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Cheryl Kettler Corrada

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DOW CHEMICAL AND CIRAOLO: FOR GOVERNMENT INVESTIGATORS THE SKY'S NO LIMIT

The fourth amendment of the Constitution protects the rights of individuals to be free from "unreasonable searches and seizures."\(^1\) The traditional view of the fourth amendment limited the authority of the government to physically enter an individual's home and rummage through personal papers and effects.\(^2\) However, the advent of modern technology such as the telephone,\(^3\) the electronic listening device,\(^4\) the wiretap\(^5\) and the electronic tracking device\(^6\) has caused the Court to expand and refine the scope of protections afforded by the fourth amendment. Reform efforts have focused on expanding the definition of "search" to include electronic invasion of the home\(^7\) and expansion of the definition of "papers, and effects" to include

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1. U.S. CONST. amend. IV.
   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. 
   Id. This proscription of intrusive government behavior has its roots in the Framers' aversion to the English system of general warrants and writs of assistance permitting the government to seize without restraint persons or their personal papers. In England, issuance of a general warrant authorized seizure of unlicensed publications. These warrants permitted search by anyone anywhere in order to seize the documents. J. HALL, SEARCH AND SEIZURE § 1:11 (1982). In early colonial times, the writ of assistance permitted similarly unrestrained searches of homes. Id. § 1:12. These abusive law enforcement tactics fueled the fourth amendment restrictions on the scope of search and seizure. See Payton v. New York, 445 U.S. 573, 583 & n.21 (1980); Chimel v. California, 395 U.S. 752, 761 & n.5 (1969), overruled on other grounds, United States v. Robinson, 414 U.S. 218 (1973); Warden v. Hayden, 387 U.S. 294, 301 (1967); Stanford v. Texas, 379 U.S. 476, 481-85 (1965). See generally 79 C.J.S. Searches and Seizures § 2 (1952).

2. The literal wording of the fourth amendment established the scope of search as "persons, houses, papers, and effects." U.S. CONST. amend. IV. See Payton, reinforcing the point that "the Fourth Amendment has drawn a firm line at the entrance to the house." 445 U.S. at 590.

3. See Katz v. United States, 389 U.S. 347 (1967); see also infra notes 99-110 and accompanying text.

4. See Katz, 389 U.S. at 347; see also infra notes 99-110 and accompanying text.

5. See Katz, 389 U.S. at 353 (overruling Olmstead v. United States, 277 U.S. 438 (1928)) (Olmstead had upheld the admission of evidence obtained by a warrantless, physically nonintrusive wiretap).


7. In Karo, the Court treated electronic invasion of the home as it would a physical intrusion. "For purposes of the [Fourth] Amendment, the result is the same where, without a
electronic messages. 8

General agreement continues that "search" includes a physical ransacking of the home. 9 However, the notion of search without physical intrusion 10 has caused courts to reevaluate other forms of nonelectronic investigation of homes and activities with the enhanced use of the senses of sight and hearing. 11 Such an expansive definition of search recognizes that the fourth amendment was intended to protect the privacy of people, not merely the portals of homes. 12

The Supreme Court has also interpreted the fourth amendment to expand its reach to protect people in areas outside of the home such as the curtilage of the home, 13 a place of business 14 and, finally, any place in which individuals secret themselves with a reasonable expectation of privacy. 15 However, the scope of freedom decreases as individuals move further outside of the traditionally recognized area of the home. 16 For example, the scope of freedom from unreasonable searches and seizures narrows in places of business 17

warrant, the Government surreptitiously employs an electronic device to obtain information that it could not have obtained by observation from outside the curtilage of the house." Id. at 715.

8. See Katz, 389 U.S. at 353; see also Silverman v. United States, 365 U.S. 505, 509-11 (1961) (Court excluded testimony as to conversations overheard by officers using a physically intrusive electronic listening device without first having obtained a warrant).

9. See supra note 1 and accompanying text; see also infra note 138 and accompanying text.

10. See, e.g., Katz, 389 U.S. at 353 (eavesdropping on conversations within phone booth using exterior listening device held to be a search).

11. Courts have held that searches accomplished by auditory observation with a wiretap or visual observation with a telescope without physical penetration of the four walls which comprise a home are unreasonable. See id. (overruling Olmstead v. United States, 277 U.S. 438 (1928), which held that recordings of wiretapped telephone conversations were admissible because the government tapped phone lines without physical entry); see, e.g., United States v. Kim, 415 F. Supp. 1252 (D. Haw. 1976) (held unreasonable to use a telescope to view interior of a home); see also infra note 207 and accompanying text.

12. See Katz, 389 U.S. at 351-52 (fourth amendment protections extend to some areas of public access); see also United States v. Karo, 468 U.S. 705, 712 (1984). The Karo Court stated: "A 'search' occurs 'when an expectation of privacy that society is prepared to consider reasonable is infringed.'" Id. (quoting United States v. Jacobsen, 466 U.S. 109, 113 (1984)).

13. Oliver v. United States, 466 U.S. 170, 180 (1984). Curtilage is defined as "the land immediately surrounding and associated with the home." Id. (citations omitted).

14. See infra note 36 and accompanying text.

15. See, e.g., Katz, 389 U.S. at 351-52 (phone booth).

16. See, e.g., infra notes 17-18 and accompanying text.

17. See Donovan v. Dewey, 452 U.S. 594, 598-99 (1981). The privacy interests in commercial property differ from those in homes and are not necessarily infringed by warrantless administrative inspections. Id. See generally J. COOK, CONSTITUTIONAL RIGHTS OF THE ACCUSED: PRETRIAL RIGHTS § 59 (1972). Thus, expectations of privacy are not homogeneous, and the degree of protection necessary to preserve them can vary with the circumstances. See infra note 38 and accompanying text.
and is nonexistent in open fields. Recently, the Supreme Court further restricted freedom from unreasonable searches and seizures in terms of the place of intrusion. In Dow Chemical Co. v. United States and California v. Ciraolo, the Supreme Court permitted warrantless aerial surveillance of exterior commercial and residential property despite the fact that ground level entry would have required a warrant.

This exception to the fourth amendment provided the government with an alternative to obtaining a warrant in order to view what a property owner enclosed at ground level. It is more convenient and less expensive to conceal activities from ground level observation with a fence than from overhead observation through use of domes or enclosures. In a sense, these recent decisions signal an important narrowing of the protection of privacy, moving individuals and businesses back within the confines of their buildings and transforming all other areas into "open fields" where fourth amendment protections do not apply. On the other hand, the decisions are philosophically consistent with prior expansion of fourth amendment protection.

This Comment will identify the competing doctrines of fourth amendment protection as established by the physical trespass and reasonable expectation of privacy definitions of search. The Court's adoption of the reasonable expectation of privacy doctrine expanded the scope of fourth amendment protection, but provided a less mechanical guideline for government investigators seeking to avoid the fourth amendment's warrant requirement. Examination of the Dow Chemical and Ciraolo decisions' narrowing of the fourth amendment's boundaries reveals an apparent contradiction in trends. The decisions arguably retreat to a physical trespass formulation of search. Yet, these decisions are compatible with the prior guidelines established within the reasonable expectation of privacy doctrine. It seems unlikely that

18. Oliver v. United States, 466 U.S. 170, 179 (1984) ("There is no societal interest in protecting the privacy of those activities . . . that occur in open fields.").
22. Ciraolo, 106 S. Ct. at 1813.
23. See Dow Chemical, 106 S. Ct. at 1826; Ciraolo, 106 S. Ct. at 1813.
24. Dow Chemical, 106 S. Ct. at 1827.
25. Id. at 1828 n.1 (Powell, J., dissenting). Wrongdoers will be limited in their ability to conceal illegitimate activities from this new government vantage point in the skies. See Ciraolo, 106 S. Ct. at 1812 (opinion by Burger, C.J.). In addition, other property owners may find it oppressive to keep private legitimately concealed uses of their facilities or yards. Id. at 1819 n.10 (Powell, J., dissenting); Dow Chemical, 106 S. Ct. at 1828 n.1 (Powell, J., dissenting).
26. See Ciraolo, 106 S. Ct. at 1819 n.10 (Powell, J., dissenting).
27. See infra notes 238-302 and accompanying text.
the course of fourth amendment analysis will be altered by Dow Chemical and Ciraolo, however, the decisions may have significant impact on individuals and businesses seeking to enjoy the unobserved use of their exterior property. Finally, this Comment will predict the consequences of this refinement of fourth amendment doctrine.

I. PARAMETERS OF FOURTH AMENDMENT PROTECTIONS

Historically, the protections of the fourth amendment began at the doors of residences, making the home a castle isolated from unreasonable government intrusion without a warrant based upon probable cause and issued by a neutral and detached magistrate. In order to deter abuse of the search by law enforcement authorities, the Court developed the exclusionary rule. The advancement of technology in the field of communication decreased our reliance on the letter as a primary expression of thoughts and ideas and increased our reliance on the communication of thoughts by telephone. The use of the telephone eventually led to the interpretation of the fourth amendment as protecting electronic communication as well as one's "pa-


30. Mapp, 367 U.S. at 643 (extending the exclusionary rule to the states through the fourteenth amendment), overruled on other grounds, United States v. Leon, 468 U.S. 897 (1984); Weeks v. United States, 232 U.S. 383 (1914) (applying the exclusionary rule to federal courts), overruled on other grounds, Elkins v. United States, 364 U.S. 206 (1960). This rule prohibits the introduction in court of substantive evidence obtained by an unreasonable, warrantless search conducted without a prior finding of probable cause by a neutral and detached magistrate or not included in a warrant exception. See Weeks, 232 U.S. at 398. But see Leon, 468 U.S. at 926 (officers' good faith reliance on the technical sufficiency of the search warrant issued by a magistrate is an exception to the requirement of probable cause for search); J. HALL, supra note 1, at § 23:7 (illegally seized evidence may be admissible for impeachment purposes).

