasonable governmental intrusions, this does not translate into freedom from all official intrusions.[52] The Court has held that certain periodic, warrantless administrative inspections are constitutionally permissible.[53] In the absence of a sufficiently defined and regular program of warrantless inspections, however, the fourth amendment's warrant requirement is applicable in the commercial context.[54]

2. The Curtilage

As early as 1928, the Supreme Court extended to the curtilage those fourth amendment protections traditionally afforded the home.[55] Curtilage has been defined as the land and outbuildings

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what some courts have described as "open view" observations. *See, e.g.*, State v. Rickard, 420 So. 2d 303, 305 (Fla. 1982); State v. Stachler, 58 Haw. 412, 416-18, 570 P.2d 1323, 1326-27 (1977); State v. Layne, 623 S.W.2d 629, 634-35 (Tenn. Crim. App. 1981).

A distinction must be drawn between Justice Harlan's use of the term "plain view" and the plain view doctrine of Coolidge v. New Hampshire, 403 U.S. 443 (1971). The plain view doctrine is an exception to the warrant requirement. *Id.* at 470. It provides that clearly visible evidence may be seized by the police without a warrant if: (1) the police had a prior valid justification for the intrusion, (2) during the intrusion they came across the evidence inadvertently, and (3) the incriminating nature of the evidence was immediately apparent when it was observed. Texas v. Brown, 460 U.S. 730, 738 n.4 (1983) (plurality opinion).

49. *Katz*, 389 U.S. at 361 (Harlan, J., concurring).

50. *See, e.g.*, Marshall v. Barlow's, Inc., 436 U.S. 307, 312 (1978); G.M. Leasing Corp. v. United States, 429 U.S. 338, 353 (1977); See v. City of Seattle, 387 U.S. 541, 543 (1967).

51. See v. City of Seattle, 387 U.S. at 543. *But see* Lewis v. United States, 385 U.S. 206, 211 (1966) (officers may be justified to be on business premises if there is an implied invitation to the public to enter the premises).

52. Donovan v. Dewey, 452 U.S. 594, 598-99 (1981); Marshall v. Barlow's, Inc., 436 U.S. 307, 315 (1978).

53. *See* Donovan v. Dewey, 452 U.S. 594, 606 (1981) (warrantless administrative searches authorized by the Federal Mine and Safety Act of 1977); United States v. Biswell, 406 U.S. 311, 317 (1972) (the Gun Control Act of 1968 permitted warrantless administrative inspections); Colonnade Catering Corp. v. United States, 397 U.S. 72, 76-77 (1970) (statutory authorization for warrantless inspections of federally licensed dealers in alcoholic beverages).

54. Marshall v. Barlow's, Inc., 436 U.S. at 312-15; G.M. Leasing Corp. v. United States, 429 U.S. at 358; See v. City of Seattle, 387 U.S. at 543-46.

55. Olmstead v. United States, 277 U.S. 438, 464-66 (1928). For other cases extending fourth amendment protections to the curtilage, see Wattenburg v. United States, 388 F.2d 853, 857 (9th Cir. 1968); McDowell v. United States, 383 F.2d 599, 603 (8th

immediately surrounding the home.[56] Early cases protected the curtilage from unreasonable searches by incorporating it within the fourth amendment's use of the term "house."[57]

The curtilage concept has survived *Katz*.[58] Contemporary courts afford constitutional protection to the curtilage on the theory that it is an extension of the home itself.[59] In commercial settings, the industrial curtilage also is afforded constitutional protection when private business activities extend into the areas immediately surrounding an industrial or commercial facility.[60]

Cir. 1967); Rosencranz v. United States, 356 F.2d 310, 313 (1st Cir. 1966); United States v. Potts, 297 F.2d 68, 69 (6th Cir. 1961); Hodges v. United States, 243 F.2d 281, 283 (5th Cir. 1957); Care v. United States, 231 F.2d 22, 25 (10th Cir.), *cert. denied*, 351 U.S. 932 (1956); Hobson v. United States, 226 F.2d 890, 894 (8th Cir. 1955); Walker v. United States, 225 F.2d 447, 449 (5th Cir. 1955); Kroska v. United States, 51 F.2d 330, 333 (8th Cir. 1931).

56. Care v. United States, 231 F.2d 22, 25 (10th Cir.), *cert. denied*, 351 U.S. 932 (1956). The Tenth Circuit Court of Appeals stated:

> Whether the place searched is within the curtilage is to be determined from the facts including its proximity or annexation to the dwelling, its inclusion within the general enclosure surrounding the dwelling, and its use and enjoyment as an adjunct to the domestic economy of the family.

Id.

In urban settings the "curtilage" is generally treated as coextensive with a fenced yard. *See, e.g.*, Weaver v. United States, 295 F.2d 360, 360-61 (5th Cir. 1961). A case concerning the residential boundaries of the curtilage currently is pending before the United States Supreme Court. United States v. Dunn, No. 85-998 (argued Jan. 20, 1987).

57. *See, e.g.*, Olmstead v. United States, 277 U.S. 438, 466 (1928); State v. Lee, 120 Or. 643, 648, 253 P. 533, 534 (1927); Bare v. Commonwealth, 122 Va. 783, 795, 94 S.E. 168, 172 (1917).

58. *See, e.g.*, United States v. Roberts, 747 F.2d 537, 541-43 (9th Cir. 1984); United States v. Broadhurst, 612 F. Supp. 777, 788 n.8 (E.D. Cal. 1985); National Organization for Reform of Marijuana Laws v. Mullen, 608 F. Supp. 945, 957 (N.D. Cal. 1985). *But see* United States v. Bassford, 601 F. Supp. 1324, 1331 (D. Me. 1985) (no sound basis for distinguishing between the curtilage and noncurtilage areas equally visible from the air); State v. Grawien, 123 Wis. 2d 428, 438, 367 N.W.2d 816, 820-21 (Wis. Ct. App. 1985) (no distinction between curtilage areas that are visible from the public airways).

59. *See, e.g.*, Wattenburg v. United States, 388 F.2d 853, 857 (9th Cir. 1968); McDowell v. United States, 383 F.2d 599, 603 (8th Cir. 1967); Care v. United States, 231 F.2d 22, 25 (10th Cir.), *cert. denied*, 351 U.S. 932 (1956).

Under the trespass doctrine, fourth amendment protection of the home and curtilage also had been extended to apartments, hotel rooms, garages, business offices and stores. *See, e.g.*, Clinton v. Virginia, 377 U.S. 158, 158 (1964) (per curiam) (apartments); Stoner v. California, 376 U.S. 483, 490 (1964) (hotel rooms); Taylor v. United States, 286 U.S. 1, 5-6 (1931) (garage); United States v. Lefkowitz, 285 U.S. 452, 464-65 (1932) (business office).

