

Fourth Amendment Implications of Military Use of Forward Looking Infrared Radars Technology for Civilian Law Enforcement

Forward Looking Infrared Radars (FLIR) reconnaissance of structures on private lands does not constitute a search within the meaning of the Fourth Amendment.

Department of Defense personnel engaged in such surveillance would not be subject to liability for damages in a constitutional tort action.

March 4, 1992

MEMORANDUM OPINION FOR THE GENERAL COUNSEL DEPARTMENT OF DEFENSE

This memorandum is in response to your request for further advice concerning the use of Forward Looking Infrared Radars ("FLIR") technology by the Department of Defense ("DoD") to assist civilian law enforcement agencies. In a memorandum dated February 19, 1991, this Office advised that, under existing statutory authority, DoD may assist civilian law enforcement agencies to identify or confirm suspected illegal drug production within structures located on private property by conducting aerial reconnaissance that uses FLIR technology.¹ You subsequently requested an opinion from this Office on the question whether FLIR surveillance of structures on private property constitutes a "search" within the meaning of the Fourth Amendment.² A memorandum that you have made available to us preliminarily concludes that FLIR reconnaissance of structures on private lands does constitute such a search.³ For the reasons set forth herein, we conclude that it does not.

¹ *Military Use of Infrared Radars Technology to Assist Civilian Law Enforcement Agencies*, 15 Op. O.L.C. 36 (1991).

² Letter for J. Michael Luttig, Assistant Attorney General, Office of Legal Counsel, from Terrence O'Donnell, General Counsel, Department of Defense (Apr. 11, 1991).

³ Memorandum for Terrence O'Donnell, General Counsel, Department of Defense, from Robert M. Smith, Jr. (Sept. 19, 1990) ("Smith Memorandum"). Other parties to examine the issue have reached differing conclusions. Compare Memorandum for Office of the Deputy Chief of Staff for Operations and Plans, from Patrick J. Parrish, Assistant to the General Counsel, Department of the Army (Sept. 17, 1990) (FLIR surveillance is a search under Fourth Amendment) with Memorandum for Joint Chiefs of Staff, from Lt. Col. C.W. Hoffman, Jr., Deputy LLC (Aug. 14, 1990) (FLIR not a search) and Memorandum of Staff Judge Advocate for the Commander-in-Chief of the Pacific Command (attached to Letter for J. Michael Luttig, Assistant Attorney General, Office of Legal Counsel, from Terrence O'Donnell, General Counsel, Department of Defense (Nov. 21, 1990)) (same).

I.

Our February 19 memorandum sets forth the facts relevant to FLIR technology, and we briefly recount them here. FLIR is a passive technology that detects infrared radiation generated by heat-emitting objects. Infrared rays are received by the FLIR system, electronically processed, and projected on a screen as a visual image in the shape of the object that is emitting the heat. The warmer the object, the brighter the image of the object appears. See *United States v. Sanchez*, 829 F.2d 757, 759 (9th Cir. 1987); *United States v. Kilgus*, 571 F.2d 508, 509 (9th Cir. 1978); *United States v. Penny-Feeney*, 773 F. Supp. 220 (D. Haw. 1991), *aff'd sub nom. United States v. Feeney*, 984 F.2d (9th Cir. 1993).

FLIR does not have the characteristics of an X-ray technology. We have been informed that it cannot provide information concerning the interior of a container or structure. It detects only heat emanating from surfaces that are directly exposed to the FLIR system. Thus, for example, if there were heat-producing objects within a building, FLIR could detect that more infrared radiation was being emitted from the building's roof than if the building were empty, but the system could not identify the shapes of heat-emitting objects located within the structure. Nor could the system identify the source of the heat or the precise location of the heat source within the structure.

Law enforcement agencies believe that FLIR technology can be useful in identifying buildings that house marijuana crops, or methamphetamine or other drug processing laboratories. In particular, FLIR can aid law enforcement officials in establishing probable cause to believe that criminal activity is being conducted within a particular building by determining whether the building is radiating unusually large amounts of heat (due to the use of high intensity lighting or combustion generators) or unusually small amounts of heat (due to heavy insulation designed to mask the use of lighting or generators). Recently, therefore, federal and state law enforcement agencies have requested that military aircraft equipped with FLIR fly over suspect buildings on private lands and produce infrared images of those structures.⁴

We concluded in our February 19 memorandum that DoD has authority to provide the requested assistance under the provisions of 10 U.S.C. §§ 371-378, which are designed to promote cooperation between military personnel and civilian law enforcement officials. We now consider whether such assistance constitutes a "search" within the meaning of the Fourth Amendment to the Constitution.