31. See Petitioner's Argument, Olmstead v. United States, 277 U.S. 438, 444 (1928) ("Under modern conditions the telephone has, to a large extent, supplanted the mails as a means of transmitting private messages.").
pers.

This development resulted in redefinition of the word "search." It came to mean more than the physical trespass in a private place. "Search" evolved to include electronic intrusion into areas in which individuals possessed a reasonable expectation of privacy.

An expanded zone of privacy has encompassed curtilage, commercial property, and places of public access such as the phone booth. However, the scope of privacy in such areas differs.

A. The Physical Trespass Doctrine

The fourth amendment expressly protects the privacy of the home from unwarranted governmental intrusions. Initially, the courts defined intrusion as a physical trespass on private property. Subsequent to the development of the telephone, technological advances made it possible for law enforcement authorities to surreptitiously overhear telephone and other private communications without physical interference with the home. Early decisions upheld electronic intrusions into conversations within the fourth amendment based on the lack of a physical trespass in obtaining the information and the belief that the fourth amendment did not protect conversations.

The Court in Olmstead v. United States upheld the use of evidence ob-
tained by warrantless wiretapping as not being a search or seizure in violation of the fourth amendment.\textsuperscript{43} In \textit{Olmstead}, the government relied on wiretaps effected without entry of defendants' homes or businesses.\textsuperscript{44} The \textit{Olmstead} Court defined search as a "physical invasion . . . for the purpose of making a seizure."\textsuperscript{45} Thus, the Court found significant the lack of a physical entry by government investigators.\textsuperscript{46} It distinguished the tapping of wires within a residence from tapping mere feet away at the street\textsuperscript{47} on the basis that the citizen who projects his voice over the phone lines assumes the risk that another will hear what is said.\textsuperscript{48}

Justice Butler's dissent in \textit{Olmstead} called for a less literal interpretation of the phrase search and seizure.\textsuperscript{49} Focusing alternatively on the parties' exclusive use of the phone lines, the dissent considered this to be analogous to property in that the parties' use should be preserved without interference by government.\textsuperscript{50} The search in such circumstances was the government's act of tapping and listening for evidence.\textsuperscript{51} This liberal reading of the fourth amendment relied on the prior discredited holding in \textit{Boyd v. United States}\textsuperscript{52} that a search and seizure could be effected without physical invasion.\textsuperscript{53}

Justice Brandeis, also dissenting in \textit{Olmstead}, argued that the Constitution ought to be interpreted in light of modern circumstances rather than being

\textsuperscript{43} Id. at 466.
\textsuperscript{44} Id. at 457 (taps located at street or in basement of large commercial office building).
\textsuperscript{45} Id. at 466. The Court in \textit{Olmstead} distinguished the trespass in an open field in \textit{Hester v. United States}, 265 U.S. 57 (1924), from trespass in a home or curtilage based on a literal reading of the fourth amendment's language protecting homes from unreasonable searches. \textit{Olmstead}, 277 U.S. at 465-66.
\textsuperscript{46} \textit{Olmstead}, 277 U.S. at 464.
\textsuperscript{47} See id. at 465.
\textsuperscript{48} Id. at 464, 466. Additionally, the Court focused on the government's mere reliance on the sense of hearing which could not be characterized as a seizure. As the Court indicated, the Constitution could not be applied so as to "forbid hearing or sight." Id. at 465. Thus, the Court in \textit{Olmstead} concluded that conversations were not protected by the fourth amendment because their inclusion would bar investigators' reliance on their ordinary senses. Id.


\textsuperscript{49} \textit{Olmstead}, 277 U.S. at 488 (Butler, J., dissenting).
\textsuperscript{50} Id. at 487.
\textsuperscript{51} Id.
\textsuperscript{53} \textit{Olmstead}, 277 U.S. at 487 (Butler, J., dissenting) (citing \textit{Boyd v. United States}, 116 U.S. 616 (1886).
reduced to time-bound formulas such as physical trespass. In particular, he objected to a formulation that would ignore new and subtler forms of investigation capable of breaching the security of one's privacy without the breaking and entering of its confines. Thus, Justice Brandeis abhorred "every unjustifiable intrusion by the Government upon the privacy of the individual, whatever the means employed."

In Goldman v. United States, the Court revisited the Olmstead case. In Goldman, the Court upheld the use of a physically nonintrusive detectaphone to overhear conversations between defendant co-conspirators and an informant to violate the Bankruptcy Act. The defendants attempted to suppress the evidence obtained on the grounds that the agents had overheard one side of a telephone conversation in violation of the federal wiretapping provisions. In addition, they challenged the introduction of the evidence because use of the detectaphone had been preceded by a warrantless entry of the defendant's office that resulted in the placement of a defective spike mike. Finally, the defendants attempted to distinguish the facts from those in Olmstead.

These arguments failed. The Court distinguished overhearing one side of a telephone conversation from the interception of a call in transmission through phone lines, the former occurring without interference with the phone lines. Additionally, the Court upheld the use of the detectaphone despite a prior warrantless entry because the device that produced the evidence did not require the prior entry in order to operate. Finally, the Court reaffirmed Olmstead by stating that the two factual contexts could not be distinguished. The Court thus rejected an opportunity to protect pri-

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54. Id. at 472-73 (Brandeis, J., dissenting).
55. Id. at 473-75.
56. Id. at 478.
58. Id. at 130-31, 133-34.
59. See id. at 134.
60. Id. at 134-35.
61. The defendant argued that whereas the Court in Olmstead found that communication over telephone wires evidenced an intent to communicate beyond one's home, in Goldman, the defendant had intended his speech to be communicated only within the confines of his home. Id. at 135.
62. Id. at 135.
63. Id. at 134-35. The Court admitted that had the spike mike worked, evidence obtained from its use would have been excluded under the physical trespass theory. Id. Such facts were presented in Silverman v. United States, 365 U.S. 505 (1961). See infra notes 71-78 and accompanying text.
64. Goldman, 316 U.S. at 135 ("[N]o reasonable or logical distinction can be drawn between what federal agents did in the present case and state officers did in the Olmstead case.").
vacy because Goldman had no intent to project his voice beyond his office.\(^{65}\)

The Court failed to explain its finding that one who speaks to another inside his office has assumed the risk that government agents are listening via a well-placed listening device.\(^{66}\)

Justice Murphy dissented echoing the Brandeis dissent in *Olmstead* by concluding that the requirement of a physical entry and ransacking was too literal an interpretation of the Constitution.\(^{67}\) Like Justice Brandeis,\(^{68}\) Justice Murphy expressed the view that *Olmstead* permitted technological intrusion without physical entry.\(^{69}\) He likened the confidentiality of a communication intended for those within one's office to the confidentiality of a written message and criticized the Court's view that only the latter was a constitutionally protected expression by virtue of its having been recorded on paper.\(^{70}\)

Reinforcing the physical trespass doctrine in *Silverman v. United States*,\(^{71}\) the Court unanimously reversed convictions obtained through use of a spike mike inserted into the wall of the defendant's home.\(^{72}\) The police lodged the mike up against the duct system of the petitioner's home enabling the officers to overhear conversations throughout the house.\(^{73}\) The petitioner argued that modern technology permitted highly intrusive electronic listening without physical invasion of the home, but the Court sidestepped the issue of nonphysical intrusion.\(^{74}\) Instead, the Court overturned the convictions because the mike had physically penetrated the petitioner's dwelling.\(^{75}\) Thus, the Court clarified *Olmstead* and *Goldman* as having defined search as a physical entry.\(^{76}\)

In his concurring opinion, Justice Douglas indicated that he would find a fourth amendment violation whenever the government invades the intimacy

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65. *Id.; see J. HALL, supra* note 1, at § 2:2.
67. *Goldman, 316 U.S. at 138 (Murphy, J., dissenting) (fourth amendment protections need not be maintained at levels existing at the inception of the amendment).*
68. *Olmstead, 277 U.S. at 473-75 (Brandeis, J., dissenting); see supra notes 54-56 and accompanying text.*
69. *Goldman, 316 U.S. at 139 (Murphy, J., dissenting).*
70. *Id. at 141.*
72. *Id. at 512.*
73. *Id. at 506-07.*
74. *Id. at 508-09. Petitioners described devices capable of picking up conversations from a distance without entry of the dwelling or room. The Court, however, indicated that evaluation of those devices would involve facts not relevant in *Silverman*. Id.*
75. *Id. at 509, 512.*
76. *Id. at 510-12.*
of a home, regardless of a physical entry. He asserted that the privacy of
the home, not the structure of the home, had been compromised by the war-
rantless activity of the police in Silverman.

Thus, through Silverman the Court maintained that the fourth amend-
ment protected the structure and tangible contents of a home, but not neces-
sarily the intangible communication, by itself, of those within it, from the
physical intrusion of government searches. Contemporaneous with this
view, dictum and dissent developed an alternative definition of search which
focused on the concept of privacy rather than property.