60. *See* United States v. Swart, 679 F.2d 698 (7th Cir. 1982) (defendant had reasonable expectation of privacy in business curtilage); McDowell v. United States, 383 F.2d 599, 603 (8th Cir. 1967) (implied business curtilage did not exist).

3. Open Fields

Unlike the home or curtilage, fourth amendment protection has never extended to the open field.[61] In 1924, the Supreme Court in *Hester v. United States*[62] first distinguished open fields from the home.[63] The Court perfunctorily ruled that the fourth amendment protections accorded to individuals in their "persons, houses, papers, and effects" did not extend to open fields.[64] Thus, government trespasses into open fields did not violate the fourth amendment.[65]

Sixty years after *Hester*,[66] the Supreme Court, in *Oliver v. United States*,[67] reaffirmed the vitality of the open fields doctrine.[68] In *Oliver*, the Court addressed the relationship between the "reasonable expectation of privacy" test and the open fields doctrine.[69] The Court held that, other than activities in the area immediately adjacent to the home, an individual has no legitimate[70] expectation of privacy in outdoor endeavors.[71] The Court in *Oliver* reasoned that the Framers would not have interpreted open fields as a person, house, paper, or effect.[72] The Court concluded that activities in open fields did not deserve scrupulous protection because those activities were not the type of pursuits safeguarded by the fourth amendment.[73]

C. Aerial Surveillance

Among the lower courts, the distinction between open fields and

61. *See, e.g.*, Oliver v. United States, 466 U.S. 170, 181 (1984); Air Pollution Variance Bd. v. Western Alfalfa Corp., 416 U.S. 861, 865 (1974); Hester v. United States, 265 U.S. 57, 59 (1924).

62. 265 U.S. 57 (1924).

63. *Id.* at 59.

64. *Id.*

65. *Id. See* W. LAFAVE, *supra* note 10, 2.4(a), at 331-338 (for general discussion of the open fields doctrine).

66. *See supra* notes 62-65.

67. 466 U.S. 170 (1984).

68. *Id.* at 181.

69. *Id.* Prior to *Oliver*, the Court in Air Pollution Variance Bd. v. Western Alfalfa Corp., 416 U.S. 861 (1974), reaffirmed the open fields doctrine. 416 U.S. at 865. The Court, however, did not discuss the relationship between the open fields doctrine and the *Katz* test.

70. The terms "legitimate" and "reasonable" are used interchangeably. *See* Comment, *Curtilage or Open Fields?*: Oliver v. United States *Gives Renewed Significance to the Concept of Curtilage in Fourth Amendment Analysis*, 46 U. PITTS. L. REV. 795, 809 n.87 (1985).

71. *Oliver*, 466 U.S. at 180-81.

72. *Id.* at 178-80.

73. *Id.* at 180.

curtilage has played an important role in determining the constitutionality of warrantless aerial surveillance.[74] The vast majority of courts confronting fourth amendment challenges to aerial surveillance have concluded that aerial observations of the open fields do not constitute searches, which would trigger fourth amendment protections.[75] On the other hand, some courts have held that warrantless aerial surveillance of the curtilage constitutes an unreasonable search under the fourth amendment.[76] For example, one federal district court has found that repeated helicopter buzzing, hovering, and "dive bombings" in residential areas by law enforcement officials violated the fourth amendment.[77] The court relied upon the excessive intrusiveness of the government activity in determining that the activity amounted to a search.[78] In the absence of a warrant, the court concluded that the government's actions violated the fourth amendment.[79]

In assessing fourth amendment challenges to aerial surveillances, several lower courts have evaluated the potency and intrusiveness of the surveillance.[80] Those courts have suggested that low altitude

74. *Compare* National Organization for Reform of Marijuana Laws v. Mullen, 608 F. Supp. 945, 965 (N.D. Cal. 1985) (surveillance of the curtilage area deserves constitutional protection); People v. Agee, 153 Cal. App. 3d 1169 (omitted), 200 Cal. Rptr. 827, 836-37 (1984) (reasonable for an individual to expect privacy from aerial surveillance of curtilage) *with* People v. Lashmett, 71 Ill. App. 3d 429, 437, 389 N.E.2d 888, 894 (1979) (warrantless aerial observations of open fields do not violate the fourth amendment), *cert. denied*, 444 U.S. 1081 (1980). *See also* People v. Sneed, 32 Cal. App. 3d 535, 540-43, 108 Cal. Rptr. 146, 149-51 (1973) (the nature of the property aerially observed is one of the factors to take into account in a fourth amendment inquiry).

75. *See, e.g.*, United States v. Marbury, 732 F.2d 390, 398-99 (5th Cir. 1984); United States v. Mullinex, 508 F. Supp. 512, 513-15 (E.D. Ky. 1980); United States v. DeBacker, 493 F. Supp. 1078, 1081 (W.D. Mich. 1980); Tuttle v. Superior Court, 120 Cal. App. 3d 320, 327, 174 Cal. Rptr. 576, 579, *cert. denied*, 454 U.S. 1033 (1981); People v. Joubert, 118 Cal. App. 3d 637, 642-48, 173 Cal. Rptr. 428, 431-34 (1981); People v. St. Amour, 104 Cal. App. 3d 886, 889-94, 163 Cal. Rptr. 187, 189-92 (1980); Burkholder v. Superior Court, 96 Cal. App. 3d 421, 425-26, 158 Cal. Rptr. 86, 88-89 (1979); Dean v. Superior Court, 35 Cal. App. 3d 112, 118-19, 110 Cal. Rptr. 585, 589-90 (1973), Randall v. State, 458 So. 2d 822, 825-26 (Fla. Dist. Ct. App. 1984); Williams v. State, 157 Ga. App. 476, 476-78, 277 S.E.2d 923, 925-26, *cert. denied*, 454 U.S. 823 (1981); State v. Layne, 623 S.W.2d 629, 635 (Tenn. Crim. App. 1981).

76. National Organization for Reform of Marijuana Laws v. Mullen, 608 F. Supp. 945, 965 (N.D. Cal. 1985); People v. Agee, 153 Cal. App. 3d 1169 (omitted), 200 Cal. Rptr. 827, 833-34 (1984); People v. Sneed, 32 Cal. App. 3d 535, 540-43, 108 Cal. Rptr. 146, 149-51 (1973).

77. National Organization for Reform of Marijuana Laws v. Mullen, 608 F. Supp. 945, 965 (N.D. Cal. 1985).

78. *Id.* at 955-61.

79. *Id.* at 965.