⁴The Department of Defense has informed us of three requests for assistance that present the question whether such surveillance constitutes a Fourth Amendment search. The Drug Enforcement Administration ("DEA") has asked the Army to conduct infrared imaging of a barn on private land in which the DEA suspects that marijuana is being cultivated. Second, a law enforcement agency has requested that an Army flight crew conduct a training mission over certain private lands and buildings in the vicinity of Wichita, Kansas, using an Army helicopter equipped with FLIR, to identify suspected illegal marijuana cultivation. Third, the DEA has asked that the Army undertake flights in OH-58D helicopters equipped with FLIR, at a height of at least 500 feet above ground, to identify dwellings and other structures on private land in Arizona that the DEA suspects contain methamphetamine laboratories.

II.

The Fourth Amendment provides:

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

U.S. Const. amend. IV. Until the 1960's, the Supreme Court interpreted the amendment to apply only to searches or seizures of the tangible things referred to in the text: "persons, houses, papers, and effects." In *Olmstead v. United States*, 277 U.S. 438, 465 (1928), *overruled by Berger v. New York*, 388 U.S. 41 (1967), for example, the Court held that the interception of telephone conversations by government wiretaps did not implicate the Fourth Amendment, reasoning that "[t]he language of the Amendment can not be extended and expanded to include telephone wires reaching to the whole world from the defendant's house or office."

The traditional interpretation of the Fourth Amendment was also limited to cases where the government committed a physical trespass to acquire information. In *Olmstead*, the Court noted that the wiretaps were conducted "without trespass upon any property of the defendants." 277 U.S. at 457. In two eavesdropping cases, *Goldman v. United States*, 316 U.S. 129, 134-35 (1942), *overruled by Katz v. United States*, 389 U.S. 347 (1967), and *On Lee v. United States*, 343 U.S. 747, 751-52 (1952), the absence of a physical trespass was important to the Court's conclusion that no Fourth Amendment search had been conducted. Only where "eavesdropping was accomplished by means of an unauthorized physical penetration into the premises occupied by the petitioners" did the Court hold that eavesdropping implicated the Fourth Amendment. *Silverman v. United States*, 365 U.S. 505, 509 (1961).

These limitations on the scope of the Fourth Amendment were eliminated by the Court in a series of decisions during the 1960s. In *Berger*, 388 U.S. at 51, the Court held that "'conversation' was within the Fourth Amendment's protections, and that the use of electronic devices to capture it was a 'search' within the meaning of the Amendment." In *Katz*, 389 U.S. at 353, the Court overruled the "trespass" doctrine enunciated in *Olmstead*, and held that eavesdropping conducted through the placement of a listening device on the outside of a telephone booth constituted a "search and seizure" under the Fourth Amendment.

Subsequent decisions have constructed a two-part inquiry, derived from Justice Harlan's concurring opinion in *Katz*, to determine whether a government activity constitutes a Fourth Amendment search: "[F]irst, has the

individual manifested a subjective expectation of privacy in the object of the challenged search? Second, is society willing to recognize that expectation as reasonable?" *California v. Ciraolo*, 476 U.S. 207, 211 (1986). See also *California v. Greenwood*, 486 U.S. 35, 39 (1988); *United States v. Knotts*, 460 U.S. 276, 280-81 (1983); *Smith v. Maryland*, 442 U.S. 735, 740 (1979); *Katz*, 389 U.S. at 361 (Harlan, J., concurring).

A.