B. The Reasonable Expectation of Privacy Doctrine

While the Olmstead, Goldman, and Silverman cases established the physi-
cal trespass doctrine of search, dissenting opinions in those cases and dicta in
others developed the doctrine which eventually supplanted the physical
entry test of search. Boyd v. United States first emphasized the nonphysi-
cal aspects of search. In Boyd, the Court held unconstitutional, under the
fourth and fifth amendments, a statute requiring one accused of customs
violations to produce documents pertaining to the matter or to admit the
alleged content of the documents. During the trial, the district attorney
obtained an order requiring the defendant to produce an invoice for previous
imports. The defendant complied but protested that the order was uncon-
stitutional and void because it compelled production of evidence in violation
of the fourth and fifth amendments. The trial court admitted the evidence
over defendant’s objections. The Supreme Court concluded that the fourth
amendment proscribed compelled production despite the lack of a search or
seizure because the law achieved the same result as a forced entry and
search. The Court emphasized that the Constitution protected against the
indignity of the violation of privacy and not merely the physical intrusion of

77. Id. at 512-13 (Douglas, J., concurring). Justice Douglas contended:
Yet the invasion of privacy is as great in one case as in the other. The concept of “an
unauthorized physical penetration into the premises,” on which the present decision
rests, seems to me to be beside the point. . . . There is in each such case a search that
should be made, if at all, only on a warrant issued by a magistrate.

78. Id. at 513.
79. See infra notes 80-88 and accompanying text.
80. 116 U.S. 616 (1886); see infra note 89.
81. See Boyd, 116 U.S. at 630; see also infra note 87.
82. Boyd, 116 U.S. at 638.
83. Id. at 618.
84. See id. at 618, 621.
85. Id. at 618.
86. Id. at 621-22.
the home. The Court excluded the evidence, finding the defendant had been given no alternative but "to be a witness against himself" in violation of the fifth amendment's proscription of compelled self-incrimination.

Although Boyd was later reversed, the dissent by Justice Brandeis in Olmstead echoed Boyd's conclusion that the fourth amendment protected privacy rather than property. Thus, Justice Brandeis' focus centered on the invasion regardless of "the means employed." Justice Murphy's dissent in Goldman similarly emphasized the intrusion whether physical or technological. Justice Douglas, in his Silverman concurrence, reinforced this viewpoint when he stated that he would have favored suppression of the evidence collected by agents in Silverman, whether or not the device used had penetrated the wall of the defendant's home, because it intruded on defendant's privacy.

These concerns that the fourth amendment protected against more than mere trespasses by the government took legal effect in Katz v. United States. In Katz, the Court defined search as that which invaded a legitimate expectation of privacy.

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87. Id. at 630.

The principles laid down in [Lord Camden's] opinion affect the very essence of constitutional liberty and security. . . . [T]hey apply to all invasions on the part of the government and its employees of the sanctity of a man's home and the privacies of life. It is not the breaking of his doors, and the rummaging of his drawers, that constitutes the essence of the offence; but it is the invasion of his indefeasible right of personal security, personal liberty and private property, where that right has never been forfeited by his conviction of some public offence, it is the invasion of this sacred right which underlies and constitutes the essence of Lord Camden's judgment.

Id. Boyd was the first case to set out search and seizure law under the fourth amendment although it involved neither a search nor a seizure. It was a fifth amendment case. See Olmstead v. United States, 277 U.S. 438, 440 (1928), overruled, Katz v. United States, 389 U.S. 347 (1967); see also infra note 90 and accompanying text.


90. See supra note 55 and accompanying text.

91. See supra note 56 and accompanying text.

92. See supra note 69 and accompanying text.

93. See supra note 77 and accompanying text.


95. Id. at 353.

96. Id. at 351.
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trated the maintenance of privacy. The Court further recognized that "what [one] seeks to preserve as private, even in an area accessible to the public, may be constitutionally protected." Katz challenged the FBI’s attachment of a listening device to the outside of a phone booth to overhear his transmission of wagering information. The Court suppressed the evidence obtained, reasoning that one who enters a pay phone booth does not assume the risk that he will be overheard. The Court recognized that the public phone system had become a means of private communication. Thus, the placing of a listening device on the outside of a phone booth, rather than within its enclosure, had no constitutional significance. In the absence of a valid search warrant, Katz’s telephone conversation could not be overheard.

Justice Harlan, in his concurring opinion in Katz, posited the formulation that replaced the physical trespass definition of search. He developed a two-prong test to establish a search: (1) the person must have displayed his intention to keep the thing, communication or behavior private and (2) the intention must be legitimate. Thus, Katz recognized as a threat to fourth amendment protections "electronic as well as physical intrusion." By applying the two-prong test in his analysis of Katz, Justice Harlan concluded that government investigators had violated a legitimate expectation of pri-

97. Id.
98. Id. at 351-52 (citations omitted).
99. See id. at 348.
100. Id. at 352. It is interesting to speculate as to the continued legitimacy of expectations of privacy in phone booths since telephone companies have replaced the booth with open air kiosks. Use of a public phone may no longer satisfy the Katz test when no door shuts out "the uninvited ear." See id.
103. Id. at 358-59.
106. Id. at 360. Justice Harlan concluded:

Thus a man’s home is, for most purposes, a place where he expects privacy, but objects, activities, or statements that he exposes to the “plain view” of outsiders are not "protected" because no intention to keep them to himself has been exhibited. On the other hand, conversations in the open would not be protected against being overheard, for the expectation of privacy under the circumstances would be unreasonable. Cf. Hester v. United States, [265 U.S. 57, 58 (1924)].

Id. at 361.
Katz had expressed his intention to maintain privacy because he spoke within the booth's enclosure rather than in the open air. Additionally, Katz established the reasonableness of this expectation because he had made use of a temporarily private area to convey his message. Thus, Katz replaced the physical trespass definition of search with a privacy definition.

C. Applications of the Katz Two-Prong Test

The Court has applied the definition of search espoused by Justice Harlan in *Katz* in a number of contexts since its initial promulgation. However, the test has not evolved to the point of providing law enforcement officers with a “bright-line rule” as to when their proposed actions constitute a search under the fourth amendment. Instead, courts have examined all of the circumstances to determine the existence of a reasonable expectation of privacy.

In examining various applications of the reasonable expectation of privacy test, certain common factors have emerged in case law to aid in predicting the most probable fourth amendment treatment of various government investigation practices. These factors aid either in meeting the first threshold requirement that the target of the search objectively manifest an actual expectation of privacy or the second requirement that the expectation be justifiable. The Harlan formulation requires that both prongs of the test be satisfied to conclude that the government conducted a search.

Factors tending to establish that the target manifested an intent to maintain his privacy include the taking of precautions to prevent observation of the thing or activity because in the absence of such actions one has forfeited his privacy interest by having exposed knowingly the activities to the

107. *Id.* at 361.
108. *Id.*
109. *Id.*
110. *Id.* at 362. In agreeing that *Katz* overruled *Goldman's* statement of the physical trespass doctrine, Justice Harlan maintained: “Its limitation on Fourth Amendment protection is, in the present day, bad physics as well as bad law, for reasonable expectations of privacy may be defeated by electronic as well as physical invasion.” *Id.*
111. See *supra* note 104 and accompanying text; see also *infra* notes 114-58 and accompanying text.
114. See *supra* note 105 and accompanying text.
115. *Id.*
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For example, in Katz, the defendant expressed his intention to keep private the contents of his telephone conversation by drawing shut the door of the phone booth. Failure to take such precautions may imply that the target of the search had no actual expectation of privacy in the area. Participation in a public transaction involves intentional display of activities and documents. The Court had held that cashing checks knowingly revealed to the bank and its employees the canceled checks and other bank documents. This exposure refuted any assertion of an intent to maintain the confidentiality of the documents. Similarly, placing telephone calls, even from one's home, revealed those numbers to the phone company and forfeited any expectation of privacy in those numbers. In addition, maintaining sole dominion and control of a location or thing may establish the first prong of the Katz test. The target of the search must do more than assert a property right to exercise sole dominion and control because mere ownership does not establish an intent to maintain privacy. In Rakas v. Illinois, passengers in a car claimed standing to protest the admission of evidence seized from the automobile. The Court

118. See supra note 108 and accompanying text.
119. Id.; see also supra note 100.
120. See supra note 108 and accompanying text.
121. Miller, 425 U.S. at 435. In Miller, federal agents suspected defendant of distilling alcohol without a bond in order to defraud the government of tax revenues. Id. at 436. The agents obtained a grand jury subpoena of the defendant's bank records. Id. at 437. The bank complied without asking the defendant's consent and, based on the records, the grand jury indicted the defendant. Id. at 438. The Miller Court found the canceled checks and other bank documents were not "private papers" of the defendant because he had knowingly exposed them to the bank and its employees, thus forfeiting their confidentiality. Id. at 440 (citing Boyd v. United States, 116 U.S. 616, 622 (1886)). As a result, the defendant had exhibited no actual expectation of privacy in the records. Id. at 442. Since fourth amendment protections were contingent upon such an expectation, the Court refused to suppress the records. Id. at 437.
122. Id. at 442.
123. Smith v. Maryland, 442 U.S. 735 (1979). The police investigated Smith in connection with a robbery and asked the telephone company to install a pen register to record calls made from Smith's home. Id. at 737. Smith attempted to suppress the numbers dialed under the fourth amendment, id., because he had dialed them from his home, a constitutionally protected area. Id. at 743. The Court rejected this attempt as the pen register revealed only the numbers dialed, not the content of the calls. Id. at 741. Additionally, the Court held that Smith had knowingly exposed those numbers to the phone company and, as a result, exhibited no actual expectation of privacy in them. Id. at 742.
124. See infra notes 125-32 and accompanying text.
125. See Rakas v. Illinois, 439 U.S. 128, 144 n.12 (1978); see also supra note 106 (the target must deny access to or observation of the item); cf. Rakas, 439 U.S. at 149 (power to exclude all but owner sufficient to create an expectation of privacy).
127. Id. at 129. The police stopped a car suspected of use to flee the scene of a robbery. Id. at 130. Search of the automobile revealed rifle shells in the glove compartment and a sawed-off
held that passengers in an automobile who had not exercised dominion and control over the items seized or area, i.e., the glove compartment and under the front seat, could not claim to have suffered a deprivation of fourth amendment rights.\textsuperscript{128} In Rawlings v. Kentucky,\textsuperscript{129} the defendant attempted to suppress as evidence drugs seized from the handbag of a companion who was with him at the time of his arrest.\textsuperscript{130} The Court rejected Rawlings' assertion of ownership because he had given up sole dominion and control of the drugs by placing them in the handbag of a recent acquaintance and because he had knowledge of others' access to her purse.\textsuperscript{131} In sum, the subject of the search must have exhibited his actual expectation of privacy in the area searched in a manner objectively observable by the public.\textsuperscript{132}