80. *See infra* notes 86-87 and accompanying text.

flying,[81] the use of sophisticated viewing aids,[82] and the frequency[83] and duration of aerial surveillance[84] should be considered in determining the "reasonableness" of an expectation of privacy.[85] A majority of those courts have concluded that government aerial surveillance is unintrusive, and thus an individual does not have a reasonable expectation of privacy in areas visible from the air.[86] A

81. *See* People v. Sneed, 32 Cal. App. 3d 535, 108 Cal. Rptr. 146 (1973). In *Sneed*, the court held that aerial observations from an altitude of twenty-five feet constituted an unreasonable government intrusion of defendant's privacy in his backyard. *Id.* at 543, 108 Cal. Rptr. at 151. Several courts have suggested that the height of the surveillance is a factor in considering the reasonableness of the intrusion. *See, e.g.*, National Organization for Reform of Marijuana Laws v. Mullen, 608 F. Supp. 945, 958-61 (N.D. Cal. 1985); United States v. DeBacker, 493 F. Supp. 1078, 1080-81 (W.D. Mich. 1980); State v. Stachler, 58 Haw. 412, 418-19, 570 P.2d 1323, 1327-28 (1977); State v. Roode, 643 S.W.2d 651, 652-54 (Tenn. 1982); State v. Layne, 623 S.W.2d 629, 635 (Tenn. Crim. App. 1981).

In determining the reasonableness of the altitude, some courts have referred to federal regulations. *See, e.g.*, People v. Agee, 153 Cal. App. 3d 1169 (omitted), 200 Cal. Rptr. 827, 830 (1984); State v. Stachler, 58 Haw. 412, 418-19, 570 P.2d 1323, 1327 (1977). In congested areas, federal aviation regulations prohibit fixed-wing aircrafts from flying lower than 1000 feet above the highest obstacle. 14 C.F.R. 91.79(b) (1986). In noncongested areas, an aircraft must be operated above an altitude of 500 feet. 14 C.F.R. 91.79(c). Helicopters, on the other hand, may be operated at less than these minimum altitudes. 14 C.F.R. 91.79(d).

82. *See, e.g.*, State v. Knight, 63 Haw. 90, 621 P.2d 370 (1980); State v. Stachler, 58 Haw. 412, 570 P.2d 1323 (1977). In *Stachler*, the court ruled that aerial observations with binoculars of defendant's field was constitutionally permissible. 58 Haw. at 421 n.6, 570 P.2d at 1329 n.6 (1977). The court, however, cautioned that warrantless aerial observations with "highly sophisticated viewing devices" might violate the state constitutional prohibitions against governmental invasion of privacy. *Id.* at 419, 570 P.2d at 1328. Three years later in State v. Knight, 63 Haw. 90, 621 P.2d 370 (1980), the court ruled that a warrant is a prerequisite for the use of technologically aided devices that allow observations of areas not normally visible to the naked eye. *Id.* at 93-94, 621 P.2d at 373.

83. *See, e.g.*, United States v. Allen, 675 F.2d 1373, 1381 (9th Cir. 1980), *cert. denied*, 454 U.S. 853 (1981) (frequency is a factor to be weighed in determining the justification for the surveillance); National Organization for Reform of Marijuana Laws v. Mullen, 608 F. Supp. 945, 955-58 (N.D. Cal. 1985) (the frequency of aerial surveillance was an important consideration in determining the intrusiveness of the surveillance).

84. *See, e.g.*, State v. Stachler, 58 Haw. 412, 419, 570 P.2d 1323, 1327-28 (1977) (continual aerial surveillance for long periods of time enhances the intrusiveness of the aerial surveillance).

85. *See supra* notes 81-84 and accompanying text. *See also* Note, *Curtilage, supra* note 1, at 746-48.

86. *See, e.g.*, United States v. Marbury, 732 F.2d 390, 398-99 (5th Cir. 1984); United States v. Allen, 675 F.2d 1373, 1380-81 (9th Cir.), *cert. denied*, 454 U.S. 833 (1981); United States v. Broadhurst, 612 F. Supp. 777, 795 (E.D. Cal. 1985); United States v. Mullinex, 508 F. Supp. 512, 515 (E.D. Ky. 1980); United States v. DeBacker, 493 F. Supp. 1078, 1081 (W.D. Mich. 1980); People v. Mayoff, 150 Cal. App. 3d 7 (omitted), 197 Cal. Rptr. 450, 452-54 (1984); Tuttle v. Superior Court, 120 Cal. App. 3d 320, 324-27, 174 Cal. Rptr. 576, 579, *cert. denied*, 454 U.S. 1033 (1981); People v. Joubert, 118 Cal. App. 3d 637, 642-48, 173 Cal. Rptr. 428, 431-34 (1981); People v. St. Amour, 104 Cal. App. 3d 886, 889-94, 163 Cal. Rptr. 187, 189-92 (1980); Burkholder v. Superior

minority of courts, however, have found aerial surveillance by the government intrusive and violative of an individual's reasonable expectation of privacy in outdoor activities.[87] The Supreme Court recently considered the intrusiveness of aerial surveillance in *California v. Cirialo*[88] and *Dow Chemical Co. v. United States*.[89]

III. Discussion

A. California v. Ciraolo

1. The Facts

An anonymous tipster informed the police that marijuana plants were growing in the backyard of a Santa Clara residence.[90] An officer located the home and conducted a ground level investigation.[91] His observations proved fruitless because a six foot outer fence and a ten foot inner fence enclosed the backyard.[92] To pursue the investigation, the officer chartered an airplane and flew over the defendant's house.[93] The officer and another officer who accompanied him on the flight were trained in marijuana indentification.[94] At an altitude of one thousand feet, the officers identified marijuana plants growing in the fenced area adjacent to the home.[95] On the basis of information obtained from the aerial expedition, a magistrate issued a search warrant for the defendant's home, attached garage, and ground areas.[96] Thereafter, the officers executed the warrant and seized marijuana plants from the defend-

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Court, 96 Cal. App. 3d 421, 425-26, 158 Cal. Rptr. 86, 88-89 (1979); People v. Superior, 37 Cal. App. 3d 836, 839-41, 112 Cal. Rptr. 764, 765-66 (1973); Dean v. Superior Court, 35 Cal. App. 3d 112, 116-19, 110 Cal. Rptr. 585, 589-90 (1973); Randall v. State, 458 So. 2d 822, 825-26 (Fla. Dist. Ct. App. 1984); Williams v. State, 157 Ga. App. 476, 476-78, 277 S.E.2d 923, 925-26, *cert. denied*, 454 U.S. 823 (1981); State v. Knight, 63 Haw. 90, 93, 621 P.2d 370, 373 (1980); State v. Stachler, 58 Haw. 412, 419, 570 P.2d 1323, 1329 (1977); State v. Rogers, 100 N.M. 517, 518-19, 673 P.2d 142, 143-44 (N.M. Ct. App. 1983); State v. Roode, 643 S.W.2d 651, 652-54 (Tenn. 1982); State v. Layne, 623 S.W.2d 629, 635 (Tenn. Crim. App. 1981); State v. Grawien, 123 Wis. 2d 428, 438, 367 N.W.2d 816, 820-21 (Ct. App. 1985).