It will always be difficult to determine with certainty whether the owners or users of specific structures have subjective expectations of privacy that would be infringed by the proposed aerial reconnaissance. On the face of the matter, however, it seems unlikely that the owner of a structure would subjectively expect that the amount of heat emitted from the roof of the structure will remain private. Heat is inevitably discharged from structures that contain electrical equipment such as lights or generators, and we are informed by DoD that FLIR equipment has been used by law enforcement agencies for years to detect heat-emitting objects. Smith Memorandum at 6. The only court to address the Fourth Amendment implications of FLIR concluded that the owners of a private residence that was monitored by FLIR "did not manifest an actual expectation of privacy in the heat waste since they voluntarily vented it outside the garage where it could be exposed to the public and in no way attempted to impede its escape or exercise dominion over it." *Penny-Feeney*, 773 F. Supp. at 226. Moreover, it is likely that most people expect that law enforcement agencies will use information that is available to them for the detection of crime. Absent more detailed information about the expectations of the individuals involved, we will turn to the second prong of the Fourth Amendment inquiry described by the Supreme Court for determining whether government activity constitutes a Fourth Amendment search.⁵

B.

The second question posed by the Supreme Court's analysis is whether FLIR surveillance, by detecting the amount of heat emitted from the exterior of a structure on private property, intrudes upon an expectation of privacy that society is willing to recognize as reasonable. The Supreme Court has not developed a clear doctrine that would indicate what is an objectively

⁵ The Supreme Court has never relied solely on the first prong of its two-part inquiry to hold that a government activity is not a search under the Fourth Amendment. The Court itself has suggested that the "subjective" element of the inquiry may be an "inadequate index of Fourth Amendment protection," *Smith v. Maryland*, 442 U.S. at 740 n.5, because, "[f]or example, if the Government were suddenly to announce on nationwide television that all homes henceforth would be subject to warrantless entry, individuals thereafter might not in fact entertain any actual expectation of privacy regarding their homes, papers, and effects." *Id.*

reasonable expectation of privacy in a case where neither a physical trespass into a home or curtilage nor a physical search of tangible objects enumerated in the text of the Fourth Amendment is involved. In *Rakas v. Illinois*, 439 U.S. 128, 144 n.12 (1978), the Court did explain that “[l]egitimation of expectations of privacy by law must have a source outside of the Fourth Amendment, either by reference to concepts of real or personal property law or to understandings that are recognized and permitted by society.”⁶ Similarly, in *Robbins v. California*, 453 U.S. 420, 428 (1981), *disposition overruled on other grounds*, *United States v. Ross*, 456 U.S. 798 (1982), a plurality of the Court ventured that “[e]xpectations of privacy are established by general social norms.” What remains unclear from these and other decisions, however, is the methodology that should be employed to determine what expectations of privacy “society” is prepared to recognize as reasonable.

The Fourth Amendment’s protections are best discerned by reference to the Supreme Court’s prior decisions in the area. *Cf. Allen v. Wright*, 468 U.S. 737, 751 (1984) (given the absence of precise definitions in standing doctrine, courts may answer standing questions through comparison with prior cases). Applying the oft-stated principle articulated by the Court in *Katz* that “[w]hat a person knowingly exposes to the public, even in his own home or office, is not a subject of Fourth Amendment protection,” *Katz*, 389 U.S. at 351 (citations omitted), we conclude that the use of FLIR to conduct aerial reconnaissance of structures is not a Fourth Amendment search.⁷

The Supreme Court has applied the “public exposure” rule to cases involving aerial surveillance of private property.⁸ In *Ciraolo*, the Court held that police officers did not conduct a Fourth Amendment search when they traveled over respondent Ciraolo’s home in a fixed-wing aircraft at an altitude of 1000 feet and observed, with the naked eye, marijuana plants growing in a garden within the curtilage of Ciraolo’s home. Although the home and garden were surrounded by double fences of six and ten feet in height, the Court noted that “[a]ny member of the public flying in this airspace who glanced down could have seen everything that these officers observed.” 476 U.S. at 213-14. Accordingly, the Court held that “respondent’s expectation that his garden was protected from such observation is unreasonable and is not an expectation that society is prepared to honor.” *Id.* at 214.

Similarly, in *Florida v. Riley*, 488 U.S. 445 (1989), the Court held that helicopter surveillance of the interior of a greenhouse, located within the

⁶The Supreme Court has referred interchangeably to “legitimate” and “reasonable” expectations of privacy. *See Ciraolo*, 476 U.S. at 220 n.4 (Powell, J., dissenting).

