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CONSTITUTIONAL LAW—Technology Encroaches on the Reasonable Expectation of Privacy: *Dow Chemical Co. v. United States*

I. INTRODUCTION

In *Dow Chemical Co. v. United States*[1], the United States Supreme Court decided that a warrantless aerial observation, conducted as part of an administrative, regulatory investigation of a large manufacturing complex, was not an "unreasonable search" under the fourth amendment.[2] The fourth amendment reflects the Founders' concern that certain areas should be shielded from arbitrary government intrusion.[3] In deference to the Founders' concern, the Court has used the fourth amendment to protect the home[4], and the area immediately surrounding it[5], from unreasonable searches. Furthermore, the Court has recognized that the Founders intended the fourth amendment to protect commercial property owners[6] as well as private home dwellers. Thus, offices and commercial structures are included in the sphere of protected areas.[7]

The Court has extended fourth amendment protection beyond the physical structure of the home with the "curtilage" doctrine.[8] In contrast, the Court has limited fourth amendment protection with the "open fields" doctrine.[9] The Court has refused to shield with the fourth amendment activities conducted in expansive areas; simply, the Court will not recognize as reasonable a person's claim to privacy in an open area.[10]

While the fourth amendment was of vital importance to its framers[11], it does not operate in a vacuum. Rather, the fourth amendment functions

1. 106 S.Ct. 1819 (1986).
2. *Id.*
3. Oliver v. United States, 466 U.S. 170, 178 (1984). The fourth amendment to the United States Constitution provides that "the right of the people to be secure in their persons, houses, papers and effects, against unreasonble searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized." U.S. CONST. AMEND. IV.
4. *Oliver*, 466 U.S. at 178.
5. *Id.* at 180.
6. *Id.* at 178 n.8.
7. *Id.*
8. *Id.* at 180.
9. *Id.* at 178 (citing Hester v. United States, 265 U.S. 57, 59 (1924)).
10. *Id.*
11. As the court has explained, the fourth amendment is a "concrete expression of a right which is basic to a free society." Camara v. Municipal Court, 387 U.S. 523, 528 (1967) (citing Wolf v. Colorado, 338 U.S. 25, 27 (1949)).

simultaneously with other constitutional values and with governmental duties. Not infrequently, such values collide with each other. In *Dow*, two facts of modern life intersected with the fourth amendment values of privacy, raising difficult questions for fourth amendment protection. First, with technologic advancement, the government has developed methods by which it can observe private citizens without being seen or heard. For example, electronic surveillance technology provides law enforcement agents with the means to overhear conversations that take place in a private home or office, without physically intruding on that private enclave. Second, government regulation of industry necessitates observing commercial and industrial activity. When such governmental capabilities and duties cross paths with individual interests in privacy, the Constitution requires that the impartial judgment of a judicial officer be interposed between the citizen and the government agent.[12] The *Dow* Court was interposed between a commercial entity and the government agency charged with regulating that entity. The Court's task was to reconcile the corporation's interest in privacy with the government's obligation to observe the corporation—and the government's sophisticated and unobtrusive means of meeting its obligation.

The *Dow* decision is best understood when placed in the context of fourth amendment doctrine. Thus, this Note discusses the historical framework for fourth amendment analysis. With this foundation, the note then analyzes the *Dow* Court decision and the issues that it raises for modern fourth amendment analysis.

II. STATEMENT OF THE CASE

Dow Chemical Company (Dow) operates a chemical manufacturing facility in Midland, Michigan.[13] The facility, a 2,000-acre outdoor manufacturing complex, consists of covered buildings and equipment that extends between the buildings.[14] Some areas of the complex are exposed to aerial observation.[15] Dow has neither completely enclosed the facility[16] nor shielded the exposed areas from aerial observation.[17] Dow does, however, maintain elaborate security measures.[18] For example, Dow has secured the ground level of the complex from public access and from public view.[19] In addition, Dow investigates flights over the complex and

12. Katz v. United States, 389 U.S. 347, 357 (1967) (quoting Wong Sun v. United States, 371 U.S. 471, 481-82 (1963)).
13. *Dow*, 106 S.Ct. at 1822.
14. *Id.*
15. *Id.*
16. *Id.*
17. *Id.*
18. *Id.*
19. *Id.*

takes measures to retrieve any aerial photogaphs that may have been taken during such flights.[20]

Under the Clean Air Act, the Environmental Protection Agency (EPA) is responsible for regulating emissions from industrial complexes such as the Dow facility.[21] In 1978, EPA officials made an on-sight inspection of the Dow plant.[22] The EPA requested a second inspection, which Dow refused.[23] Rather than obtaining an adminstrative search warrant, and without informing Dow, the EPA hired a private aerial photographer to photograph the Dow complex.[24]

When Dow learned of the EPA's actions, it instituted an action for declaratory judgment and injunctive relief in the Eastern District of Michigan.[25] Dow claimed that the EPA's actions constituted a search in violation of the fourth amendment and exceeded the EPA's statutory authority.[26] Recognizing that Dow had a reasonable expectation of privacy in its complex, the district court held that the EPA had infringed on Dow's fourth amendment rights.[27] In addition, the district court held that the EPA had exceeded its statutory authority.[28] Accordingly, the district court granted Dow's motion for summary judgment and enjoined the EPA from further aerial observation of the Dow complex.[29] The Sixth Circuit reversed[30], holding that Dow's privacy expectation was unreasonable and, thus, the EPA had not conducted a search in violation of the fourth amendment.[31] The Sixth Circuit also held that the EPA acted within its statutory authority.[32]

On appeal to the United States Supreme Court[33], Dow again argued that the EPA had conducted a search in violation of the fourth amendment and had exceeded its statutory authority.[34] The Court rejected both of Dow's arguments and concluded that the EPA neither violated the fourth amendment nor exceeded its statutory authority.[35] In affirming the court