87. *See, e.g.*, National Organization for Reform of Marijuana Laws v. Mullen, 608 F. Supp. 945, 965 (N.D. Cal. 1985); People v. Agee, 153 Cal. App. 3d 1169 (omitted); 200 Cal. Rptr. 827, 833-34 (1984); People v. Sneed, 32 Cal. App. 3d 535, 540-43, 108 Cal. Rptr. 146, 149-51 (1973).

88. 106 S. Ct. 1809 (1986).

89. *Id.* at 1819.

90. California v. Ciraolo, 106 S. Ct. 1809, 1810 (1986).

91. *Id.*

92. *Id.*

93. *Id.*

94. *Id.* at 1809-10.

95. *Id.* at 1810.

96. *Id.* at 1814 n.1 (Powell, J., dissenting).

ant's curtilage.[97]

After the trial court denied the defendant's motion to suppress the evidence, the defendant pleaded guilty to a cultivation of marijuana charge.[98] The California Court of Appeals reversed the conviction and ordered the suppression of the fruits of the aerial search.[99] The court viewed the officers' investigation of the defendant's curtilage as an unauthorized intrusion into the sanctity of the home.[100] Consequently, the court ruled that the warrantless overflight was an unreasonable search in violation of the fourth amendment.[101] The United States Supreme Court subsequently granted certiorari to review this holding.[102]

2. The Majority Opinion

In a five-four decision, the Supreme Court reversed.[103] The majority held that deliberate[104] aerial observations of the curtilage of defendant's home did not amount to a search.[105] In reaching this result, the majority applied the two-prong *Katz* test.[106] Chief Justice Burger, writing for the majority, conceded that the defendant had manifested a subjective intent to maintain privacy in his curtilage.[107] The Court, however, concluded that society was unwilling to recognize the defendant's expectation of privacy as reasonable.[108]

Chief Justice Burger asserted that the two fences surrounding the defendant's backyard did not shield the curtilage from the view of the public flying in the airspace.[109] The Court determined that the police officers, like any member of the public, had the right to fly in the public navigable airspace.[110] Thus, the Court concluded that, because the officers had viewed the defendant's curtilage from

97. *Id.*
98. *Id.* The defendant violated CAL. HEALTH & SAFETY CODE 11358 (West 1986).
99. People v. Ciraolo, 161 Cal. App. 3d 1081, 1085, 208 Cal. Rptr. 93, 94 (1984).
100. *Id.* at 1089-90, 208 Cal. Rptr. at 97-98.
101. *Id.* at 1090, 208 Cal. Rptr. at 98.
102. 105 S. Ct. 2672 (1985) (order granting certiorari).
103. *Ciraolo*, 106 S. Ct. 1808, 1813.
104. The Court stated that there was no rational distinction between focused observations and routine patrol. *Id.* at 1813 n.2.
105. *Id.* at 1813. The officers also took a picture of the defendant's backyard with a statndard thirty-five millimeter camera. The use of the camera was not an issue in *Ciraolo*. *Id.* at 1812 n.1.
106. *Id.* at 1811. *See supra* text accompanying note 39.
107. *Id.* at 1811-12.
108. *Id.* at 1812-13.
109. *Id.* at 1812.
110. *Id.* at 1813.

a public vantage point, their aerial observations did not represent an activity protected by the fourth amendment.[111]

3. The Dissent

Justice Powell, writing in dissent, criticized the Court for its significant departure from the standard developed in *Katz*.[112] The dissent noted that *Katz* had announced a standard that could meet the technological changes in law enforcement methods.[113] Under *Katz*, a government surveillance that invaded a "constitutionally protected reasonable expectation of privacy" amounted to a search.[114] The dissent also recognized that a reasonable expectation of privacy is not based on the presence or absence of a physical government intrusion.[115] Thus, the *Ciraolo* dissent reasoned that the Court's analysis provided no real protection from surveillance techniques that do not involve a physical trespass.[116]

The dissent also criticized the majority for not distinguishing police observations from the ordinary observations of air travelers.[117] As noted by the dissent, the risk that air passengers will obtain a "fleeting, anonymous, and nondiscriminating glimpse" of private activities and then connect those activities with the people involved is almost nonexistent.[118] Consequently, the dissent argued that this risk does not obliterate an individual's expectation of privacy in his curtilage.[119] The dissent also noted that the overflight, conducted by police with the intention of discovering crime, had intruded into a private area which, absent a warrant, would have been constitutionally forbidden at groundlevel.[120] Accordingly, the dissent con-

111. *Id.*

112. *Id.* at 1814 (Powell, J., dissenting). Justices Brennan, Marshall, and Blackmun joined in the dissent.

In analyzing the Court's treatment of aerial surveillance, Justice Powell reiterated Justice Harlan's warning in *Katz* that "any decision to construe the Fourth Amendment as proscribing only physical intrusions by police onto private property 'is, in the present day, bad physics as well as bad law. . . .' " 106 S. Ct. at 1814 (Powell, J., dissenting) (quoting Katz v. United States, 389 U.S. 347, 362 (1967)). Furthermore, the dissent argued that "[r]eliance on the *manner* of surveillance is directly contrary to the standard of *Katz*, which identifies a constitutionally protected privacy right by focusing on the interests of the individual and of a free society." *Id.* at 1817 (Powell, J., dissenting) (emphasis in original).

113. *Id.*

114. *Id.* at 1815 (Powell, J., dissenting).

115. *Id.*.

116. *Id.*.

117. *Id.* at 1818 (Powell, J., dissenting).

118. *Id.*.

119. *Id.*.

120. *Id.*.

cluded that warrantless aerial observations of the curtilage similarly should constitute an unreasonable search.[121]

B. Dow Chemical Co. v. United States

1. The Facts

The controversy in *Dow Chemical Co. v. United States*[122] arose out of efforts by the Environmental Protection Agency ("EPA") to check emissions from the power houses located on Dow Chemical Company's ("Dow") Midland facility.[123] After Dow had consented to a ground-level inspection of its two thousand acre facility in Midland, Michigan, the EPA requested a second inspection in order to photograph the facility.[124] Dow denied this request.[125] Dow had a policy of prohibiting the use of camera equipment by anyone other than authorized personnel and had enacted a program to protect the facility from aerial photography.[126] Short of erecting a roof over the facility, Dow took elaborate precautions to secure the facility from any unwelcomed intrusions.[127]

The EPA hired a commercial photographer to take photographs of the Dow facility.[128] Using a twenty-two thousand dollar aerial mapping camera, the photographer took approximately seventy-five color photographs of various parts of the manufacturing facility.[129] The EPA failed to procure an administrative warrant for this activity.[130]

When Dow became aware of the aerial photography, it filed suit in district court, alleging that the EPA's actions violated the fourth

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121. *Id.* at 1819 (Powell, J., dissenting).