⁷The District Court in *Penny-Feeney*, 773 F. Supp. at 226-28, relied to some extent on the “public exposure” doctrine to hold that FLIR surveillance of a private home did not violate a reasonable expectation of privacy of the residents. Although we concur with the result in that case, we do not agree with all of the court’s reasoning.

⁸The Court has not equated the scope of the “public exposure” doctrine with subjective expectations of privacy. The Court has assumed that a person may have a subjective expectation of privacy even in that which he “knowingly exposes to the public.” *E.g., Ciraolo*, 476 U.S. at 213.

curtilage of respondent Riley's home, did not constitute a search under the Fourth Amendment. Although the interior of Riley's greenhouse was not visible from the adjoining road, the investigating officer discovered that the sides and roof of the greenhouse were left partially open, and that the interior of the greenhouse — including marijuana plants — could be observed with the naked eye from a helicopter circling over Riley's property at an altitude of 400 feet. A plurality of the Court, noting that "[a]ny member of the public could legally have been flying over Riley's property in a helicopter at the altitude of 400 feet and could have observed Riley's greenhouse," concluded that the case was controlled by *Ciraolo*. *Id.* at 451.

Justice O'Connor, concurring in *Riley*, also concluded that there was no Fourth Amendment search, although she believed that "there is no reason to assume that compliance with FAA regulations alone" means that the government has not interfered with a reasonable expectation of privacy. *Id.* at 453 (O'Connor, J., concurring in judgment). In Justice O'Connor's view, the controlling question was whether "the helicopter was in the public airways at an altitude at which members of the public travel with sufficient regularity that Riley's expectation of privacy from aerial observation was not 'one that society is prepared to recognize as reasonable.'" *Id.* at 454 (quoting *Katz*, 389 U.S. at 361) (internal quotations omitted). Because Riley had not shown that air travel at an altitude of 400 feet was extraordinary, Justice O'Connor concluded that the helicopter surveillance was not a "search."

The Court has also applied the "public exposure" doctrine to hold that an individual has no reasonable expectation of privacy in garbage left at the curb outside his home for pickup by trash collectors, *California v. Greenwood*, in telephone numbers dialed and thus conveyed automatically to the telephone company, *Smith v. Maryland*, or in a route traveled by an automobile on a public highway or the movements of objects in "open fields," even when they are monitored surreptitiously by an electronic beeper. *United States v. Knotts*. In each of these cases, the Court reasoned that individuals had openly displayed their activities or objects to public view and therefore enjoyed no expectation of privacy that society is prepared to recognize as reasonable.

We believe that the use of FLIR to observe heat emissions from the exterior of structures on private property is analogous to the surveillance activities undertaken by the government in the "public exposure" cases. Assuming that the aerial surveillance is to take place from airspace sometimes used by the public -- and we have not been provided with precise information on that issue -- the question presented by FLIR surveillance is quite comparable to those decided by the Court in *Ciraolo* and *Riley*. "[T]he home and its curtilage are not necessarily protected from inspection that involves no physical invasion." *Riley*, 488 U.S. at 449 (plurality opinion). The owner of a structure on private property knowingly, indeed almost inevitably, emits heat from the structure, and any member of the public flying over the structure could detect those heat emissions with FLIR.

We recognize, of course, that the investigating officers in *Ciraolo* and *Riley* conducted their visual observations with the naked eye, while FLIR surveillance employs technology to detect what an investigator could not observe on his own. Decisions of the Supreme Court and courts of appeals suggest, however, that the use of technological means to gather information will not amount to a Fourth Amendment search where the government does not thereby observe the interior of a structure or any other “intimate details” of the home or curtilage. In view of the limited information disclosed by FLIR, we do not believe that the use of such technology in the proposed reconnaissance missions would constitute a “search” under the Fourth Amendment.