Answering the second Katz question regarding the reasonableness of the expectation of privacy\textsuperscript{133} requires a normative analysis.\textsuperscript{134} No single factor determines the legitimacy of one's expectation.\textsuperscript{135} The Court has, however, recognized certain historic and modern activities warranting fourth amendment protection. Certainly, the intent of the Framers sets the minimum boundaries of fourth amendment legitimacy.\textsuperscript{136} The Founding Fathers clearly established their intent that "houses, papers, and effects"\textsuperscript{137} deserved

\footnotesize{\textsuperscript{128} Rawlings v. Kentucky, 448 U.S. 101 (1980).}

\footnotesize{\textsuperscript{129} Id. at 104-05. Thus, mere ownership or lack of ownership is not dispositive of the first prong of the Katz test. See Rakas, 439 U.S. at 144 n.12. As Katz indicated, the protections of the fourth amendment may be applicable where one has no ownership interest as in a phone booth. See Katz v. United States, 389 U.S. 347, 359 (1967). As Rawlings illustrated, mere ownership may not be sufficient either. 448 U.S. at 104-05.}

\footnotesize{\textsuperscript{131} Id. at 101 n.1.}

\footnotesize{\textsuperscript{133} Oliver v. United States, 466 U.S. 170, 178 (1984). The Court in Oliver pointed out that several factors may establish the norms of privacy expectations in our society: (1) the intent of the Framers of the Constitution; (2) the uses of the location for which protection is sought; and (3) societal understandings as to what constitutes a "constitutionally protected area." Id.; see Rakas, 439 U.S. at 143 n.12 (criminal's private use of a location is not a legitimate expectation of privacy). But see Yackle, supra note 89, at 361-62 & n.192 (fourth amendment freedoms may be vulnerable when dependent on fluctuating community norms).}

\footnotesize{\textsuperscript{135} Rakas, 439 U.S. at 152-53 (Powell, J., concurring).}

\footnotesize{\textsuperscript{136} See supra note 134.}

\footnotesize{\textsuperscript{137} U.S. CONST. amend. IV.}}
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The Framers extended this protection by implication to businesses as the fourth amendment protected "houses" not "dwelling houses." This concept of privacy derived from societal commitment to protection of the innately private activities common to such areas rather than from a strict property analysis.

In addition to historic recognition of certain privacy interests, modern society has acknowledged other private uses of locations and things as reasonable under the Katz test. For example, the temporary use of a public phone booth to conduct private communication justified an expectation of privacy in Katz despite the fact that other members of the public could make successive use of the booth. In contrast, certain uses of locations or things do not merit constitutional protection based on generalizations as to their use. For example, the Court has categorically rejected the legitimacy of privacy interests in open fields, as most activities undertaken there are public. Their use for private activities such as "lovers' trysts" cannot rebut

138. Even after Katz, the Court has held physical trespass of the home without a warrant an unreasonable search. In Payton v. New York, the Court held the warrantless entry of a home in order to make an arrest violative of the Framers' intent to circumscribe all entries of homes. 445 U.S. 573, 584-86 (1980). Similarly, in Steagald v. United States, the Court held that police could not search for the subject of an arrest warrant in the home of a third party without first obtaining a search warrant. 451 U.S. 204, 205-06 (1981). The Court relied on the plain wording of the fourth amendment as establishing a requirement of independent judicial review prior to invasion of a home. Id. at 214 n.7. Finally, in United States v. Karo, the Court expressed willingness to suppress evidence seized as a result of warrantless monitoring of a can containing an electronic beeper located within the defendant's home. 468 U.S. 705, 716 (1984). The Court reasoned that homes were legitimately private areas not subject to electronic monitoring of what could not be visually observed. Id. The evidence in Karo was not suppressed based on independent probable cause to support a search. Id. at 719-21.


141. See supra note 96 and accompanying text.
142. See supra notes 100-01, 108-09 and accompanying text
143. See supra note 109 and accompanying text.
144. Oliver, 466 U.S. at 179.
145. Id.; United States v. Knotts, 460 U.S. 276, 282 (1983); see; Rakas v. Illinois, 439 U.S. 128, 144 n.12 (1978); Air Pollution Variance Bd. v. Western Alfalfa Corp., 416 U.S. 861, 865 (1974). In Oliver, state police received a tip that Oliver was raising marijuana. 466 U.S. at 173. While investigating, the police located marijuana in a field near Oliver's home. Id. Oliver objected to use of the evidence seized arguing a legitimate expectation of privacy. Id. The Court reiterated the conclusions of Hester v. United States, 265 U.S. 57 (1924), which originated the open fields doctrine. 466 U.S. at 178. In reaffirming Hester, the Court concluded that there is no legitimate expectation of privacy in a field because a field is not "the setting for those intimate activities that the Amendment is intended to shelter from government interference or surveillance." Id. at 179. In addition, the Court rejected his precautions because they did not limit the ability of officers to aerially survey the land. Id. The dicta in
the presumption that such activities when carried on in an open field are nevertheless public.\textsuperscript{147} Society respects no privacy interest in an open field.\textsuperscript{148} Neither does society recognize an expectation of privacy in abandoned property since all privacy interests have been forfeited by the discard of the item.\textsuperscript{149} The Court subjects other places and things to limited fourth amendment protection by virtue of their visibility\textsuperscript{150} or countervailing societal interests.\textsuperscript{151}

In contrast, the Court has presumed that the fourth amendment does protect activities and things in certain other places.\textsuperscript{152} The Court has labeled such presumptively protected places "constitutionally protected areas."\textsuperscript{153} Although this doctrine appears to incorporate property analysis in conflict with \textit{Katz}' conclusion that "the Fourth Amendment protects people, not places,"\textsuperscript{154} in fact, the doctrine stemmed from a combination of the Framers' intent and modern societal understandings.\textsuperscript{155} In an effort to clarify fourth amendment doctrine, the Court recognized the legitimacy of privacy interests in such areas.\textsuperscript{156} This focus minimized the burden on law enforcement officials to balance, on an ad hoc basis, the individual and societal interests in protecting privacy.\textsuperscript{157}

\textit{Oliver} seems a clear precursor to the decision in \textit{Dow Chemical}. See infra note 171 and accompanying text.

146. \textit{Oliver}, 466 U.S. at 179 n.10. \textit{But see id.} at 192 (Marshall, J., dissenting) (open fields may be the site of lovers' trysts, worship or solitary walks).

147. \textit{Id.} at 179 n.10.

148. \textit{See supra} note 145 and accompanying text.

149. \textit{See J. Hall, supra} note 1, at § 2.9.

150. \textit{See United States v. Knotts, 460 U.S. 276, 281-82 (1983); Rakas v. Illinois, 439 U.S. 128, 153-54 & n.2 (1978).} An outsider's ability to observe the interior of a car diminishes the reasonableness of expectations of privacy in them. As the Court noted:

One has a lesser expectation of privacy in a motor vehicle because its function is transportation and it seldom serves as one's residence or as the repository of personal effects. A car has little capacity for escaping public scrutiny. It travels public thoroughfares where both its occupants and its contents are in plain view.


151. \textit{See supra notes 17, 36, 38 and accompanying text.}

152. \textit{See infra} notes 153-58 and accompanying text.

153. \textit{See supra} note 134 and accompanying text.

154. \textit{See supra} note 96 and accompanying text.

155. \textit{See J. Hall, supra} note 1, at § 2.7.


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Katz two-prong test because, as the Court noted in Katz, the constitutionally protected areas analysis was not "a talismanic solution to every Fourth Amendment problem."158

Thus, despite the failure of the Court to develop a "bright-line rule" for defining a search, it has provided certain guidelines enabling law enforcement authorities to determine the need for a warrant prior to investigation.

II. Dow Chemical and Ciraolo: The Reasonable Expectation of Privacy Doctrine Viewed from a Different Vantage Point

In Dow Chemical Co. v. United States159 and California v. Ciraolo,160 the Supreme Court upheld governmental surveillance from public airspace161 of a commercial facility162 and a residential backyard163 on the grounds that overflights164 do not constitute a search under the Katz reasonable expectation of privacy doctrine.165 In so holding, the Court provided clarification of both prongs of the Katz definition of search.166 Consequently, the Court

must be workable, reasonable and objective. Illinois v. Andreas, 463 U.S. 765, 772-73 (1983). The Court has expressed its concern that case-by-case approaches may result in arbitrary enforcement. E.g., Oliver, 466 U.S. at 181-82. Despite this realization and efforts at simplifying fourth amendment guidelines for their field application, the fourth amendment remains a confused area of law. See Chapman v. United States, 365 U.S. 610, 618 (1961) (Frankfurter, J., concurring); see also J. HALL, supra note 1, at § 1:1. Hall points out that: "The law of search and seizure has grown at such a rate and in such a manner that specific, 'easy to apply' rules no longer exist, if indeed any ever did. . . . The slightest variation in the facts can alter the perspective of the question and probably the outcome of the case." Id. But see Yackle, supra note 89, at 362-63 (fourth amendment doctrine has been developed without reason so as to undermine constitutional protections).