122. *Id.* at 1819.

123. *Id.* at 1828 (Powell, J., dissenting). Specifically, the EPA was searching for violations of federal air quality standards. *Id.*

124. *Id.* at 1822.

125. *Id.*

126. *Id.* at 1828 (Powell, J., dissenting). Dow had instructed its employees that when suspicious overflights occur, the employees had to attempt to obtain the plane's identification number and description. *Id.* In the event that Dow learned that the facility had been photographed, Dow had a policy of preventing the dissemination of the photographs. *Id.*

127. *Id.* Dow had spent over thirty million dollars for security in the ten year time period preceding the suit. *Id.* at 1828 n.2. An eight foot chain link fence surrounded Dow's two thousand acre facility. *Id.* at 1828. The facility was guarded by security personnel and monitored by closed-circuit televisions. *Id.* In addition, motion detectors, which indicate the movement of persons within restricted areas, were placed in the facility. *Id.*

128. *Id.* at 1822.

129. *Id.* at 1829 (Powell, J., dissenting).

130. *Id.* at 1822.

amendment and were beyond the EPA's statutory authority under the Clean Air Act.[131] The district court agreed with Dow's position on both issues and permanently enjoined the EPA from taking aerial photographs of Dow's premises.[132] After the Sixth Circuit Court of Appeals reversed,[133] the Supreme Court granted certiorari.[134]

2. The Majority Opinion

The Supreme Court affirmed the holding of the Sixth Circuit Court of Appeals.[135] The Court ruled that neither the fourth amendment nor the Clean Air Act prohibited photography of an industrial complex from navigable airspace.[136]

Congress has granted certain investigatory and enforcement authority to the EPA under section 114(a)(2) of the Clean Air Act.[137] Section 114(a)(2) provides that an EPA representative has the right to enter commercial premises upon the presentation of Agency credentials.[138] Chief Justice Burger, writing for the majority, deter-

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131. *Id.*

132. Dow Chemical Co. v. United States, 536 F. Supp. 1355, 1366 (E.D. Mich. 1982). The district court found that Dow manifested an expectation of privacy in its exposed plant areas because it intentionally surrounded them with buildings and other enclosures. *Id.* at 1364-66. The court found this expectation of privacy to be reasonable because of the trade secret protections restricting Dow's commercial competitors from taking aerial photographs of these exposed areas. *Id.* at 1367.

133. Dow Chemical Co. v. United States, 749 F.2d 307 (6th Cir. 1984).

134. 105 S. Ct. 2700 (1985) (order granting certiorari).

135. *Dow Chemical*, 105 S. Ct. 1819, 1824, 1827 (1986).

136. *Id.*

137. The Clean Air Act, 42 U.S.C. 7414 (1983). Section 7414 provides, in pertinent part:

> (a)(2) the Administrator or his authorized representative, upon presentation of his credentials—
>
> (A) shall have a right of entry to, upon, or through any premises of such person or in which any records required to be maintained under paragraph (1) of this section are located, and
>
> (B) may at reasonable times have access to and copy any records, inspect any monitoring equipment or method required under paragraph (1), and sample any emissions which such person is required to sample under paragraph (1). . . .
>
> . . . .
>
> (c) Any records, reports or information obtained under subsection (a) of this section shall be available to the public, except that upon a showing satisfactory to the Administrator by any person that records, reports, or information, or particular part thereof, (other than emission data) to which the Administrator has access under this section if made public, would divulge methods or processes entitled to protection as trade secrets of such person, the Administrator shall consider such record, report, or information or particular portion thereof confidential. . . .

Id.

138. *Id.*

mined that section 114(a) did not limit the EPA's general powers to investigate,[139] but instead permitted the EPA to employ any method of observation commonly available to the general public.[140] Consequently, the majority concluded that the use of aerial observations and photography was within the EPA's statutory authority.[141]

Chief Justice Burger next addressed the fourth amendment issue.[142] The Court conceded that a business establishment or an industrial facility enjoys certain fourth amendment protection.[143] The Court, however, distinguished fourth amendment protection of the curtilage and open fields, finding that the intimate activities associated with the home and its curtilage do not extend into the outdoor areas or spaces between structures and buildings of a manufacturing plant.[144] Although the Court acknowledged that Dow's plant lacked the critical characteristics of both the curtilage and the open fields, the Court concluded that for purposes of determining the constitutionality of warrantless aerial surveillance, Dow's manufacturing facility resembled an open field.[145] Consequently, the Court concluded that the area surrounding Dow's plant did not deserve constitutional protection.[146]

In reaching its result, the Court distinguished ground-level intrusions from aerial intrusions.[147] Under the Court's analysis, Dow maintained a reasonable expectation of privacy from ground-level intrusions because the public did not have access to the open areas of the plant.[148] On the other hand, because the general public could have observed Dow's facility from the airspace, the Court concluded that the government did not have to comply with the fourth amendment in conducting non-physical warrantless inspections of commercial property.[149]

The Court also noted that the EPA's actions were not overly intrusive.[150] In this context, the Court compared the use of precision mapping cameras to the use of "highly sophisticated surveil-

139. *Dow Chemical*, 106 S. Ct. at 1824.
140. *Id.*
141. *Id.*
142. *Id.* at 1825.
143. *Id.*
144. *Id.* at 1827.
145. *Id.*
146. *Id.* at 1825-26.
147. *Id.*
148. *Id.* at 1826.
149. *Id.*
150. *Id.* at 1826-27.

lance equipment not generally available to the public" and determined that the use of unique sensory devices might raise constitutional problems absent the utilization of a warrant.[151] The Court, however, concluded that the government's use of a camera did not amount to a search under the fourth amendment because it merely enhanced human vision and because it was available to the public.[152]

3. The Dissent

The partial dissent[153] strongly rejected the Court's fourth amendment analysis and holding.[154] Justice Powell, writing in dissent, criticized the Court for the drastic reduction in fourth amendment protection previously afforded private commercial property.[155] The dissent noted that fourth amendment protection of business premises had deep historical roots.[156] Moreover, the dissent observed that the Supreme Court had never held that warrantless intrusions on commercial property were generally acceptable.[157] Accordingly, the dissent specified that business property could be subjected to warrantless searches only in those instances when Congress has made a reasonable determination that warrantless inspection is necessary to enforce a regulatory purpose and when the federal regulatory presence is adequately defined.[158] Because the Clean Air Act did not authorize warrantless inspections, the dissent concluded that the exception to the warrant requirement was inapplicable.[159]

The dissent also criticized the Court for retreating from *Katz*.[160] Unlike the majority's analysis, *Katz* did not rely upon the presence or absence of a physical trespass to find a fourth amendment

151. *Id.*

152. *Id.* at 1827.