20. *Id.* at 1828 (Powell, dissenting).
21. *See* 42 U.S.C. §7414 (1982).
22. *Dow*, 106 S.Ct. at 1822.
23. *Id.*
24. *Id.*
25. Dow Chemical Co. v. United States, 536 F.Supp. 1355 (E.D. Mich. 1982).
26. *Dow*, 106 S.Ct. at 1822.
27. *Id.* The district court accepted the parties' concession that the fly-over was a search for fourth amendment purposes. *Id.* Thus, the district court limited its analysis to whether the search was unreasonable. *Id.*
28. *Id.*
29. *Dow*, 536 F.Supp. at 1375.
30. Dow Chemical Co. v. United States, 749 F.2d 307 (6th Cir. 1984).
31. *Dow*, 106 S.Ct. at 1822-23.
32. *Id.* at 1823.
33. *Id.*
34. *Id.*
35. *Id.* The Supreme Court affirmed the Sixth Circuit's holding that the EPA did not exceed its statutory authority. *Id.* The issue of the EPA's authority to conduct an aerial surveillance poses the interesting question of what tools an administrative agency may use in the performance of its duties. However, this note is limited to the fourth amendment questions raised by the EPA's actions.

of appeals' decision[36], the Supreme Court confined its fourth amendment analysis to the narrow issue of whether an aerial observation of a 2,000 acre outdoor manufacturing plant, without physical entry into the complex, violated the fourth amendment.[37]

III. DISCUSSION AND ANALYSIS

A. The Historical Framework for Fourth Amendment Analysis

Three fourth amendment doctrines are relevant to the questions presented in *Dow*. First, the philosophical underpinnings of the fourth amendment and the court's early interpretation of the amendment lay the foundation for current fourth amendment analysis. Second, modern fourth amendment interpretation, as first articulated by the court in *Katz v. United States*,[38] provides the standard against which the Court has evaluated fourth amendment claims for two decades. Finally, the open fields and curtilage doctrines are theories which the Court uses to mark the boundaries of fourth amendment protection.

1. The historical underpinnings of the fourth amendment and the Court's early interpretation of the amendment

The purpose of the fourth amendment is to protect individual privacy, security and property from arbitrary government intrusion.[39] The colonists' aversion to writs of assistance and general warrants, by which a government agent had sweeping power to search private areas[40], was the impetus for the fourth amendment.[41] Through the fourth amendment, the framers expressed their demand for freedom from such arbitrary, unrestrained government intrusion.[42] The framers sought to safeguard the "indefeasible right of personal security, personal liberty and private property,"[43] a right that is fundamental to a free society.[44] Thus, the fourth amendment

36. *Id.* The Court was split, 5-4, on the fourth amendment issue. Justice Burger, writing for the majority, was joined by Justices White, Rehnquist, Stevens and O'Connor. Justices Brennan, Marshall, Blackmun and Powell concurred in the majority's holding that the EPA acted within its statutory authority. However, they dissented from the holding that the EPA did not violate the fourth amendment. Justice Powell wrote for the dissenting justices.

37. *Id.*

38. 389 U.S. 347 (1967).

39. Oliver v. United States, 466 U.S. 170, 178 (1984); Marshall v. Barlow's, Inc., 436 U.S. 307, 311-12 (1978); Camara v. Municipal Court, 387 U.S. 523, 528 (1967); Warden, Maryland Penitentiary v. Hayden, 387 U.S. 294, 303-10 (1967); Olmstead v. United States, 277 U.S. 438 (1928); Boyd v. United States, 116 U.S. 616 (1886), *rev'd on other grounds*, 387 U.S. 294.

40. *Boyd*, 116 U.S. at 624-31. The *Boyd* court discussed, at length, the history of warrantless searches and seizures both in England and in colonial America. *See also, Marshall*, 436 U.S. at 311-12; *Warden*, 387 U.S. at 303-10.

41. *Boyd*, 116 U.S. at 624-31.

42. *Oliver*, 466 U.S. at 178.

43. *Boyd*, 116 U.S. at 630.

44. *Camara*, 387 U.S. at 528 (citing Wolf v. Colorado, 338 U.S. 25, 27 (1949)).

shields the citizenry from unreasonable government encroachment on its right to privacy.[45]

When interpreting the fourth amendment the Court consistently has emphasized deep respect for the sanctity of the home.[46] However, home dwellers are not the only class which can invoke the protection of the fourth amendment. Writs of assistance were particularly offensive to colonial businessmen, who were subject to arbitrary inspection of their premises.[47] The commercial property owner's demand for protection springs from the same concerns as the private property owner's claim. The businessman's right to be free from unreasonable government intrusion is as deeply rooted in the history and origin of the fourth amendment as the residential occupant's right.[48] Thus, the businessman, like the homeowner, has a constitutional right to be free from unreasonable government encroachments on his privacy interests.[49] However, the businessman's privacy interest in his commercial property is significantly different from the residential occupant's interest in the sanctity of his home.[50] Regardless of this difference, the fundamental principle applies both to residential and commercial property owners: the fourth amendment prohibits arbitrary, unreasonable invasions of privacy and personal security.

The Court's early interpretation of the fourth amendment, known as the trespass doctrine, was a narrow one. Under the trespass doctrine, the Court confined the amendment's prohibitions to searches and seizures of tangible property and to actual, physical invasions onto real property[51].

45. *Boyd*, 116 U.S. at 624-31. The Court explained that the fourth amendment protects the right of man to retreat into his own home "and there to be free from unreasonable government intrusion." Silverman v. United States, 365 U.S. 505, 510-11 (1961) (footnote omitted).

46. *Oliver*, 466 U.S. at 178 (citing Payton v. New York, 445 U.S. 573, 601 (1980)); Silverman v. United States, 365 U.S. 505, 511 (1961); United States v. United States District Court, 407 U.S. 297, 313 (1972).

47. *Marshall*, 436 U.S. at 311-12; *see also Oliver*, 446 U.S. at 178 n.8 (citing Marshall v. Barlows, Inc., 436 U.S. 307, 311 (1978)); G.M. Leasing Corp. v. United States, 429 U.S. 338, 355 (1977).

48. *Marshall*, 436 U.S. at 311-12.