159. 106 S. Ct. 1819 (1986). The decision in Dow Chemical was five-to-four. Id. at 1821. Chief Justice Burger wrote the opinion of the Court. Id. Justice Powell wrote the dissenting opinion, joined by Justices Brennan, Marshall, and Blackmun. Id. The dissenters concurred in pt. III, id., recognizing EPA's authority to use all available means of enforcement. Id. at 1824.

160. 106 S. Ct. 1809 (1986). The decision in Ciraolo was also written by Chief Justice Burger with the same dissenters. Id. at 1810.

161. E.g., Ciraolo, 106 S. Ct. at 1812; Dow Chemical, 106 S. Ct. at 1822 (citing 49 U.S.C. App. § 1304 (1982); 14 C.F.R. § 91.79 (1985)).

162. The EPA flew over Dow's Midland, Michigan industrial facility. 106 S. Ct. at 1822.

163. Local police flew over Ciraolo's backyard. Ciraolo, 106 S. Ct. at 1810.

164. In Dow Chemical, the EPA commissioned a private airline to make the overflight of Dow's plant. Dow Chemical, 106 S. Ct. at 1822. In Ciraolo, the local police sent two officers trained in marijuana identification in a private plane to fly over Ciraolo's yard. Ciraolo, 106 S. Ct. at 1810.

165. Dow Chemical, 106 S. Ct. at 1827; Ciraolo, 106 S. Ct. at 1811-12.

166. See supra note 105 and accompanying text.
relieved law enforcement officials of the warrant requirement\(^\text{167}\) even though a warrant would have been required to make a ground level investigation of the areas.\(^\text{168}\) These rulings should encourage officials to aerially survey in order to verify compliance with various health, safety and criminal statutes.\(^\text{169}\) The holdings may also stimulate businesses and individuals to take precautionary measures to prevent aerial observation of their legitimate and illegitimate activities conducted out of doors.\(^\text{170}\)

In *Dow Chemical*, the Supreme Court held that the Environmental Protection Agency's (EPA) aerial surveillance of Dow Chemical's plant was not a search under the fourth amendment.\(^\text{171}\) Dow Chemical owned a 2000 acre facility in Michigan. The complex's numerous buildings and interconnecting pipework were surrounded by an elaborate security system that barred ground level public view of the plant.\(^\text{172}\) In addition, Dow Chemical investigated all low flying planes in order to assure that trade secrets were not compromised by private photography of the plant.\(^\text{173}\) The EPA conducted an investigation of Dow's Michigan plant in order to ensure compliance with federal air quality standards.\(^\text{174}\) The EPA then requested reentry for the purpose of taking photographs of the power plants.\(^\text{175}\) Dow refused reentry based on EPA's intent to take pictures.\(^\text{176}\) Instead of obtaining an administrative warrant to search the plant, EPA contracted with a private firm to fly over the plant and take mapping photographs of the facility and emissions.\(^\text{177}\) The photographs taken were capable of magnification to reveal the network of connecting pipes visible only from above the plant.\(^\text{178}\) When Dow Chemical learned of the photographs it brought suit for declaratory and injunctive relief.\(^\text{179}\)

The United States District Court for the Eastern District of Michigan granted partial summary judgment for Dow Chemical based on its conclu-

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167. A court's determination that there was no search under *Katz* eliminates the warrant requirement and possible application of the exclusionary rule. See *J. Hall, supra* note 1, at § 2:5.

168. *See supra* note 23 and accompanying text.

169. *See supra* note 24 and accompanying text.

170. *See supra* notes 25-26 and accompanying text.


172. *Id.* at 1822.

173. *Id.*


175. *Id.*

176. *Id.*

177. *Id.*

178. *Id.* The clarity of the photographs was made possible by use of a $22,000 mapping camera mounted within the plane. *Id.* at 1357 n.2.

179. *Id.*
sion that EPA had conducted a warrantless search by taking aerial photographs of Dow's facility. The United States Court of Appeals for the Sixth Circuit reversed. The Supreme Court upheld the court of appeals decision, finding the search permissible due to its failure to meet the Katz test.

The aerial surveillance in California v. Ciraolo was upheld under the same Katz test. Police received an anonymous tip that Dante Ciraolo was growing marijuana in his backyard. In response to the report, an officer attempted to make ground level verification of the tip.

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180. The court concluded that a search had occurred. Id. at 1369. Additionally, this search had been conducted without a warrant. Id. at 1357. The court recognized that Dow had an actual expectation of privacy based on its property ownership. Id. at 1366. The court recognized that the elaborate ground level security program exhibited a subjective intent by Dow to be free of overhead observation. Id. at 1364-65. The district court also recognized that magnification of piping connecting buildings within the facility revealed the internal regions of the plant. Id. at 1365. The use of the term interior is understood to mean open air but encircled by other buildings so as to make the piping concealed from ground level sighting from the perimeter of the facility. Dow Chemical Co. v. United States, 749 F.2d 307, 310 (6th Cir. 1984). The district court did not believe that Dow should be required to enclose its plant to maintain its privacy. Dow Chemical, 536 F. Supp. at 1365. Moreover, the court recognized Dow's expectation of privacy as reasonable. Id. at 1369. Relying on precedent with regard to precautions required to prevent industrial espionage, E.I. duPont de Nemours & Co. v. Christopher, 431 F.2d 1012, 1016-17 (5th Cir. 1970), cert. denied, 400 U.S. 1024 (1971), the court refused to require businesses to enclose their facilities to prevent government observation. Dow Chemical, 536 F. Supp. at 1366-67. The court also objected to the use of a camera capable of revealing greater detail than apparent to the naked eye. Id. at 1367. Consistent with its view that the piping revealed by the photographs was interior detail despite its open air status, the court held that enhanced senses intruded upon the plant in violation of the fourth amendment. Id. at 1367-68. In light of potential technological developments, the court suggested that the reasonable expectation of privacy existing at ground level should have vertical extension into the skies. Id. at 1368-69.

181. Dow Chemical, 749 F.2d 307, 315. The court of appeals distinguished an actual expectation of privacy from ground level invasions from aerial intrusions. Id. at 312. Of significance to the court was the plant's proximity to an airport which exposed it to frequent overflights by the public. Id. at 312. Unlike the district court, the court of appeals felt that covering exposed piping was a practical precaution available to the petitioner. Id. at 312-13. Secondly, the court did not find the asserted expectation of privacy legitimate. Id. at 313. Characterizing the facility as an open field, the court found no fourth amendment protections attached to such property. Id. The court rejected Dow's argument that the facility resembled curtilage and received protections similar to those applied to the area surrounding a home. Id. at 313-14. Finally, the court clarified the factual setting of the case as related to the issue of enhancement of the senses. Id. at 314-15. Protection of the interior of a structure meant that which was not outdoors. Id. at 315. Since the piping revealed by photographs was outdoors, it was susceptible to viewing with the slightly enhanced vision provided by a mapping camera. Id. at 315.

184. Id. at 1811-13.
185. Id. at 1810.
186. Id.
The police were unable to verify the charge because Ciraolo erected one six-foot and one ten-foot fence around his yard. The police flew over the neighborhood in a private plane and observed marijuana plants eight to ten feet tall in Ciraolo’s yard. They photographed the plants and attached the photographs to an affidavit requesting issuance of a search warrant. The trial court approved the search warrant and admitted as evidence the plants seized in the ensuing search. The California Court of Appeals reversed. The Supreme Court upheld the lower court’s admission of the evidence based on its finding that no search had taken place under the Katz reasonable expectation of privacy test.

A. Katz Prong One: Ground Level Precautions Do Not Manifest an Intent to Prevent Aerial Observation

The first prong of the Katz test requires that the party seeking to suppress evidence establish that he objectively manifested an intent to maintain his privacy. In Dow Chemical the Court examined the precautions taken and found them inadequate to prevent aerial surveillance. The Court noted that while Dow had taken elaborate steps to prevent ground level viewing of its complex, it had made no effort to prevent observation from the air despite its location beneath departure and arrival flight patterns at a nearby com-

187. Id.
188. Id.
189. Id. at 1810-11.
190. Id. at 1811.
191. Id.
192. People v. Ciraolo, 161 Cal. App. 3d 1081, 1090, 208 Cal. Rptr. 93, 98 (Dist. Ct. App. 1984). The court first rejected application of the United States v. Leon good faith exception to the warrant requirement, because it does not apply to warrantless searches. 161 Cal. App. 3d at 1086, 208 Cal. Rptr. at 95 (citing United States v. Leon, 468 U.S. 897, 926 (1984)). Thus, the court dealt with the issue of search under the Katz test. Id. at 1088, 208 Cal. Rptr. at 96-98. With regard to the first Katz prong, the court recognized Ciraolo’s actual expectation of privacy based on his erecting of fences around his yard. Id. at 1089, 208 Cal. Rptr. at 97. The court objected to a standard requiring erection of an “opaque bubble” to protect privacy. Id. at 1090, 208 Cal. Rptr. at 98 (quoting United States v. Allen, 675 F.2d 1373, 1380 (9th Cir. 1980)). Evaluating the second prong, the court differentiated aerial surveillance of curtilage from open fields since curtilage involved the same values as the home. Id. at 1089-90, 208 Cal. Rptr. at 96. Thus, the court found reasonable an expectation of privacy in curtilage surrounded by fences. Id. at 1089, 208 Cal. Rptr. at 97.
194. See supra note 105 and accompanying text.
The Court concluded that the contrast of extensive and nonexistent measures to prevent different types of observation implied no particularized expectation of privacy from aerial surveillance. In contrast, the dissent expressed the view that ground level precautions implied a general intent to be free of all forms of surveillance.