As a threshold matter, it is clear that the use of technological devices to acquire information that would be unattainable through the use of natural senses does not necessarily implicate the Fourth Amendment. In *United States v. Lee*, 274 U.S. 559, 563 (1927), the Supreme Court held that the use of a searchlight by the Coast Guard to examine a boat on the high seas did not violate the Fourth Amendment. The Court explained that “[s]uch use of a searchlight is comparable to the use of a marine glass or a field glass. It is not prohibited by the Constitution.” In *On Lee*, 343 U.S. at 754, the Court said in dictum that “[t]he use of bifocals, field glasses or the telescope to magnify the object of a witness’ vision is not a forbidden search or seizure, even if they focus without his knowledge or consent upon what one supposes to be private indiscretions.” And in *United States v. White*, 401 U.S. 745, 753 (1971), a plurality of the Court concluded that “[a]n electronic recording will many times produce a more reliable rendition of what a defendant has said than will the unaided memory of a police agent . . . , but we are not prepared to hold that a defendant who has no constitutional right to exclude the informer’s unaided testimony nevertheless has a Fourth Amendment privilege against a more accurate version of the events in question.” The courts of appeals have held that the interception of communications from radio frequencies that are accessible to the general public does not constitute a Fourth Amendment search, even though radio waves cannot be perceived by natural senses. *E.g.*, *United States v. Rose*, 669 F.2d 23, 26 (1st Cir.), *cert. denied*, 459 U.S. 828 (1982); *Edwards v. Bardwell*, 632 F. Supp. 584, 589 (M.D. La.), *aff’d*, 808 F.2d 54 (5th Cir. 1986).

The Supreme Court discussed the use of sophisticated surveillance equipment in *Dow Chemical Co. v. United States*, 476 U.S. 227 (1986). There, the Court considered the Fourth Amendment implications of aerial surveillance by the Environmental Protection Agency, which made use of precise photographic equipment to observe the open areas of an industrial facility. In holding that the surveillance was not a “search,” the Court noted that the photographic equipment could permit “identification of objects such as wires as small as 1/2-inch in diameter,” *id.* at 238, and addressed the significance of the equipment for the Fourth Amendment:

It may well be, as the Government concedes, that surveillance of private property by using highly sophisticated surveillance equipment not generally available to the public, such as satellite technology, might be constitutionally proscribed absent a warrant. *But the photographs here are not so revealing of intimate details as to raise constitutional concerns.* Although they undoubtedly give EPA more detailed information than naked-eye views, they remain limited to an outline of the facility's buildings and equipment. The mere fact that human vision is enhanced somewhat, at least to the degree here, does not give rise to constitutional problems.

Id. (emphasis added). So too here, FLIR does not reveal intimate details concerning persons, objects, or events within structures.

The Court's concern over observation of "intimate details" has been repeated in cases involving private homes and their curtilage. In *Ciraolo*, for example, the Court went out of its way to note that "[t]he State acknowledges that '[a]erial observation of curtilage may become invasive, either due to physical intrusiveness or through modern technology which discloses to the senses *those intimate associations, objects or activities* otherwise imperceptible to police or fellow citizens.'" 476 U.S. at 215 n.3 (emphasis added). More significantly, the plurality in *Riley*, in concluding that helicopter surveillance of Riley's greenhouse did not constitute a search, found it important that "no intimate details connected with the use of the home or curtilage were observed." 488 U.S. at 452.⁹

The courts of appeals that have considered the Fourth Amendment implications of magnification technology used by the government to collect information have distinguished between surveillance of the interior of a home, which has been deemed a search, and observation of the curtilage, which has not. In *United States v. Taborda*, 635 F.2d 131 (2d Cir. 1980), the Second Circuit held that the use of a high-powered telescope to peer through the window of an apartment was a "search" under the Fourth Amendment. The court reasoned that "[t]he vice of telescopic viewing into the interior of a home is that it risks observation not only of what the householder should realize might be seen by unenhanced viewing, *but also of intimate details of a person's private life*, which he legitimately expects will not be observed either by naked eye or enhanced vision." *Id.* at 138-39 (emphasis added).

⁹ Justice Brennan, in his dissent in *Riley*, criticized the majority on this point, suggesting that the police just as easily could have observed intimate details of Riley's personal activities, although all they happened to observe was evidence of crime. 488 U.S. at 463 (Brennan, J., dissenting). FLIR, however, is incapable of revealing intimate details. It simply provides information about surface heat, from which general inferences sometimes can be drawn.