49. See v. City of Seattle, 387 U.S. 541, 543 (1967). *See also G.M. Leasing Corp.*, 429 U.S. at 353; Colonnade Catering Corporation v. United States, 397 U.S. 72, 77 (1969). The Court has held that the fourth amendment protects commercial property owners from unreasonable criminal investigative searches. *See*, 387 U.S. at 543 (citing Go-bart Importing Co. v. United States, 282 U.S. 344 (1931); Amos v. United States, 255 U.S. 313 (1921); Silverthorne Lumer Co. v. United States, 251 U.S. 385 (1920)). The fourth amendment also prohibits unreasonable administrative inspections of commercial property. Donovan v. Dewey, 452 U.S. 594, 598-99 (1981) (citing Marshall v. Barlow's, 436 U.S. 307 (1978); See v. City of Seattle, 387 U.S. 541 (1967)).

50. *Donovan*, 452 U.S. at 598-99. Although the *Donovan* court described the commercial property owner's privacy interest as significantly different from the home-dweller's interest, the court did not define with precision the commercial property owner's interest. The court noted that the interest is not in freedom from all government inspection, but is in freedom from unreasonable government intrusion. *Id.* Government intrusions on private commercial property are unreasonable if they are not authorized by law or if they are unnecessary to further federal interests. *Id.* (citing Colonnade Catering Corp. v. United States, 397 U.S. 72, 77 (1970)).

51. Olmstead v. United States, 277 U.S. 438, 466 (1928); *See also* Goldman v. United States, 316 U.S. 129 (1942).

Relying on the language of the amendment, the Court concluded that a search in fourth amendment terms must be of material things, such as the person, his house, or his effects.[52] Thus, government eavesdropping by means of a wiretap was constitutionally permissible, even without a warrant. [53] Because conversations are not tangible property, they did not fall within the sphere of fourth amendment protection.[54] Moreover, government action raised fourth amendment concerns only when a government agent actually, physically trespassed on the individual's property.[55] Unless the government agent physically penetrated the boundaries of the defendant's property, the Court found no need to engage in fourth amendment analysis.[56] For nearly a century, the Court adhered to the trespass doctrine.[57] Technologic innovations which provided the government with means to observe individuals without trespassing on their property[58] prompted the Court to chip away at the trespass doctrine. Initially, the Court extended fourth amendment protection to unreasonable searches and seizures of intangible property. [59] In addition, the Court ceased to require a trespass under local property law before it would confer fourth amendment protection.[60] The Court gradually discredited the concept that property interests controlled the right to be free from unreasonable searches and seizures. [61] Finally, the Court expressly rejected the trespass doctrine in *Katz v. United States*.[62]

2. *Katz v. United States* and the modern fourth amendment analysis

With *Katz v. United States*[63], the Supreme Court accomplished two tasks. The Court abandoned the trespass doctrine and posited a new criterion for fourth amendment analysis: the "reasonable" or "legitimate" expectation of privacy.[64] In doing so, the Court departed from the notion

52. *Olmstead*, 277 U.S. at 464. The amendment provides: "The right of the people to be free in their persons, houses, papers and effects shall not be violated." U.S. CONST. AMEND. IV.

53. *Olmstead*, 277 U.S. at 464.

54. *Id.*

55. *Id. See also* Silverman v. United States, 365 U.S. 505, 509-512 (1961); Goldman v. United States, 316 U.S. 129 (1942).

56. *Katz*, 389 U.S. at 352-53 (citing Olmstead v. United States, 277 U.S. 438, 457, 464, 466 (1928); Goldman v. United States, 316 U.S. 129, 134-36 (1942)).

57. The Court applied the trespass doctrine from the time of its 1885 decision in Boyd v. United States, 116 U.S. 616 (1885) until 1967, when it decided Katz v. United States, 389 U.S. 347 (1967).

58. For example, electronic surveillance devices.

59. *Warden*, 387 U.S. at 305 (citing Wong Sun v. United States, 371 U.S. 471, 485-86 (1963)) (conversations).

60. *Warden*, 387 U.S. at 305 (citing Silverman v. United States, 365 U.S. 505 (1961)).

61. *Warden*, 387 U.S. at 304.

62. 389 U.S. at 353.

63. 389 U.S. 347 (1967).

64. As the Court recently noted, it has used the words "reasonable" and "legitimate" interchangeably to describe an expectation of privacy that is entitled to fourth amendment protection. California v. Ciraolo, 106 S.Ct. 1809, 1816 n.4. (citing Katz v. United States, 389 U.S. 347, 361 (1967) (Harlan, concurring); Oliver v. United States, 466 U.S. 170, 182 (1984); Rakas v. Illinois, 439 U.S. 128, 143-53 n.12 (1978)).

that fourth amendment protection is predicated on a physical intrusion onto property.[65] Indeed, the *Katz* Court held, the lack of physical intrusion "can have no constitutional significance."[66] The Court consistently has complied with the *Katz* mandate.[67] In place of the trespass doctrine, the *Katz* Court posited a two-part inquiry which has become the starting point for all fourth amendment analysis. To determine whether a government officer has conducted a search in fourth amendment terms[68], the Court asks two questions. First, has the person claiming fourth amendment protection manifested an actual, subjective expectation of privacy?[69] Second, is his expectation legitimate; that is, does society recognize his expectation as reasonable?[70] With the *Katz* test, the Court focuses on the individual's privacy interest, rather than on his property rights.[71] Subsequent courts uniformly have applied the *Katz* test to fourth amendment claims.[72]

The *Katz* theory is not complex; its application, however, has proved to be a challenging task. Under the *Katz* test, if a government officer did not invade a legitimate expectation of privacy, he did not conduct a search in fourth amendment terms.[73] If the officer did not make a search, the fourth amendment does not govern his actions. Thus, the threshold question is whether the defendant's privacy expectation is legitimate.[74] The *Katz* Court neither defined a legitimate expectation nor formulated an objective standard of legitimacy. Since *Katz*, however, the Court has utilized a variety of broad guidelines to evaluate the legitimacy or reasonableness of an asserted privacy interest. Four of these guidelines are instructive.[75] First, a legitimate expectation is more than a subjective expectation of avoiding discovery.[76] Second, a legitimate expectation must be rooted in a concept outside fourth amendment doctrine.[77] For example,

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

66. *Id.*

67. *See, e.g.*, U.S. v. Knotts, 460 U.S. 276, 280-81 (1983) (citing Katz v. United States, 389 U.S. 347, 353 (1967); Smith v. Maryland, 442 U.S. 753, 740 (1979)).