In Ciraolo, the Court tested Dante Ciraolo's efforts to maintain his privacy based on their efficacy in preventing aerial observation. Additionally, the Court rejected Ciraolo's argument that precautions against "casual, accidental observation" sufficed to prevent focused police observations. The consequence of an ineffective precautionary measure was the knowing exposure of the activity to the public. The dissent responded that the public seldom observes from commercial airplanes the activities of particular persons residing below. The Court found such a distinction unimportant in as much as the police had seen no more than the public could have from the same vantage point and prior case law had established that police were free to survey "from a public vantage point . . . activities clearly visible."

Thus, the Court in Dow Chemical and Ciraolo rejected arguments of

196. Dow Chemical Co. v. United States, 106 S. Ct. 1819, 1826 n.4 (1986) (quoting Dow Chemical Co. v. United States, 749 F.2d 307, 312 (6th Cir. 1984)).
197. Id. at 1826 n.4 (quoting Dow Chemical, 749 F.2d at 312).
198. Id. at 1828 (Powell, J., dissenting). In support of this generalized intent, the dissent emphasized that aerial precautions of the type the Court required would be prohibitively unsafe, expensive and impractical. Id. at 1828 & nn.1-2 & 7. The Court admitted the impracticability of enclosing an industrial plant but offered no advice as to alternative precautions Dow might have taken. Id. at 1825 (opinion by Burger, C.J.). Dow's practice of following up low level flights did not prevent surveillance since it acted post facto. Id. at 1826 n.4.
200. Id. at 1812.
201. Id. at 1812 (quoting United States v. Knotts, 460 U.S. 276, 282 (1983)).
202. Id. at 1818 n.8 (Powell, J., dissenting). The dissent also criticized the decision in Ciraolo because the Court did not distinguish the purposes for which police and the public use public airways. Id. at 1818. The dissent attempted to distinguish the ability of officers to view activities in streets in which all citizens may view the conduct of others from their ability to view activities from public air space in which the risk of citizen's observation of private activities below them is remote. Id. at 1818-19.
203. The Court applied the conclusion in Katz that what is visible to the public may be observed by the government. Id. at 1812-13 (opinion by Burger, C.J.) (quoting Katz, 389 U.S. at 351).
204. Id. at 1812 (citing Knotts, 460 U.S. at 282).
an objective manifestation of privacy intent where the precautions undertaken were not specific to the mode of surveillance used by the government.

B. Katz Prong Two: Aerial Surveillance Does Not Compromise a Legitimate Expectation of Privacy in Open Fields or Curtilage

The second prong of the Katz test requires that the target of the search’s expectation of privacy be reasonable.\textsuperscript{205} The Supreme Court in Dow Chemical and Ciraolo focused primarily on this second aspect of the Katz definition of search.\textsuperscript{206} The cases also elaborated on several fourth amendment issues concerning sensory enhancement as related to the second prong of the Katz test.\textsuperscript{207}

The Dow Chemical Court refused to extend to the exterior of a commercial building the privacy interests the Framers recognized in the interior of such a building but admitted that the area had characteristics of both curtilage and open fields.\textsuperscript{208} The dissent made no distinction between the exterior and “interior portion[s]” of commercial property because it defined as interior what lay within the perimeter of the surrounding fence and buildings.\textsuperscript{209} Similarly, the Court refused to extend to the curtilage of a residence the full privacy interests the Framers had guarded within the home.\textsuperscript{210} The dissent

\textsuperscript{205} See supra note 105 and accompanying text.

\textsuperscript{206} The Court focused on the second Katz prong because the government and police had not protested the actual expectation of privacy of the targets under the first prong of the test. See supra note 195.

\textsuperscript{207} The ancillary issue raised related to the reasonability of use of cameras in aerial surveillance. In Dow Chemical, the Court addressed the issue of whether use of a precision camera in a mixed curtilage/open field area unreasonably intruded on a business's privacy. Dow Chemical Co. v. United States, 106 S. Ct. 1819, 1826 (1986) (opinion by Burger, C.J.). The Court found that the camera revealed no uniquely available information. Id. at 1826-27. The dissent objected that the photographs could be magnified to reveal minute details. Id. at 1829 (Powell, J., dissenting). The Court responded that EPA had not magnified them, making the intrusion potential, not actual. Id. at 1826-27 & n.5 (opinion by Burger, C.J.) (quoting United States v. Karo, 468 U.S. 605, 712 (1984)). They, therefore, revealed little more than what was visible to the naked eye. Id. at 1827. Ciraolo also upheld naked eye observation of curtilage and avoided the issue of use of a camera despite the fact that police officers had also photographed Ciraolos' yard with a 35mm camera. 106 S. Ct. 1811, 1813 (1986). The dissent argued that permitting use of airplanes would lead to steady increases in the intrusiveness of surveillance. Dow Chemical, 106 S. Ct. at 1833 n.12 (Powell, J., dissenting). The Court stated it would draw the line at the more intrusive devices but not at airplanes and mapping cameras. See id. at 1826-27 (opinion by Burger, C.J.); see also California v. Ciraolo, 106 S. Ct. 1809, 1813 (1986) (opinion by Burger, C.J.). The cases leave unanswered the question of whether it is permissible under the fourth amendment to use a sight enhancing camera to observe activities within the curtilage of a home. Lower courts have not permitted use of sense enhancing devices to observe activities within a home. See supra note 11.

\textsuperscript{208} Dow Chemical, 106 S. Ct. at 1825-26.

\textsuperscript{209} Id. at 1828 (Powell, J., dissenting).

\textsuperscript{210} Ciraolo, 106 S. Ct. at 1812 (opinion by Burger, C.J.).
would have equated the protections of the home with those of the curtilage since intimate activities the Framers intended to protect could take place in both areas. The decisions clarified the conclusion that as individuals move further afield, the reasonableness of privacy expectations decreases.

The Court also refused to find strong societal interests in the privacy interests asserted by businesses based on trade secret law and the fifth amendment. Dow had argued that trade secret laws were one of the societal understandings that justified an expectation of privacy from government photography of its facility. The Court rejected this analysis because state trade secret laws, like state trespass laws, were property rather than privacy protections. The dissent responded by pointing to prior reasoning of the Court which stated that Katz had not erased all property concepts from consideration when weighing the legitimacy of privacy interests. Both opinions made selective use of property analysis without explaining the appropriate limits of such concepts in fourth amendment doctrine.

The Court based its holding, that Dow's expectation of privacy was unreasonable, on the finding that the exterior portions of a commercial facility have characteristics of both curtilage and open fields but are unprotected

211. See id. at 1816-17 (Powell, J., dissenting).
212. See supra notes 16-18 and accompanying text.
213. Dow Chemical, 106 S. Ct. at 1823 (opinion by Burger, C.J.).
214. Id.
215. Id.
216. Id. Katz had rejected property concepts as the basis for fourth amendment protections. See supra note 96 and accompanying text. But see Rakas v. Illinois, 439 U.S. 128, 144 n.14 (1978) (The Court admitted that the Katz definition did not entirely dispense with property concepts in evaluating the reasonableness of expectations of privacy). Additionally, trade secret law has as its purpose the prevention of unfair competition. Dow Chemical, 106 S. Ct. at 1823 (opinion by Burger, C.J.). Since the government did not take photographs with the intent of competing with Dow, the fourth amendment does not proscribe its conduct. Id.
217. Id. at 1832 (Powell, J., dissenting) (quoting Rakas, 439 U.S. at 143-44 n.12). Thus the dissent found general support in trade secret laws of the privacy values inhering in a company's technological property. Id. The dissent's conclusion in this area conflicts with its observation elsewhere that the majority opinion had resurrected property concepts, contrary to Katz when it upheld aerial surveillance because it had been conducted without a physical entry. Id. at 1831-32. The dissent admitted that the fourth amendment protected against invasion of privacy, not property, in order to respond to the Court's vantage point analysis, id., but also argued that privacy interests attach to certain property based on common law precepts. Id. at 1832 (quoting Rakas, 439 U.S. at 143 n.12).
218. See supra note 217 and accompanying text. The majority opinion rejected trade secrets law as a basis for fourth amendment protection comparing it with trespass law since both have roots in property law. Dow Chemical, 106 S. Ct. at 1823 (opinion by Burger, C.J.) (citing Oliver v. United States, 466 U.S. 170, 183 (1984)). However, the Court distinguished ground search from aerial surveillance since the latter takes place "without physical entry." Id. at 1826 (emphasis in original).
219. Id. at 1825-26.
from government aerial observation. The Court rejected Dow's argument that "industrial curtilage" deserved the enhanced protections afforded the curtilage of a home. This distinction derived from the differences between the nature of activities undertaken in the two types of areas. Since the Court admitted that ground level observance of the Dow plant would have been a search under the Katz test, it distinguished the outcome of aerial surveillance under the Katz test based on the analysis that the same property could have more characteristics of curtilage when examined at ground level than when examined aerially. The significance of this distinction was that the EPA had been able to observe the Dow plant from above "without physical entry." The dissent labeled this reasoning a contradiction of Katz "[s]ince physical trespass no longer functions as a reliable proxy for intrusion on privacy." This analysis contradicted the dissent's attempt to resurrect property concepts in recognizing privacy interests in trade secrets. In contrast, the Court's reasoning relied more on the weakness of privacy interests than on property rights. Even Dow admitted that the photographs taken would have been admissible if taken from a nearby hill. The Court upheld the aerial observation as reasonable since the EPA had seen no more than what was visible to the public from public airways.