153. *Id.* The dissenters agreed with the majority's position on the Clean Air Act issue, but took issue with the remainder of the majority decision. *Id.*

154. *Id.* at 1827-34 (Powell, J., dissenting).

155. *Id.* at 1830 (Powell, J., dissenting).

156. *Id.* The dissent pointed out that " 'the particular offensiveness' of the general warrant and writ of assistance, so despised by the Framers of the Constitution, 'was acutely felt by merchants and businessmen whose premises and products were inspected' under their authority." *Id.* (quoting Marshall v. Barlow's, Inc., 336 U.S. 307, 312 (1978)). As a result, the ban on warrantless searches included businesses as well as residences. *Dow Chemical*, 106 S. Ct. at 1830 (Powell, J., dissenting).

157. *Id.* at 1831 (Powell, J., dissenting).

158. *Id.* *See supra* note 53 and accompanying text.

159. *Dow Chemical*, 106 S. Ct. at 1830-31 (Powell, J., dissenting).

160. *Id.* at 1831-33 (Powell, J., dissenting).

search.[161] Under *Katz*, a search occurred when the government intruded on a reasonable expectation that a certain area would remain private.[162] Applying the *Katz* test, Justice Powell argued that an expectation of privacy would be recognized as reasonable if it was rooted in "understandings that are recognized and permitted by society."[163] Thus, by enacting trade secret laws, the dissent found that society recognized as reasonable Dow's interest in preserving the privacy of its outdoor manufacturing facility.[164] Because Dow had taken every feasible step to protect trade secrets from the public, the dissent concluded that the government's warrantless aerial surveillance violated Dow's reasonable expectation of privacy.[165]

Justice Powell further noted that, pursuant to the majority's inquiry, the existence of an asserted privacy interest will be decided by the manner of surveillance.[166] Thus, the dissent warned that as technology becomes available to the public, fourth amendment protection gradually will decay.[167]

IV. ANALYSIS

An investigatory technique that does not constitute a search need not comply with the dictates of the fourth amendment.[168] Accordingly, such a technique may be employed without a warrant, regardless of the circumstances surrounding its use.[169] The Court in *Ciraolo* and *Dow Chemical* held that the use of an airplane and the use of a precision, commercial mapping camera in the navigable airspace did not constitute a search.[170] In determining that these techniques were not searches, the Court has paved the way for technology to override fourth amendment protections.[171]

A. Critique of Ciraolo

Ciraolo, like *Dow Chemical*, is a case born of technological innovation. The availability of aircrafts permits law enforcement of-

161. *Id.* at 1831 (Powell, J., dissenting).
162. *Id.* at 1831-32 (Powell, J., dissenting).
163. *Id.* at 1832 (Powell, J., dissenting).
164. *Id.*.
165. *Id.*
166. *Id.* at 1833 (Powell, J., dissenting).
167. *Id.*.
168. United States v. Jacobsen, 466 U.S. 109, 136-37 (1984) (Brennan, J., dissenting).
169. *Id.* at 137 (Brennan, J., dissenting).
170. *Dow Chemical*, 106 S. Ct. at 1827; *Ciraolo*, 106 S. Ct. at 1813.
171. United States v. Jacobsen, 466 U.S. at 137-38 (Brennan, J., dissenting).

ficers to aerially observe private residential property.[172] Consequently, the outdoor areas of the curtilage are exposed to the plain view of the officer in navigable airspace.[173] *Ciraolo* holds, as a matter of law, that the curtilage does not deserve any fourth amendment protection from warrantless "naked-eye" aerial surveillance.[174] Hence, an expectation of privacy can be defeated by the use of an aircraft that lifts a law enforcement officer's gaze above a fence.[175]

The Court in *Ciraolo* examined the interests of the individual and law enforcement to determine whether a reasonable expectation of privacy existed.[176] The Court determined that, because the defendant knowingly exposed his marijuana garden to anyone traveling in the navigable airspace, a reasonable expectation of privacy did not exist.[177] But, as Justice Powell aptly illustrated in his dissent, the risk that the general public flying in the airspace would see the defendant's marijuana garden and then connect it with the defendant is almost non-existent.[178] Moreover, it should be noted that the public is not trained in marijuana identification as were the officers who conducted the investigative flight.[179] Thus, the Court's reliance on the tenuous distinction of knowing exposure necessarily "raises the question of how tightly the fourth amendment permits people to be driven back into the recesses of their lives by the risk of surveillance."[180]

The nature of the item revealed through the use of aerial surveillance belies the outcome reached by the Court.[181] The Court im-

172. *Ciraolo*, 106 S. Ct. at 1817 (Powell, J., dissenting).

173. *Id.* at 1812-13. *See supra* note 48 and accompanying text. *But see* People v. Agee, 153 Cal. App. 3d 1169 (omitted), 200 Cal. Rptr. 827, 834-36 (1984) ("To say that anything which can be seen from a lawful vantage point in the air is in 'plain view' simply confuses what could be seen with what should be seen.").

174. *Ciraolo*, 106 S. Ct. at 1813.

175. *Id.* In interpreting *Ciraolo*, the California Court of Appeals has distinguished observations in the navigable airspace from those in the non-navigable airspace. People v. Sabo, 185 Cal. App. 3d 845, 854, 230 Cal. Rptr. 170, 176 (1986). The *Sabo* court held that warrantless helicopter views from the non-navigable airspace of marijuana growing in a greenhouse constituted an unreasonable search. *Id.*

176. *Ciraolo*, 106 S. Ct. at 1812-13.

177. *Id.* at 1813.

178. *Id.* at 1818 (Powell, J., dissenting). Justice Powell noted that travelers on both commercial and private planes normally obtain only a "fleeting, anonymous, and nondiscriminating glimpse of the landscape and building below them." *Id.*

179. *See supra* text accompanying note 94.

180. W. LAFAVE, *supra* note 10, 2.2, at 260-61 (quoting Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349, 402 (1974)).

181. *Ciraolo*, 106 S. Ct. at 1812 (whether the defendant merely manifested a hope that no one would observe his unlawful gardening pursuits is not entirely clear). *See*

plicitly stated that even in the curtilage of his home, a person cannot have a reasonable expectation of privacy in contraband.[182] Indirectly, the Court determined that a reasonable expectation of privacy protects only legal activities.[183] Thus, because aerial surveillance revealed that the defendant was guilty of cultivating marijuana, the fourth amendment did not restrict the government's surveillance activities.[184] In light of the availability of intrusive investigating techniques, including aerial surveillance,[185] chemical testing,[186] and trained dogs,[187] the possible ramifications of the *Ciraolo* Court's reasoning are staggering. Under *Ciraolo*, fourth amendment rights lack stability and will dissipate as technology progresses.