Accord United States v. Kim, 415 F. Supp. 1252, 1254-56 (D. Haw. 1976) (use of telescope to view inside of apartment was Fourth Amendment "search"); *State v. Ward*, 617 P.2d 568, 571-73 (Haw. 1980) (use of binoculars to view inside of apartment was "search"); *State v. Knight*, 621 P.2d 370, 373 (Haw. 1980) (aerial observation with binoculars of inside of closed greenhouse was "search").¹⁰

Subsequently, however, the Second Circuit distinguished *Taborda* in a case involving the use of binoculars and a high-powered spotting scope to observe an outdoor area adjacent to a house and garage. In *United States v. Lace*, 669 F.2d 46 (2d Cir.), *cert. denied*, 459 U.S. 854 (1982), the court explained that *Taborda* "proscribed the use of a telescope by a policeman only so far as it enhanced his view into the interior of a home." *Id.* at 51. The Fourth Amendment was not implicated by the use of binoculars and a spotting scope "in places where the defendant otherwise has exposed himself to public view." *Id.* Reflecting subsequently on *Taborda* and *Lace*, the Second Circuit declared that "it was not the enhancement of the senses *per se* that was held unlawful in *Taborda*, but the warrantless invasion of the right to privacy in the home. In contrast, the warrantless use of supplemental resources including mechanical devices, such as binoculars, to observe activities outside the home has been consistently approved by the courts." *United States v. Bonfiglio*, 713 F.2d 932, 937 (2d Cir. 1983).

The Ninth Circuit, when considering surveillance conducted with magnification devices, has similarly focused on the privacy interest associated with the area or activity observed, rather than on the nature of the technology used. In *United States v. Allen*, 675 F.2d 1373 (9th Cir. 1980) (Kennedy, J.), *cert. denied*, 454 U.S. 833 (1981), the court held that surveillance of private ranch property from a Coast Guard helicopter, by a Customs official using binoculars and a telephoto lens, did not infringe upon a reasonable expectation of privacy. The court emphasized that "[w]e are not presented with an attempt to reduce, by the use of vision-enhancing devices or the incidence of aerial observation, the privacy expectation associated with the interiors of residences or other structures." *Id.* at 1380 (emphasis added). Other courts have approved the distinction for Fourth Amendment purposes between enhanced viewing of the interior of private structures and the enhanced viewing of activities or objects outside such buildings. *Dow Chemical Co. v. United States*, 749 F.2d 307, 314-15 & n.2 (6th Cir. 1984), *aff'd*, 476 U.S. 227 (1986); *United States v. Michael*, 645 F.2d 252, 258 n.16 (5th Cir.), *cert. denied*, 454 U.S. 950 (1981); *United States v. Devorce*, 526 F. Supp. 191, 201

¹⁰ Prior to *Taborda*, some courts held that enhanced viewing of the interior of certain structures on private property did not constitute a search. *Fullbright v. United States*, 392 F.2d 432, 434 (10th Cir.) (use of binoculars to view inside of open shed near house), *cert. denied*, 393 U.S. 830 (1968); *People v. Hicks*, 364 N.E.2d 440, 444 (Ill. App. 1st Dist. 1977) (use of binoculars to view interior of residence); *State v. Thompson*, 241 N.W.2d 511, 513 (Neb. 1976) (use of binoculars to view interior of residence through curtains); *State v. Manly*, 530 P.2d 306 (Wash.) (use of binoculars to view interior of apartment), *cert. denied*, 423 U.S. 855 (1975); *Commonwealth v. Hernley*, 263 A.2d 904 (Pa. Super. 1970) (use of binoculars to look through window of print shop), *cert. denied*, 401 U.S. 914 (1971).

(D. Conn. 1981). *Cf. New York v. Class*, 475 U.S. 106, 114 (1986) (“The exterior of a car, of course, is thrust into the public eye, and thus to examine it does not constitute a ‘search.’”); *Cardwell v. Lewis*, 417 U.S. 583, 591 (1974) (plurality opinion) (taking of paint scrapings from the exterior of a vehicle left in a public parking lot did not infringe legitimate expectation of privacy where “nothing from the interior of the car and no personal effects, which the Fourth Amendment traditionally has been deemed to protect, were searched”).