The Court in Ciraolo rendered irrelevant the distinction in Dow Chemical between curtilage and open fields when it upheld the aerial surveillance of a homeowner's backyard. The Court found unreasonable the notion that police could not legally view curtilage if they were located in a public place and the area was visible from that place. Although the dissent would have extended to curtilage the same protections accorded the interior of a home, the dissent admitted that historic protection of curtilage depended on the precautions taken by a resident to conceal his yard "from observation

220. Id. at 1826.
221. Id. (quoting Donovan v. Dewey, 452 U.S. 594, 599 (1981)).
222. See id. (citing Donovan, 452 U.S. at 599).
223. Id.
224. Id.
225. Id. (emphasis in original).
226. Id. at 1831-32 (Powell, J., dissenting).
227. See supra note 217 and accompanying text.
228. Dow Chemical, 106 S. Ct. at 1823 (opinion by Burger, C.J.).
229. Id. at 1824.
230. Id. at 1826-27.
231. If aerial surveillance is not a search in the case of an open field or curtilage, it hardly matters whether the areas between buildings are open fields or business curtilage when the government seeks to make a naked eye aerial observation.
233. Id. at 1816-17 (Powell, J., dissenting).
by people passing by." Since the homeowner failed to conceal his yard from the sight of people flying overhead, the Court held his expectation of privacy unreasonable. The dissent also indicated that the reasonableness of one's privacy interests differed when police observed activities during routine as opposed to focused overflights. The Court found no other precedent for distinguishing privacy expectations based on the purpose of the officer discovering the activity.

The Court in Dow Chemical and Ciraolo thus found that under both prongs of the Katz test the government had not violated a reasonable expectation of privacy. In the absence of the government having committed a search, the Court did not require a warrant as a precondition of aerial surveillance.

III. RECONCILING DOW CHEMICAL AND CIRAOLE WITH KATZ

The debate between the majority and dissenting opinions in Dow Chemical and Ciraolo focused on whether the Court had retreated from its position in Katz that the fourth amendment protects the privacy of individuals rather than of places. Both cases are reconcilable with Katz. Dow Chemical and Ciraolo focused on the Katz two-prong test and concluded that no legitimate expectation of privacy existed in an industrial open field or in a homeowner's backyard. Additionally, the cases did not rely on a physical trespass definition of search but rather looked at numerous factors that relate to privacy. The cases did, however, clarify fourth amendment analysis in the areas of precautions necessary to indicate an intent to maintain privacy, satisfying the first prong of the Katz test, and the open fields and curtilage.
doctrines as they related to societal understandings of reasonableness in satisfying the second prong of the *Katz* test.

A. The First Prong of the *Katz* Test: Requiring Specific Precautions to Prevent Observation from Legal Vantage Points

The Court in *Dow Chemical* and *Ciraolo* clarified the type of precautions one must take in order to establish an actual expectation of privacy under the first prong of the *Katz* test. In finding efforts to prevent ground level observation insufficient, the Court required individuals and businesses to take precautions specific to the form of observation used by law enforcement officials. This requirement is consistent with the Court’s observation in *Katz* that use of a public phone booth prevented auditory observation but would not prevent visual observation of the target because the precaution of shutting a phone booth’s door indicated only an intent to prevent others from overhearing private conversations, not an intent to prevent all forms of observation. The Court also indicated in its recent decisions that the precautions taken must be capable of preventing the particular observation.

The Court denied businesses and individuals the option of instituting measures incapable of preventing observation in order to assert an unrealistic expectation. This requirement of efficacy of precautions taken was reminiscent of the Court’s position in *Rawlings* that placing drugs in a purse to which others had access failed to uphold the assertion of an intent to keep the material private. The Court did not indicate in *Dow Chemical* and *Ciraolo* what precautions would be sufficient to prevent aerial surveillance and in *Dow Chemical* recognized that all efforts might be impracticable. Nevertheless, it found no actual expectation of privacy from aerial surveillance when a property owner had merely acted to prevent ground level observation.

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241. See supra notes 195-204 and accompanying text.
242. See supra note 197 and accompanying text.
244. See supra notes 196-97, 199, and accompanying text.
245. The Court refused to find that the fences preventing ground level observation likewise prevented aerial observation since they were physically incapable of doing so. *Id.*
246. See supra notes 129-32 and accompanying text.
248. In fact, the Court admitted in *Dow Chemical* that building a dome would be impractical. See supra note 198.
249. See supra notes 197, 199 and accompanying text. The alternative to requiring precau-
back within their buildings to prevent this observation thus seems justified.250

The Court also clarified the first prong of the Katz test in rejecting the argument in Ciraolo that aerial surveillance focused on a particular lot constituted search while routine flight resulting in discovery of a crime did not.251 The Court concluded that the purpose of the officers was irrelevant if they viewed no more than was visible to the public.252 This conclusion was consistent with the Katz conclusion that what is knowingly exposed to the public is not private.253 If cashing checks with one's bank,254 dialing phone calls with the assistance of the phone company,255 and driving one's car through public streets256 were knowing exposures making one's actions susceptible to government observation, it was reasonable that activities within one's fenced yard or plant within the sight of overhead planes was also a knowing exposure. In none of these circumstances had the initial exposure been inadvertently directed at the government.257 They did not involve call-

250. See supra note 237 and accompanying text.
251. See supra note 200 and accompanying text.
252. See supra note 203 and accompanying text.
253. See supra note 106.
254. See supra notes 121-22 and accompanying text.
255. See supra note 123 and accompanying text.
256. See supra note 150 and accompanying text.
257. In United States v. Miller, the defendant negotiated his checks with the bank. The government obtained the documents only after issuing a subpoena to the bank for them. See supra note 121. In Smith v. Maryland, the defendant dialed his calls with the aid of the phone
ing attention to the activity. Each involved ordinary undertakings within our society. Concentration on the lack of an element of deliberation or intention\textsuperscript{258} to expose activities to surveillance is therefore misplaced.

Finally, the Court elaborated on the first prong of the \textit{Katz} test by requiring that precautions be sufficient to prevent observation by officers from a legal vantage point. Presumably, observation from an illegitimate vantage point constitutes a search while observation from a legitimate vantage point does not.\textsuperscript{259} The decisions in \textit{Dow Chemical} and \textit{Ciraolo} did not detail a variety of legal vantage points. Instead, they concluded that public airspace was legitimate\textsuperscript{260} while warrantless physical entry was not.\textsuperscript{261} The dissent criticized this as a return to the physical trespass doctrine under the fourth amendment.\textsuperscript{262} Instead, the Court lessened the burden on the target of a search of displaying an intent to maintain his privacy. A businessman need not erect barriers to prevent officers from walking into areas not open to the public. Neither must he build a dome to prevent overhead observation if he could achieve the same concealment by erecting an awning or planting tall shade trees.\textsuperscript{263} The vantage point of a police officer dangling from a helicopter several hundred feet above the ground in order to make plain view observation of the subject's activities would approximate an entry in that it circumvents the target's efforts at concealment.\textsuperscript{264} An illegitimate vantage point company. The numbers were recorded only because the police had installed a pen register based on their prior suspicion of wrongdoing. See \textit{supra} note 123. In \textit{Rawlings v. Kentucky}, the defendant exposed his cache of drugs to his companion and possibly her friend. It was discovered by the police incident to the arrest of another. See \textit{supra} note 130 and accompanying text. In each of these cases, the seizure of evidence followed a focused observation of the items by investigators.


259. See \textit{supra} note 204 and accompanying text.

260. See \textit{supra} note 161 and accompanying text.

261. See \textit{supra} note 168 and accompanying text.

262. See \textit{supra} note 217 and accompanying text.

263. Cf. \textit{supra} note 247 and accompanying text.

264. Evading a legitimate precautionary measure would seem to be a physically intrusive manner of surveillance as it resembles entering the nonpublic areas of a commercial building and would veer from the public airways from which the public are similarly able to view exterior areas. See \textit{supra} notes 161, 203 and accompanying text; see, e.g., \textit{People v. Sabo}, 185 Cal. App. 3d 845, 230 Cal. Rptr 170 (Ct. App. 1986) (low altitude helicopter viewing of interior of greenhouse in backyard through missing slats distinguished from flight in \textit{Ciraolo}); \textit{National Organization for Reform of Marijuana Laws v. Mullen}, 608 F. Supp. 945 (N.D. Cal. 1985) (court ordered agency and law enforcement personnel to desist from flying helicopters at altitudes below public airspace within curtilage of homes as such activities had become so invasive of privacy as to constitute a search); see also \textit{38 CRIM. L. REP. (BNA) 4121, 4124 (1985)} (quoting California Deputy Attorney General Lawrence K. Sullivan) (suggesting that low flights might be a search). But see \textit{United States v. Broadhurst}, 805 F.2d 849 (9th Cir.
point should not be permitted to frustrate a legitimate effort at objectively manifesting an intent to maintain privacy.\textsuperscript{265}

Thus, the decisions in Dow Chemical and Ciraolo provided clarification of the Katz test's first prong without undermining its focus on the protection of privacy rather than property rights.