B. Critique of Dow Chemical

Dow Chemical marks a drastic reduction in fourth amendment protection afforded to owners of private businesses or industrial premises.[188] The *Dow Chemical* Court indicated that the expectation of privacy that the owner of a business possesses significantly differs from the expectation of privacy that an individual enjoys in his dwelling.[189] The Court failed, however, to distinguish the limited category of permissible warrantless administrative inspections from the EPA's warrantless photography.[190]

United States v. Jacobsen, 466 U.S. 109 (1984) (no reasonable expectation of privacy in the chemical identity of contraband); United States v. Place, 462 U.S. 696 (1983) (*dictum*) (canine sniff not a search because it disclosed only the presence of narcotics).

182. *Ciraolo*, 106 S. Ct. at 1813.

183. *Id. See* Loewy, *The Fourth Amendment as a Device for Protecting the Innocent*, 81 MICH. L. REV. 1229, 1244-48 (1983) [hereinafter Loewy, *Device*]; Loewy, *Protecting Citizens from Cops and Crooks: An Assessment of the Supreme Court's Interpretation of the Fourth Amendment During the 1982 Term*, 62 N.C.L. REV. 329 (1984). Professor Loewey strongly advocates a fourth amendment that protects only the innocent rather the guilty. The guilty would be protected by the amendment only to the extent necessary to protect the innocent. *See* Loewy, *Device*, *supra* at 1244-48.

184. *Ciraolo*, 106 S. Ct. at 1813.

185. *Id.* at 1813.

186. United States v. Jacobsen, 466 U.S. 109 (1984). *Jacobsen* involved chemical testing of a substance already in the government's possession. The Court found that an individual cannot have a reasonable expectation of privacy in contraband. *Id.* at 126.

187. United States v. Place, 462 U.S. 696 (1983). In *Place*, the Court stated that an individual may not have a reasonable expectation of privacy in the presence or absence of narcotics in his luggage from a "canine sniff." *Id.* at 707. The validity of the canine sniff in that case, however, was neither briefed by the parties nor addressed by the court below. *Id.* at 723-24. *See* Gardner, *Sniffing for Drugs in the Classroom—Perspectives on Fourth Amendment Scope*, 74 NW. U.L. REV. 803, 844-47 (1980) (discussion of "canine sniffs").

188. *Dow Chemical*, 106 S. Ct. at 1828 (Powell, J., dissenting).

189. *Id.* at 1826.

190. *Id.* at 1830-31 (Powell, J., dissenting).

The Court primarily looked to the "intrusiveness" of the government investigatory technique in determining whether Dow had a reasonable expectation of privacy.[191] The Court refused to attach significance to the fact that the EPA's mapping camera could film much more than members of the general public could see by glancing down at Dow's facility.[192] Instead, the Court determined that the manner in which the photographs were obtained did not give rise to constitutional problems because no identifiable human faces or trade secret documents appeared on the photographs.[193]

Under the *Dow Chemical* analysis, it appears that constitutional protection may arise only when significant information is revealed through the use of overly intrusive surveillance techniques.[194] For example, the Court noted that electronic eavesdropping devices raised far more serious problems than the use of a sophisticated camera because eavesdropping devices might record confidential discussions of chemical formulae or trade secrets.[195] Thus, the *Dow Chemical* opinion implicitly suggested that the use of the camera in the airspace did not constitute a search because the film obtained therefrom merely outlined the facility's building and equipment without sufficiently capturing glimpses of private activities.[196]

Nonetheless, the Court determined that the use of unique or novel law enforcement devices and its unavailability to the public might require constitutional safeguards.[197] The government's use of devices available to the public, however, was not even a search for purposes of the fourth amendment.[198] This distinction is absurd: in an age of advancing and potentially unlimited technology,

191. *Id.* at 1826-27.

192. *Id.* at 1827. For example, "some of the photographs taken from directly above the plant at 1,200 feet [were] capable of enlargement to a scale of 1 inch equals 20 feet or *greater* without significant loss of detail or resolution." *Id.* at 1829 (Powell, J., dissenting) (quoting Dow Chemical Co. v. United States, 536 F. Supp. 1355, 1357 (E.D. Mich. 1982)) (emphasis in original).

193. *Dow Chemical*, 106 S. Ct. at 1827 n.5.

194. *Id.*

195. *Id.* at 1827.

196. *Id.* *See* Smith v. Maryland, 442 U.S. 735 (1979). There, the Court held that the use of a pen register to record the local numbers dialed from a private telephone was not a search because the defendant voluntarily conveyed the numbers to the telephone company's switching equipment. *Id.* at 743-46. The majority distinguished *Katz* on the ground that a pen register was far less intrusive than bugging a telephone because the pen register did not disclose the contents of the telephone conversation. *Id.* at 741. The Court concluded that a privacy interest in the numbers dialed from a telephone did not compel fourth amendment protection. *Id.* at 745-46.

197. *Dow Chemical*, 106 S. Ct. at 1826-27.

198. *Id.*

the fourth amendment will become moribund.[199]

C. *The Aftermath of* Ciraolo *and* Dow Chemical

Ciraolo and *Dow Chemical*, read together, indicate a doctrinal change in the *Katz* reasonable expectation of privacy test. Although *Katz* overruled the trespass doctrine, the Courts in *Ciraolo* and *Dow Chemical*, by distinguishing ground-level intrusions from aerial intrusions, have reestablished notions of that discredited trespass doctrine.[200]

Ciraolo and *Dow Chemical* also have qualified the method of determining the existence of a reasonable expectation of privacy.[201] *Katz* placed its emphasis upon the individual interest to be protected.[202] In stark contrast, *Ciraolo* and *Dow Chemical* focused upon the government's means of violating an individual's interest.[203] Accordingly, under *Ciraolo* and *Dow Chemical*, the outcome of the reasonable expectation of privacy standard is determined by the "intrusiveness" of the government's activity.[204] Hence, government conduct that is intrusive constitutes a search, while conduct that is unintrusive does not.[205]

In determining the "intrusiveness" of the government's conduct, the Courts balanced the nature of the property observed against

199. *Id.* at 1833 (Powell, J., dissenting). *See* People v. Agee, 153 Cal. App. 3d 1169 (omitted), 200 Cal. Rptr. 827, 835 (1984). Under the *Dow Chemical* analysis, if the specific method of surveillance involved the aerial use of an x-ray machine and x-ray machines were available to the general public, then a person would have to install lead insulation around his home or business to have a "reasonable" expectation of privacy in the area observed. *See* Note, *Curtilage, supra* note 1, at 752-53.