68. *See* infra note 73.

69. *Katz*, 389 U.S. at 361 (Harlan, concurring). The majority in *Katz* discussed the same concepts. However, subsequent courts have used Justice Harlan's language rather than the majority's.

70. *Id.*

71. Rakas v. Illinois, 439 U.S. 128, 143 (1978) (citing Katz v. United States, 389 U.S. 347, 353 (1967)); United States v. Chadwick, 433 U.S. 1, 7 (1977); United States v. White, 401 U.S. 745, 752 (1971)).

72. *See, e.g.*, California v. Ciraolo, 106 S.Ct. 1809 (1986); *Oliver*, 466 U.S. at 177; *Knotts*, 460 U.S. at 280-81 (1983); Smith v. Maryland, 442 U.S. 735, 740 (1979).

73. Maryland v. Macon, 105 S.Ct. 2278, 2282 (1985); *Knotts*, 460 U.S. at 285.

74. Illinois v. Andreas, 463 U.S. 765, 771 (1983).

75. This list is by no means exhaustive. Rather, it illustrates the nature of the Court's inquiry into the legitimacy of an asserted privacy interest.

76. United States v. Jacobsen, 466 U.S. 109, 122-23 (1984); *Rakas*, 439 U.S. at 143-44 n.12. In addition, taking steps to protect one's privacy does not conclusively establish legitimacy. *Oliver*, 466 U.S. at 182. The Court focuses on whether the government has infringed on personal and social values that the fourth amendment protects. *Id.* Whether the defendant chose to conceal his activity is neither dispositve of nor relevant to the legitimacy inquiry. *Id.*

77. *Rakas*, 439 U.S. at 143-44 n.12.

a fourth amendment claimant may rely on social norms or on real or personal property laws which recognize his claim to privacy.[78] Third, no single factor determines whether an expectation is legitimate.[79] Rather, the Court looks to a variety of factors[80], including the intent of the framers[81], the use to which the individual put the area[82], and societal understandings that certain areas deserve the most scrupulous protection from government intrusion.[83] Finally, while property concepts no longer are dispositive of fourth amendment questions, they are not immaterial to the question of legitimate expectations.[84] Although the Court has never articulated a single, dispositive test, it has developed two doctrines which mark the bounds of fourth amendment protection. The curtilage doctrine and the open fields doctrine provide further guidance in assessing whether an asserted privacy interest is legitimate.

3. Curtilage and open fields: The boundaries of fourth amendment protection

When an individual invokes fourth amendment protection for activities which occur inside his home or office, his claim to privacy is not difficult to assess.[85] However, a claim for protection of activities which occur outdoors poses difficult problems for fourth amendment analysis. The fourth amendment protects some, but not all, outdoor activity. The Court uses the curtilage and open fields doctrines to determine whether a claim to privacy in outdoor activities is legitimate. Fourth amendment protection extends beyond the walls of a home and encompasses the curtilage area.[86] The curtilage is the area immediately surrounding the home, to which its residents extend the activites of homelife.[87] For fourth amendment pur-

78. *Id.*

79. *Oliver*, 466 U.S. at 177-78 (citing Rakas v. Illinois, 439 U.S. 128, 152-53 (1978) (Powell, concurring)).

80. *Oliver*, 466 U.S. at 177-78.

81. *Id.* (citing United States v. Chadwick, 433 U.S. 1, 7-8 (1977)).

82. *Oliver*, 466 U.S. at 177-78 (citing Jones v. United States, 362 U.S. 257, 265 (1960)).

83. *Oliver*, 466 U.S. at 177-78 (citing United States v. Payton, 445 U.S. 573 (1980)).

84. *Oliver*, 466 U.S. at 182-83; *Rakas* at 143-44 n.12.

85. *See supra* note 45.

86. Whether a curtilage exists in the area immediately surrounding a commercial structure or an industrial complex is a question that arises after the *Dow* decision.

87. *Oliver*, 466 U.S. at 182 n.12. From the common law to the most recent curtilage decision, the Court has described the curtilage as the area to which extends the intimate activites associated with the sanctity of the home and the privacies of life. *See, e.g.*, California v.Ciraolo, 106 S.Ct. 1809, 1816, 1819 (1986) (citing Oliver v. United States, 446 U.S. 170, 180 (1984) (quoting Boyd v. United States, 116 U.S. 616, 630 (1885)). Although the Court has neither conclusively nor precisely defined the concept, several criteria have been relevant to determining whether an area is a curtilage. The Court has looked to factors that determine whether an individual reasonably may expect that the area will remain private, *Oliver*, 466 U.S. at 180 (citing United States v. Van Dyke, 643 F.2d 992, 993-94 (4th Cir. 1981); United States v. Williams, 581 F.2d 457, 453 (5th Cir. 1978); Care v. United States, 231 F.2d 22, 25 (10th Cir. 1956), *cert. denied*, 351 U.S. 923 (1956). In addition, the close nexus of the area to the home, *Ciraolo*, 106 S.Ct. at 1812, and clearly marked boundaries, *Oliver*, 466 U.S. at 182 n.12, have been important to the Court's determination. Finally, the Court has noted that one should be able to understand the curtilage concept from daily experience. *Id.*

poses, the Court considers the curtilage to be part of the home.[88] In its most recent discussion of the curtilage doctrine[89], the Court described the protection that the fourth amendment affords to the curtilage: it is the protection of families and of personal privacy in an area that is intimately linked to the home and that enjoys the "most heightened" privacy expectations.[90] However, the fourth amendment does not shield the curtilage from all government observation.[91] Rather, an individual has a legitimate, if somewhat limited, expectation of privacy in the curtilage of his home.