\textbf{B. The Second Prong of the Katz Test: Depending Not on Property Formulas but on Normative Analysis of the Circumstances}

The Katz formulation of search requires that the target's expectation of privacy be reasonable based on the intent of the Framers and societal affirmation of the expectation.\textsuperscript{266} In evaluating the reasonableness of an individual's privacy interests, the Court has also considered traditional presumptions that certain areas are private.\textsuperscript{267} After Dow Chemical and Ciraolo, it seems that citizens cannot rely on traditional formulas in determining whether their activities are private. The reforms begun in Katz will continue through a process of situational analysis of societal norms.

The Founding Fathers recognized as private homes, "papers, and effects."\textsuperscript{268} By inference, courts have concluded that there are historically recognized privacy interests in business property as well.\textsuperscript{269} After Dow Chemical and Ciraolo it is not possible to infer that the same historical protections exist in the areas immediately surrounding homes and businesses.\textsuperscript{270} The Court differentiated the privacy interests protected in the interior of a building from those in the exterior areas.\textsuperscript{271} Additionally, the Court concluded that the interior of an industrial complex under aerial surveillance is the interior of its structures, not the areas concealed from ground level pe-

\textsuperscript{265} An analogy can be drawn here to the "plain view" exception to the warrant requirement. See generally 68 Am. Jur. 2d Searches and Seizures § 88 (1973). The plain view exception permits officers conducting a legitimate search to seize objects not mentioned in the warrant if they are inadvertently discovered. See, e.g., Coolidge v. New Hampshire, 403 U.S. 443 (1971). The doctrine's origins recognize that "once police are lawfully in a position to observe an item firsthand, its owner's privacy interest in that item is lost; the owner may retain the incidents of title and possession but not privacy." Illinois v. Andreas, 463 U.S. 765, 771 (1983). Thus, courts would suppress evidence seized due to inadvertent discovery during an illegitimate search. See, e.g., State v. Buchanan, 432 S.W.2d 342 (Mo. 1968) (discovery of evidence in front yard invalid seizure for failure of warrant to specify area to be searched).

\textsuperscript{266} See supra notes 136-41 and accompanying text.

\textsuperscript{267} See supra notes 142-58 and accompanying text.

\textsuperscript{268} U.S. CONST. amend. IV.

\textsuperscript{269} See supra notes 17, 36, 38, 139 and accompanying text.

\textsuperscript{270} See supra notes 159-65 and accompanying text.

\textsuperscript{271} See supra notes 208-12 and accompanying text.
rimeter observation.272

The historic protections afforded to the interiors of homes and businesses are not based on property law concepts but on recognition of privacy interests.273 Activities within the “public” areas of a business may not be recognized as private since they are observable by the public, and government investigators are free to observe what is visible to the public.274 Similarly, the Court in Katz noted that activities revealed to the public may be observable even though undertaken in the home.275 It is unreasonable to assume that all activities undertaken on residential or commercial property are presumptively private.276 Recognition of a privacy interest depends on the circumstances.277 Generally, the privacy interest diminishes as public access to the area increases.278 The increased access of the public weakens the relationship of historically protected values with the location.279

The most significant input in evaluating the reasonableness of one’s expectation of privacy is modern society’s affirmation of the asserted privacy interest. Society does not derive its understanding of privacy from property law concepts but from the relationship of the privacy interest asserted with the values protected by the fourth amendment.280 In the absence of such a linkage, the government’s interest in detecting crime may outweigh the target’s privacy interest.281 For example, in Dow Chemical the Court rejected Dow’s argument that it had a reasonable privacy interest in its layout and design based on trade secret law.282 The Court reasoned that trade secret laws protected firms from unfair competition.283 Since the government did not intend to compete with Dow, its layout and design were not values protected by the fourth amendment.284 Similarly, the Court in prior cases has reasoned that property trespass laws protect property owners from the damaging intrusion of strangers.285 Since the government entered without the

272. See supra notes 208-09 and accompanying text.
273. See supra notes 96-98 and accompanying text.
274. See supra notes 150, 203 and accompanying text. But see Recznik v. Lorain, 393 U.S. 166 (1968) (areas in business establishments do not become public merely because people gather there and thus may not be observable by government investigators).
275. See supra note 106.
276. See supra notes 247-49 and accompanying text.
277. See supra note 113 and accompanying text.
278. See supra notes 212, 274 and accompanying text.
279. See supra notes 230, 233-35 and accompanying text.
280. See supra note 216 and accompanying text.
281. See supra note 216 and accompanying text.
282. See supra notes 213-14 and accompanying text.
283. See supra note 216 and accompanying text.
284. Id.
285. Id.
intent to damage property, a trespass without an intrusion of privacy did not implicate fourth amendment values. However, as noted in *Katz* an intrusion of privacy may take place without a physical trespass. Such an intrusion would compromise privacy interests protected by the fourth amendment. Protection of Katz's privacy in using a phone booth did not stem from an ownership right in the booth or phone line but from traditional recognition of the privacy of communication. The Court in *Katz* had recognized that the values safeguarded by the protection of personal papers were the same values safeguarded by limiting governmental listening to telephone communication. Justification of a privacy interest requires a convergence of the values protected by the fourth amendment with the privacy norms of modern society.

The Court in *Dow Chemical* did not find such a convergence of fourth amendment values and modern privacy norms in the open spaces between buildings at the Dow plant. As a result, the Court classified these areas as combined curtilage/open fields. This classification categorically denied the protection of Dow’s expectation of privacy since no expectation of privacy is legitimate in an open field. The novel aspect of the decision in *Dow Chemical* is that it admitted that the reasonableness of privacy interests can vary based on the type of search undertaken. The areas between Dow’s buildings implicated fourth amendment values if the government sought a ground level but not an aerial inspection. Prior case law has recognized, without highlighting, such distinctions.

*Ciraolo* further refined this concept of privacy interests varying with the mode of observation undertaken. Although modern societal understandings have previously recognized that the same fourth amendment values protected in a home are in the curtilage surrounding a home, the Court in *Ciraolo* held that the expectation of privacy one has in his backyard is unreasonable when the government chooses to fly overhead. The decision im-

286. *Id.*
287. See supra note 102 and accompanying text.
288. See supra note 98 and accompanying text.
289. See supra note 101 and accompanying text.
290. *Id.*
291. See supra notes 213-16 and accompanying text.
292. See supra note 208 and accompanying text.
293. See supra notes 219-20 and accompanying text.
294. See supra notes 145, 220 and accompanying text.
295. See supra note 224 and accompanying text.
296. See supra notes 223-24 and accompanying text.
297. See supra note 17 and accompanying text.
298. See supra note 156 and accompanying text.
plied that the failure of a homeowner to conceal his activities from observation affects the reasonableness of his expectations that activities undertaken are private. In the absence of an effort to conceal activities in one's backyard, the linkage between the values protected by the fourth amendment and modern privacy norms is weakened. Curtilage and open fields may both be aerially surveyed under such circumstances without calling into effect the protections of the fourth amendment. The legitimacy of privacy interests under the second prong of the *Katz* test depends on a normative analysis of the circumstances including the mode of observation, the target's efforts at concealment, and the vantage point of the government. This process of normative analysis replaces previous reliance on the traditional presumptions of the constitutionally protected areas doctrine continuing the reforms of the doctrine begun in *Katz*.

Thus, the decisions in *Dow Chemical* and *Ciraolo* refine our understanding of fourth amendment protections without undermining the declaration in *Katz* that the fourth amendment protects privacy rather than property.

**IV. Conclusion**

The resolution of the question whether aerial surveillance constitutes a search within the meaning of the fourth amendment provides important reinforcement of the *Katz* legitimate expectation of privacy definition of search. The Supreme Court has not returned to the physical trespass doctrine which proscribed only those investigations made possible by physical entry of a protected area. The Court continues to focus on protection of a reasonable expectation of privacy. Furthermore, the decisions in *Dow Chemical* and *Ciraolo* highlight the requirement that one who wishes to protect his privacy must have exhibited that intention by erecting barriers preventing observation of his activities. Barriers preventing ground level observation may prove inadequate to prevent aerial surveillance; they also do not display an actual expectation of privacy from such observations. Thus, the *Dow Chemical* and *Ciraolo* cases conclude that knowing exposure of activities or things to observation does not require deliberation or intention to display on the part of the target of the search.

The cases also add to fourth amendment analysis the consideration of the factor of the observer's legitimate presence at the site of his observation. This is reminiscent of the discredited physical trespass formula for defining search, but it is not strictly a trespass concern. The decisions provide impor-

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300. See *id*.
301. See *supra* notes 242-43 and accompanying text.
302. See *supra* notes 159-65 and accompanying text.
tant clarification of the distinction between curtilage and open fields in addition to recognizing that some areas may fall between the two categories. Significantly, the cases permit aerial surveillance of curtilage and mixed curtilage/open fields areas without a search warrant despite the traditional view of curtilage as an extension of the constitutionally protected area of the home. This tends to confirm that fourth amendment protections decrease as individuals move outside their homes. The cases also recognize a limited ability to enhance the use of senses to observe mixed curtilage/open fields areas while reserving the issue of limiting an observer to his natural senses elsewhere. When the Supreme Court addresses the issue of magnification in observing curtilage, the differences between curtilage and open fields may once again be distinct. It cannot be said that the airplane is an encroaching device revealing what is concealed. An airplane is merely a device providing a convenient vantage point for observing that which an individual or business has failed to conceal. These decisions make it inconvenient and expensive for wrongdoers to conceal their open air activities from aerial investigation but may also make it impractical for other citizens to enjoy legitimate, private activities in the open air. Despite this impact on activities, the decisions reconcile with traditional fourth amendment analysis.

Cheryl Kettler Corrada