To protect against the use of aerial sensory devices such as a camera, the *Dow Chemical* Court implied that a lead roof or an opaque dome must be erected. *Dow Chemical*, 106 S. Ct. at 1826-27. Consequently, the *Dow Chemical* approach could require businesses to take unrealistic measures to protect against a specific method of surveillance. *Id.* at 1828 (Powell, J., dissenting).

A business would have to spend millions of dollars to erect a covered enclosure over its commercial property to protect against photography taken in the navigable airspace. *Id.* at 1828 n.1 (Powell, J., dissenting).

200. *See Dow Chemical*, 106 S. Ct. at 1826 (actual physical entry by the EPA would raise substantially different questions); *Ciraolo*, 106 S. Ct. at 1812-13 (search did not occur since officers did not physically intrude onto the defendant's land).

201. *Dow Chemical*, 106 S. Ct. at 1827 (satellite technology is intrusive, aerial photography is not); *Ciraolo*, 106 S. Ct. at 1813 (private and commercial flights are not intrusive because they are routine).

202. *Katz*, 389 U.S. at 353.

203. *Dow Chemical*, 106 S. Ct. at 1826-27; *Ciraolo*, 106 S. Ct. at 1813.

204. *See Dow Chemical*, 106 S. Ct. at 1827; *Ciraolo*, 106 S. Ct. at 1813. *See also* Smith v. Maryland, 442 U.S. 735, 742-45 (1979) (Court implies that a pen register is not intrusive).

205. *Dow Chemical*, 106 S. Ct. at 1827; *Ciraolo*, 106 S. Ct. at 1813.

the nature of the surveillance method employed.[206] In *Ciraolo*, the Court determined that naked-eye observations of the curtilage by the police in the navigable airspace did not amount to fourth amendment activity because plain view observations are not overly intrusive.[207] As a result, an individual cannot manifest a reasonable expectation of privacy in the outdoor areas of their residential property from naked-eye aerial surveillance.[208]

Similarly, under *Dow Chemical*, a business cannot rely on the fourth amendment to shield its private outdoor areas from aerial surveillance.[209] Unlike the utilization of the standard thirty-five millimeter camera in *Ciraolo*, the government's use of a sensory enhancement device in the navigable airspace could have provided the *Dow Chemical* Court with a means for finding that the government's activities violated the fourth amendment.[210] The Court, however, held that the use of a camera in the navigable airspace was not so intrusive as to trigger constitutional protection.[211] The Court reached this seemingly anomalous result for two reasons. First, the Court determined that the property observed was not analogous to the curtilage.[212] Second, the Court noted that the camera was not a highly sophisticated piece of surveillance equipment that was unavailable to the general public.[213] Hence, the fourth amendment cannot be utilized to judicially monitor the government's aerial use of sensory equipment to observe private commercial premises.[214]

Reading *Ciraolo* and *Dow Chemical* together suggests a possible fourth amendment distinction between residential and commercial property.[215] The *Dow Chemical* Court determined that greater latitude is granted the government to conduct warrantless inspections of commercial property than of residential property.[216] Commercial property can be aerially observed with sensory enhancement devices.[217] The government's use of sensory equipment to observe aerially the curtilage of an individual's home, however, may create

206. *Dow Chemical*, 106 S. Ct. at 1824-27; *Ciraolo*, 106 S. Ct. at 1812-13.
207. *Ciraolo*, 106 S. Ct. at 1813.
208. *Id.*
209. *Dow Chemical*, 106 S. Ct. at 1827.
210. *Id.* at 1824.
211. *Id.* at 1824-27.
212. *Id.* at 1824-25.
213. *Id.* at 1826-27.
214. *Id.*
215. *Compare Dow Chemical*, 106 S. Ct. at 1826-27 *with Ciraolo*, 106 S. Ct. at 1813.
216. *Dow Chemical*, 106 S. Ct. at 1826.
217. *Id.* at 1827.

future constitutional problems.[218] Notice that if *Ciraolo* sets forth a blanket statement that all aerial observations of the curtilage are not searches, it would be unnecessary for the Court in *Dow Chemical* to distinguish the government's aerial use of a precision camera to observe open fields from the use of such a camera to observe the curtilage.[219] This distinction suggests that the use of enhancement devices to view the curtilage of a home would be far more intrusive than the use of enhancement devices on commercial premises.[220] Thus, under the *Ciraolo-Dow Chemical* analysis, an individual may have a "reasonable" expectation of privacy from the aerial use of enhancement devices to observe the curtilage of the home.[221]

Furthermore, it should be noted that the *Dow Chemical* Court distinguished enhancement devices from highly technical sensory equipment.[222] Under the Court's analysis, it appears that the use of highly technical sensory equipment in residential premises and in private commercial premises would be overly "intrusive."[223] In the wake of *Dow Chemical* and *Ciraolo*, the factual determination of whether the government has employed highly technical sensory equipment must be litigated on a case by case basis. If courts, however, solely look to the availability of an investigatory technique to the public, then fourth amendment protection will decay as "sophisticated" surveillance techniques become available to the public.[224] Consequently, to preserve the integrity of the individual's interest in the fourth amendment, lower courts must narrowly construe *Ciraolo* and *Dow Chemical*.[225] Otherwise, reasonable expectations of privacy in residential and commercial property will shrivel as technology marches forward.[226]

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218. *Id.* at 1824-25.

219. *Id.*

220. *Id.* at 1833 (Powell, J., dissenting). The dissent noted that the Court applied the curtilage doctrine, "which affords heightened protection to homeowners, in a manner that eviscerates the protection traditionally given to the owner of commercial property." *Id.*

221. The *Ciraolo* Court only addressed naked-eye aerial observations of the curtilage. *Ciraolo*, 106 S. Ct. at 1813.

222. *Dow Chemical*, 106 S. Ct. at 1827.

223. *Id.* at 1826-27.

224. *Id.* at 1833 (Powell, J., dissenting).

225. *See supra* note 206-212 and accompanying text. *See also* People v. Sabo, 185 Cal. App. 3d 845, 853, 230 Cal. Rptr. 170, 175 (1986) (limiting the application of Ciraolo and *Dow Chemical* to government observations from the navigable airspace).

226. *See* People v. Agee, 153 Cal. App. 3d 1169 (omitted), 200 Cal. Rptr. 827, 830 (1984) (if the law does not keep pace with advancing technology in law enforcement surveillance techniques, expectations of privacy may be earthbound).

V. CONCLUSION

The expense society pays for the benefits of warrantless aerial surveillance is the relinquishment of privacy in most outdoor areas. Only when families and business proprietors retreat behind the walls of their homes and businesses will the fear of being observed by the government's omniscient "eye in the sky" subside. Unless the courts narrowly interpret *Ciraolo* and *Dow Chemical*, an Orwellian "age where everyone is open to surveillance at all times" may well be upon us.[227]

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227. Osborn v. United States, 385 U.S. 323, 341 (1966) (Douglas, J., dissenting).