In contrast, "open fields" are outside the scope of fourth amendment protection. Although the Court has never defined "open field" [92], it has given general descriptions of what constitutes an open field. For example, the Court has noted that an open field includes any unoccupied or undeveloped area outside of the curtilage.[93] In addition, the Court has commented that the area need not be "open" or a "field" as those terms are commonly used.[94] Historically, the Court distinguished between the curtilage and the open fields[95], granting fourth amendment protection in the curtilage and denying it in open fields.[96] Relying on this distinction, the Court has concluded that an individual does not have a legitimate expectation of privacy in the open fields.[97] In support of its conclusion, the Court has noted that the open fields do not provide the setting for the intimate activities that the fourth amendment protects.[98] The Court has also reasoned that there is no social interest in protecting the activities, such as raising crops, that occur in the open fields.[99] Furthermore, open fields usually are accessible to the public and the police in ways that homes or commercial structures are not.[100] Finally, the Court has observed that the police and the public can survey the open fields from the air.[101] Although it is not clear what an open field is, it is clear that an individual cannot invoke fourth amendment protection in such an area.

The *Dow* Court confronted each of the issues outlined above. Dow Chemical Company, a large corporation, laid claim to privacy interests

88. *Oliver*, 466 U.S. at 180.
89. *Ciraolo*, 106 S.Ct. at 1812.
90. *Id.*
91. *Id.*
92. *Dow*, 106 S.Ct. at 1826.
93. *Oliver*, 466 U.S. at 180 n.11.
94. *Id.* Additionally, the *Oliver* court noted that most open fields are not close to any structure, *id.* at 182 n.12, and that they are, by their nature, open and unoccupied. *Id.* at 179 n.10.
95. Hester v. United States, 265 U.S. 57, 59 (1924) (citing 4 BLACKSTONE at 223, 225, 226); *Oliver*, 466 U.S. at 178 (citations omitted); Air Pollution Variance Board v. Western Alfalfa Corp., 416 U.S. 861, 864-65 (1974).
96. *Oliver*, 466 U.S. at 178.
97. *Id.* at 180. When articulating the legitimate expectation of privacy test, the court noted that what one knowingly exposes to the public is not a subject of fourth amendment protection. *Katz*, 389 U.S. at 351 (citations omitted).
98. *Oliver*, 466 U.S. at 179.
99. *Id.*
100. *Id.*
101. *Id.*

in a manufacturing complex. The fourth amendment protection of commercial establishments is deeply rooted in the history of the amendment. For the *Dow* Court, however, a claim to privacy in a chemical manufacturing plant did not implicate the same fourth amendment values as a claim to privacy in a home. In addition, the alleged fourth amendment violation occurred without a physical trespass onto Dow's property. Although physical intrusion has been constitutionally insignificant since *Katz*, the *Dow* court relied heavily on this factor. Finally, the outdoor area in which Dow claimed a privacy interest fit none of the traditional, albeit nebulous, criteria for a curtilage or an open field. None of the issues presented to the *Dow* Court fit precisely into established fourth amendment doctrine.

B. The Dow *Court Decision*

The *Dow* court held that aerial photograhy of an outdoor industrial complex is not a search prohibited by the fourth amendment.[102] Dow contended that state and federal trade secrets laws[103] and the curtilage doctrine shielded it from aerial photography of the complex.[104] The Court rejected Dow's trade secrets argument at the outset, dismissing it as irrelevant to fourth amendment analysis.[105] The Court then considered and rejected Dow's assertion that the curtilage doctrine protected Dow from aerial photography of its facility. The starting point for the Court's analysis of the curtilage doctrine was its decision in *California v. Ciraolo*.[106] In *Ciraolo*, the Court held that a naked-eye aerial observation of the curtilage of a home is not a search prohibited by the fourth amendment.[107] Given the *Ciraolo* decision, the *Dow* case presented two additional issues: whether the curtilage doctrine encompasses the outdoor areas of an industrial complex[108] and whether taking photographs with aerial mapping equipment is permissible.[109] Holding that the open fields doctrine, not the curtilage doctrine, encompasses the complex, the Court found the EPA's photography to be constitutionally permissible.[110] Before delving into the curtilage question, the Court held that state and federal trade secrets laws were irrelevant to its fourth amendment inquiry.[111] Dow

102. *Dow*, 106 S.Ct at 1827.
103. *Id.* at 1823.
104. *Id.* at 1825.
105. *Id.* at 1823.
106. 106 S.Ct. 1809 (1986). The Court decided *Dow* and *Ciraolo* on the same day.
107. *Dow*, 106 S.Ct. at 1824-25 (citing California v. Ciraolo, 106 S.Ct. 1809 (1986)).
108. *Dow*, 106 S.Ct. at 1824.
109. *Id.*
110. *Id.* at 1826-27.
111. *Id.* at 1823. Justice Powell, in dissent, characterized the trade secrets laws as "society's express determination that commercial entities have a legitimate interest in the privacy of certain kinds of property." *Id.* at 1832 (Powell, dissenting). Because Dow took every feasible step to protect its privacy, its expectation was, according to the dissenting Justices, reasonable. *Id.*

contended that trade secrets laws protected it from aerial observation.[112] The Court dismissed Dow's assertions as irrelevant[113] for two reasons. First, tort law governing unfair competition did not define the scope of fourth amendment protection.[114] Second, the trade secrets laws on which Dow relied did not proscribe the EPA's surveillance activity. The statutory prohibitions which Dow invoked bar only photography undertaken with an intent to compete.[115] The EPA intended to regulate Dow, not to compete with it.[116] Whatever privacy interest society may have expressed in the trade secrets laws were thus irrelevant to the Court.