State and federal courts have followed a similar line of reasoning when considering the use of light-intensifying “nightsopes” to conduct surveillance in the dark. In *United States v. Ward*, 546 F. Supp. 300, 310 (W.D. Ark. 1982), *aff’d in relevant part*, 703 F.2d 1058, 1062 (8th Cir. 1983), the court held that the use of a nightscope to observe the movements of individuals outside a barn did not constitute a search, where “[t]he officers did not ‘peep’ or peer into or through any windows or skylights,” or “obtain a view of objects or persons normally physically obscured.” *Id.* at 310. In *United States v. Hensel*, 509 F. Supp. 1376 (D. Me. 1981), *aff’d*, 699 F.2d 18 (1st Cir.), *cert. denied*, 461 U.S. 958 (1983), the court stated that the use of nightsopes “transgresses no Fourth Amendment rights” where drug enforcement agents used the scopes to observe activities on a private dock “but could not see into the buildings.” *Id.* at 1384 n.9. The First Circuit, although not resolving the issue, subsequently characterized this conclusion as “a reasonable position to take, given the case law on the subject.” 699 F.2d at 41. The Tennessee Court of Criminal Appeals reached the same conclusion in *State v. Cannon*, 634 S.W.2d 648 (Tenn. Crim. App. 1982), noting that the nightscope was used “to observe the traffic and activity on the outside of the dwelling,” but that it was “of no value in surveying activity in the interior of the house.” *Id.* at 651. *See also Newberry v. State*, 421 So.2d 546, 549 (Fla. App. 1982), *appeal dismissed*, 426 So.2d 27 (Fla. 1983); *State v. Denton*, 387 So.2d 578, 584 (La. 1980). Like the Second Circuit in *Taborda* with respect to telescopes, the Supreme Court of Pennsylvania has placed limits on the use of night vision equipment when it is used to discover “intimate details” within a dwelling. In *Commonwealth v. Williams*, 431 A.2d 964, 966 (Pa. 1981), the Court held that when such equipment was used for nine days to observe activity within private apartment, including two acts of sexual intercourse, then the surveillance constituted a “search” under the Fourth Amendment.

Following the reasoning of these decisions, we do not believe that the use of FLIR to detect the amount of heat emanating from structures on private lands constitutes a Fourth Amendment search. FLIR does not permit observation of the interior of homes or other structures. It cannot be used to peer through windows or skylights. It does not reveal even the shape or precise location of heat-emitting objects within a building, but shows only the amount of heat emitted from the exterior of a structure. When compared with the observations made by investigating officers in *Ciraolo* and *Riley* (which included the interior of Riley’s greenhouse and the specific plants growing in

Ciraolo's garden) and in *Lace, Allen*, and other lower court decisions (which included the movement of persons and vehicles within the curtilage of a residence), external heat emissions are not the sort of "intimate detail" likely to raise concerns under the public exposure cases.¹¹

III.

A.

The Smith Memorandum predicts, however, that the public exposure rationale "is unlikely to be adopted by the courts" with respect to FLIR. Smith Memorandum at 27. In its view, the public exposure doctrine should not be extended to cases where the technology adds a "sixth sense" to those naturally possessed by investigating officers. The memorandum contends that nightscopes and binoculars reveal activities that would have been visible to the human eye absent darkness or distance, and that the electronic beeper employed to monitor a vehicle on public roads in *United States v. Knotts* revealed only activities that would have been visible to passersby. By contrast, the memorandum argues, FLIR "permits observation of something that passersby cannot perceive with their natural senses," and its use is thus not likely to be sanctioned under the public exposure doctrine. Smith Memorandum at 27.

Assuming that there is a viable distinction between technologies that enhance existing senses and those that permit "extra-sensory" perception, and assuming that FLIR permits government agents to observe what they could not detect with their natural senses, those facts alone do not mean that the use of FLIR is a "search" under the Fourth Amendment. Federal and state courts have held that the interception of radio waves — which themselves cannot be perceived by the natural senses — does not constitute a "search." The United States Court of Appeals for the First Circuit, for example, concluded that there is no reasonable expectation of privacy in a communications broadcast on a ham radio frequency, which is "commonly known to be a means of communication to which large numbers of people have access as receivers." *Rose*, 669 F.2d at 26. Similarly, the Fifth Circuit summarily affirmed the decision of a district court which concluded that "[t]here is no reasonable expectation of privacy in a communication which is broadcast by radio in all directions to be overheard by countless people who have purchased and daily use receiving devices such as a 'bearcat' scanner or who