The heart of the Court's decision is its conclusion that the Dow complex is more like an open field than a curtilage for purposes of aerial surviellance. Dow contended that the outdoor area of its facility was an "industrial curtilage."[117] Thus, Dow argued, it could expect the same fourth amendment protection in its industrial curtilage as a private homeowner may expect in his backyard.[118] The Court recognized that Dow does enjoy some fourth amendment protection.[119] However, the Court rejected the notion that the outdoor area was a curtilage and, as such, entitled to heightened fourth amendment protection.[120] Rather, the area was analogous to an open field[121], a place in which Dow has no legitimate claim to privacy. The Court noted at the outset that a commercial entity does enjoy some fourth amendment protection.[122] Two notions limited the scope of protection that Dow could reasonably expect. First, the Court stated that the government has greater latitude to conduct warrantless searches of commercial property than of private property.[123] The Court explained that a commercial property owner has a significantly different privacy expectation than a private property owner.[124] In contrast to a homeowner's

112. *Id.*
113. *Id.*
114. *Id.*
115. *Id.*
116. *Id.*
117. *Id.* at 1824.
118. *Id.*
119. *Id.* at 1825.
120. *Id.*
121. *Id.* at 1825-26.
122. *Id.* at 1825.
123. *Id.* at 1826.
124. *Id.* The dissenting Justices took issue with the majority's reasoning. Justice Powell noted that, in the realm of administrative inspections, the Court has recognized an exception to the fourth amendment rule that warrantless searches are presumptively unreasonable. *Id.* at 1830 (Powell, dissenting). If Congress has determined that warrantless searches are necessary to enforce a regulatory purpose and if the federal regulatory presence is sufficiently defined and comprehensive, warrantless searches are constitutionally permissible. *Id.* (citations omitted). This exception for pervasively regulated industries is predicated on the idea that the regulatory scheme adequately protects the business' right to privacy. *Id.* at 1831 (citations omitted). The exception is not founded on the difference between residential and commercial property. *Id.* According to Justice Powell, the majority's reasoning misunderstands the Court's previous decisions in this area. *Id.*

interest, a commercial entity's reasonable privacy interest is not in freedom from all inspections.[125] Second, the Court distinguished between Dow's privacy interest in the interior of its buildings and its privacy interest in the area outside those buildings.[126] The Court acknowledged that Dow does have a reasonable expectation of privacy in the interior of its buildings.[127] If the EPA had physically intruded on the interior of an enclosed building, its actions would have implicated significantly different fourth amendment questions.[128] However, an aerial observation of outdoor areas surrounding enclosed buildings did not raise fourth amendment concerns for the Court.[129]

Although the Court acknowledged that the fourth amendment does protect Dow, it rejected Dow's argument that the complex was a curtilage area for purposes of aerial surveillance. To determine whether Dow's facility fit within the curtilage doctrine, the Court returned to its description of the curtilage of a home in *Oliver v. United States*.[130] The *Oliver* Court characterized the curtilage of a home as the area to which extends the intimate activity associated with the sanctity of the home and the privacies of life. [131] For the *Oliver* Court, the concept of a curtilage was one easily understood from daily life.[132] The *Dow* Court concluded that the manufacturing complex did not fit within the *Oliver* Court's descriptions and observations. It was significant to the Court that the area was not immediately adjacent to a private home.[133] Moreover, the Court held, the intimate activites associated with the sanctity of the home and the privacies of life do not extend to the outdoor areas of a chemical manufacturing plant.[134] The area was not a curtilage; thus, it was not an area in which Dow had a reasonable expectation of privacy.[135]

While concluding that the facility was not a curtilage, the court conceded that it was not exactly an open field[136]. Rather, the complex lay

125. *Id.*

126. *Id.* at 1825.

127. *Id.*

128. *Id.* at 1826.

129. *Id.* The dissenting Justices argued that the majority has "simply repudiate[d] *Katz*" by relying on the absence of a physical intrusion. *Id.* at 1831 (Powell, dissenting).

130. *Id.* at 1825 (citing Oliver v. United States, 466 U.S. 170. (1984)).

131. *Id.* (citing Oliver v. United States, 466 U.S. 170, 180 (1984) (quoting Boyd v. United States, 116 U.S. 616 (1886)); California v. Ciraolo, 106 S.Ct. 1809 (1986)).

132. *Dow*, 106 S.Ct. at 1826 n.3.

133. *Id.* at 1826 n.4.

134. *Id.* at 1825.

135. *Id.* In dissent, Justice Powell argued that the facility is neither a curtilage nor an open field. *Id.* at 1833 (Powell, dissenting). Moreover, the distinction was irrelevant to the dissenting Justices. *Id.* Dow did not argue that its privacy interest was equivalent to a home dweller's interest. *Id.* Finally, the dissenting Justices noted, the Court had never before used the curtilage doctrine to limit fourth amendment protection. *Id.*

136. *Id.* at 1825-26.

somewhere between a curtilage and an open field, but lacked important characteristics of each concept.[137] The Court again returned to the *Oliver* decision to evaluate whether the complex was more analogous to an open field or to a curtilage.[138] The *Oliver* Court explained that an area need not meet the common understanding of the terms "open" or "field" for purposes of the open fields doctrine.[139] Although the *Oliver* Court did not conclusively define an open field[140], it did note that an open field may include any unoccupied or undeveloped area outside of the curtilage.[141] In contrast, the *Oliver* Court characterized a curtilage as a well-defined, limited area.[142] Noting the *Oliver* Court's distinction and the expansive nature of Dow's industrial complex[143], the *Dow* Court found that the complex was more analogous to an open field that to a curtilage.[144]

As an open field, the complex was not an area in which Dow had a legitimate expectation of privacy.[145] Rather, the Court explained, without obtaining a warrant, the EPA could observe in Dow's open field whatever the public could observe.[146] Dow conceded, as the *Ciraolo* Court held, that an aerial, naked-eye observation would not raise any fourth amendment concerns.[147] The *Dow* Court expanded the *Ciraolo* principle, holding that the EPA may observe the complex through the eyes of an aerial mapping camera—without first seeking a warrant.[148]

The second question that the *Dow* Court confronted was whether photographing the complex with an aerial mapping camera was permissible.[149] To make its determination, the Court described three things that the photographs and equipment were *not*. First, the photographs were not revealing of enough intimate detail to raise constitutional concerns.[150] Although the photographs contained more than a naked-eye view of the complex [151], the EPA's enhanced view did not implicate fourth amendment prohibitions.[152] Second, the equipment was not highly sophisticated technology that is unavailable to the public.[153] Rather, the EPA used a "con-

137. *Id.*
138. *Id.*
139. *Id.* at 1825-26.
140. *Id.* at 1826 n.3 (citing Oliver v. United States, 466 U.S. 170, 180 n.11 (1984)).
141. *Id.*
142. *Id.*
143. *Id.*
144. *Id.* at 1827.
145. *Id.* at 1825.
146. *Id.* at 1826.
147. *Id.* at 1824-25 (citing California v. Ciraolo, 106 S.Ct.1809 (1986)).
148. *Id.* at 1827.
149. *Id.* at 1825, 1826-27.
150. *Id.*
151. *Id.* at 1827.
152. *Id.*
153. *Id.* at 1826.

ventional, albeit precise, commercial camera commonly used in mapmaking."[154] Third, the camera was not capable of penetrating the walls of Dow's facility.[155] By evaluating what the photographs and equipment were not, the Court concluded that the EPA's choice of surveillance equipment was not constitutionally impermissible.

Although the Court did not object to the EPA's choice of equipment in the instant case, it noted that different equipment may raise constitutional concerns.[156] The Court distinguished between the EPA's equipment and "highly sophisticated surveillance equipment not generally available to the public, such as satellite technology."[157] Equipment that is more difficult to obtain or more sophisticated than an aerial mapping camera may be constitutionally impermissible absent a warrant.[158] In addition, the Court distinguished between the EPA's camera, which merely enhanced the photographer's vision, and a device which could penetrate walls or windows.[159] Such an intrusive device would have raised significantly different questions for the *Dow* Court.[160] The Court did not, however, define how sophisticated, how intrusive, or how unavailable the government's equipment would have to be to raise constitutional concerns.

C. Implications of the Dow *Decision*

In the two decades that have lapsed since the Court formulated the *Katz* test, the focus of fourth amendment analysis has been the reasonable expectation of privacy. The *Katz* decision provided a standard which protected fourth amendment rights as technology increased the opportunity for unsuspected and unnoticed intrusions into private areas and activities.[161] The Court's decision in *Dow* raises significant questions about the utility of the *Katz* standard in fourth amendment jurisprudence. Specifically, the commercial property owner must ask how—and, more importantly, if—he can demonstrate an expectation of privacy that society is prepared to accept as reasonable. More generally, one must wonder whether the Court is abandoning the *Katz* analysis, at least in commercial cases, and returning to the trespass doctrine. The answers to these questions will determine not only how commercial entities should assert their fourth amendment rights, but also whether those rights will be narrowly interpreted in the post-*Dow* era.

154. *Id.*
155. *Id.*
156. *Id.* at 1826-27.
157. *Id.* at 1827.
158. *Id.*
159. *Id.*
160. *Id.*
161. *Id.* at 1827 (Powell, dissenting).

The *Dow* Court created a significant challenge for the commercial entity seeking fourth amendment protection. To successfully shield himself from government intrusion, the commercial property owner must demonstrate a privacy interest that society is prepared to accept as reasonable. The *Dow* Court rejected two methods by which a commercial entity could establish a reasonable privacy interest. Neither legislative action which protects trade secrets nor the curtilage doctrine were sufficient indications that Dow's expectation was reasonable. If statutory protection of corporate activity does not indicate society's acceptance of the corporation's privacy interest, the commercial entity must search for another source of legitimacy. The Court's refusal to apply the curtilage doctrine may indicate that a commercial entity does not have a reasonable expectation of privacy beyond its enclosed buildings. After *Dow,* a commercial entity may find it difficult to establish that his expectation of privacy is one that society is prepared to accept as reasonable.[162] The Court has instructed the fourth amendment claimant to refer to sources outside the fourth amendment for indications of society's acceptance of his asserted privacy interest.[163] No single source is dispositive.[164] However, "understandings that are recognized and permitted by society"[165] have been one indicia of legitimacy.[166] Dow referred to federal and state trade secrets laws to legitimate its expectation of privacy in the complex.[167] The Court, however, refused to consider the laws as a source of society's acceptance.[168] Rather, the Court held, such legislative actions were irrelevant to fourth amendment analysis.[169] In other words, legislative recognition of Dow's right to preserve as private the activites conducted in its complex is immaterial to the reasonableness of Dow's expectation. Certainly, a statute is a source outside the fourth amendment. Moreover, statutory protection is at least an indicia that society recognizes some privacy interests in the complex. If legislative protection of a privacy interest is not pertinent to fourth

162. *See supra* notes 73-84 and accompanying text.

163. *Rakas,* 439 U.S. at 143-44 n.12.

164. *Oliver,* 466 U.S. at 177-78 (citing Rakas v. Illinois, 439 U.S. 128, 152-53 (1978) (Powell, concurring)).

165. *Rakas,* 439 U.S. at 143 n.12.

166. *Id.* Indeed, the Court reiterated this notion on the day it delivered the *Dow* decision. The *Ciraolo* court noted that the test for a reasonable expectation is whether the government intrusion infringes on personal and societal values. *Ciraolo,* 106 S.Ct. at 1812.

167. *Dow,* 106 S.Ct. at 1823. The majority characterized Dow's reference to trade secrets laws as a claim that those laws protect Dow from any aerial photography. *Id.* Justice Powell, in dissent, explained that Dow did not assert that its fourth amendment protection was coextensive with the scope of the trade secret laws. *Id.* at 1832 n. 11 (Powell, dissenting). On the contrary, Dow argued that the laws are society's express determination of Dow's legitimate privacy interest. *Id.* at 1832. In other words, the laws are a legislative pronouncement that society recognizes as reasonable Dow's claim to privacy in activities conducted in the complex. *Id.* at 1832 n.11, n.12.

168. *Id.* at 1823.

169. *Id.*

amendment analysis, to what source should future fourth amendment claimants refer?

More importantly, the *Dow* decision leaves open the question of whether a commercial entity can ever invoke fourth amendment protection under the curtilage doctrine. The Court held that a manufacturing complex the size of the Dow plant is not analogous to the curtilage of a dwelling.[170] In addition, the Court declined to address the issue raised when the Seventh Circuit[171] applied the curtilage doctrine to a commercial entity.[172] Rather, the Court distinguished the cases on the grounds that one involved a physical intrusion while the other did not.[173] The Court's distinction leaves open the possibility that a physical intrusion into the open area immediately surrounding a commercial complex may implicate the fourth amendment. However, the Court also relied on its finding that the intimate activites associated with the sanctity of the home do not occur in Dow's facility.[174] The Court's observation may indicate the the curtilage doctrine is available only to private home dwellers.

Even if the Court had found that Dow had a reasonable expectation of privacy in the complex, it may have reached an identical conclusion. The Court discussed the curtilage and open fields doctrines, two theories by which the Court evaluates whether an expectation is reasonable. However, the Court focused on the lack of a physical intrusion and on the EPA's method of surveillance. The Court's emphasis on such factors may signal a shift away from the *Katz* reasonable expectation analysis. So long as the means of surveillance are neither too intrusive nor too technologically advanced, aerial surveillance may be constitutionally permissible.

Although the *Dow* Court discussed Dow's reasonable expectation of privacy, it departed from the *Katz* analysis. The presence or absence of a physical intrusion has been constitutionally insignificant[175] since the *Katz* decision. Under the *Katz* standard, fourth amendment rights have retained their strength despite technologic advances which permit the government to intrude, unheard and unseen, into private areas and activites.[176] However, the *Dow* Court predicated Dow's fourth amendment protection on two factors: the lack of a physical intrusion into an enclosed

170. *Id.* at 1825.

171. United States v. Swart, 679 F.2d 698 (7th Cir. 1982).

172. *Id.* at 702. The question presented in *Swart* was whether police entry onto business premises after business hours was a search in violation of the fourth amendment. *Id.* at 700. In describing the protection that the fourth amendment affords to the curtilage, the Court referred both to the curtilage of a home and to the curtilage of a business. *Id.* at 702. The Seventh Circuit left it to the District Court on remand to determine whether the facts warranted the conclusion that the area in question was a curtilage. *Id.*

173. *Dow*, at 1827 n.7.

174. *Id.* at 1827.

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

176. *Dow*, 106 S.Ct. at 1827 (Powell, dissenting).

structure and the level of sophistication of the EPA's surveillance equipment.[177] The *Katz* Court expressly and emphatically rejected the type of analysis on which the *Dow* court relied. Despite the *Katz* mandate, the *Dow* Court gave constitutional significance to the absence of a physical trespass. In addition, the Court introduced a new criterion into fourth amendment analysis.

The Court held that the EPA's actions were permissible, in part, because the EPA's equipment was neither generally unavailable[178] nor highly sophisticated.[179] As Justice Powell noted in dissent, the Court has never utilized this line of reasoning in developing fourth amendment jurisprudence.[180] Moreover, the availability and sophistication of equipment are irrelevant to the issue of a reasonable expectation. The *Dow* court did not explain if or how its analysis fit within the *Katz* inquiry.

The Court's method of analysis was not new and should not have been unexpected. Previously, the Court held that the fourth amendment does not prohibit officers from "augmenting the sensory facilities bestowed upon them at birth with such enhancement as science and technology [has] afforded them."[181] While officers may supplement their vision with aerial mapping cameras as they fly over a chemical plant, they may not supplement it with the most advanced and intrusive surveillance equipment available. The *Dow* Court expressly noted that more sophisticated equipment may be constitutionally impermissible absent a warrant.[182] The Court did not indicate the level of technology that would exceed the bounds of constitutionally permissible technology. The *Dow* decision may permit government officers to utilize advances in surveillance technology, within the amorphous limits at which the Court intimated. However, the *Dow* decision may create the very danger that the Supreme Court predicted a century ago.[183] Aerial mapping cameras may be "the obnoxious thing in its mildest and least repulsive form; but illegitimate and unconstitutional practices get their footing in that way, namely, by silent approaches and slight deviations from legal modes of behavior."[184] Should subsequent courts evaluate fourth amendment claims by rating the sophistication and novelty of the government's choice of equipment—rather than by the reasonableness of the asserted privacy interest—fourth amendment protection will gradually diminish as technology becomes generally disseminated and available.[185]

177. *Id.* at 1825-27.
178. *Id.* at 1826-27.
179. *Id.*
180. *Id.* at 1833 n.12 (Powell, dissenting).
181. United States v. Knotts, 460 U.S. 276, 282 (1983).
182. *Dow*, 106 S.Ct. at 1826-27.
183. *Boyd*, 116 U.S. 616 (1886).
184. *Id.* at 635.
185. *Dow*, 106 S.Ct at 1833 (Powell, dissenting).

IV. CONCLUSION

It is not clear whether the *Dow* Court wholly abandoned the *Katz* standard or whether it merely added two factors to its fourth amendment inquiry. Whatever the Court's intent, its effect will be to narrow the scope of fourth amendment protection available in a curtilage area and to make aerial surveillance presumptively reasonable. Both the *Dow* and *Ciraolo* courts reiterated the notion that the curtilage is an area in which privacy expectations are reasonable.[186] However, the fourth amendment now protects those expectations only when the government physically intrudes on the curtilage and when the government's surveillance equipment is too technologically advanced. The *Ciraolo* Court held that an aerial naked-eye observation of the curtilage of a home is constitutionally permissible.[187] Even in the curtilage area, where privacy interests are reasonable and at their highest,[188] those interests are not absolutely reasonable. Rather, privacy expectations are not reasonable if the government observes the area without making a physical trespass and if it surveys the area from above, where any commercial airline passenger could be.[189] The *Dow* Court extended the *Ciraolo* holding to include aerial observation supplemented by advances in surveillance technology.[190] Thus, so long as the government conducts an aerial surveillance from an altitude at which commercial airplanes may fly and with surveillance equipment that is not too advanced, it has not conducted a search under the fourth amendment.

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186. *Id.* at 1825; *Ciraolo*, 106 S.Ct. at 1812.
187. *Ciraolo*, 106 S.Ct. at 1813.
188. *Id.* at 1812.
189. *Id.* at 1813.
190. *Dow*, 106 S.Ct. at 1827.