¹¹ The relatively minimal information disclosed by FLIR clearly distinguishes it from X-ray-like technologies, which could permit the viewing of persons or objects through opaque structures or containers. As the United States said in its brief in *Dow Chemical*, if "the government possessed a sophisticated X-ray device that enabled it to see through the walls of a house, there seems little doubt that the use of such a device to discover objects or activities located inside a dwelling would be subject to Fourth Amendment regulation." Brief for the United States at 24 n.12, 476 U.S. 227 (1986) (No. 84-1259). See *United States v. Haynie*, 637 F.2d 227 (4th Cir. 1980) (use of X-ray machine to reveal shapes of objects is a Fourth Amendment search), *cert. denied*, 451 U.S. 972 (1981); *United States v. Henry*, 615 F.2d 1223 (9th cir. 1980) (same).

happen to have another mobile radio telephone tuned to the same frequency." *Edwards v. Bardwell*, 632 F. Supp. at 589. Accord *Edwards v. State Farm Ins. Co.*, 833 F.2d 535, 538-39 (5th Cir. 1987). Three other circuits have likewise held that there is no reasonable expectation of privacy in radio telephone or cordless telephone conversations. *Tyler v. Berodt*, 877 F.2d 705, 706-07 (8th Cir. 1989), *cert. denied*, 493 U.S. 1022 (1990); *United States v. Hall*, 488 F.2d 193, 198 (9th Cir. 1973); *United States v. Hoffa*, 436 F.2d 1243, 1247 (7th Cir. 1970), *cert. denied*, 400 U.S. 1000 (1971).¹² These decisions demonstrate that the question whether the acquisition of information is a "search" must depend on more than whether the information may be perceived by the natural senses.

In any event, we believe it is virtually impossible to divide surveillance techniques neatly between those that allow "extra-sensory" perception and those that merely employ the natural senses. It is hardly clear, for example, that night vision equipment, the use of which has been held not to constitute a search, permits merely "enhancement of the natural sense of sight." Smith Memorandum at 27. One jurist to consider the question thought not, and observed that a nightscope "not only magnifies what the viewer could see with the naked eye, but also makes possible the observation of activities which the viewer could not see because of darkness." *State v. Denton*, 387 So.2d at 584. On the other hand, the First Circuit has opined that "[u]se of a beeper to monitor a vehicle involves something more" than "magnification of the observer's senses," *United States v. Moore*, 562 F.2d 106, 112 (1st Cir. 1977), *cert. denied*, 435 U.S. 926 (1978), even though the Smith Memorandum maintains that beeper surveillance reveals only activities that would be visible to passersby, and thus is not "extra-sensory." Smith Memorandum at 27. In short, virtually all of the devices used by investigating officers in some sense permit the collection of information that could not "naturally" be observed. The distinction between natural and "extra-sensory" observations thus seems to have little analytical or constitutional significance.

Even if that distinction were important, it is not at all clear that FLIR would be categorized properly as a device that permits observations that humans could not make with their natural senses. At some level, heat emanations can be observed through the natural sense of sight. The naked eye can perceive heat waves rising from a warm object. The relative speeds at which snow melts from the roofs of various structures can give indications about the relative heat emissions from those structures. The natural senses can also feel heat emanations when they are in close proximity to the human body. Thus, it could be argued that FLIR merely enhances the capacity of the natural senses to perceive heat.

¹² See also *State v. Delaurier*, 488 A.2d 688, 694 (R.I. 1985) (owners of cordless telephone had no reasonable expectation of privacy in their conversations, which could be intercepted with standard AM/FM radio); *State v. Howard*, 679 P.2d 197, 206 (Kan. 1984) (same); *People v. Medina*, 234 Cal. Rptr. 256, 262 (Cal. Ct. App.) (no reasonable expectation of privacy in message sent through pager system, where conversation "could be intercepted by anyone with a radio scanner or another pager"), *cert. denied*, 484 U.S. 929 (1987).

Courts generally have held that the relevant question for determining whether surveillance infringes upon a *legitimate* expectation of privacy is not merely *how* information is collected but *what* information is collected. If an object of government surveillance is recognized by society as enjoying a privacy interest of sufficient magnitude, the government's activity will constitute a "search." Technology that allows the government to view the interior of a home almost certainly implicates the Fourth Amendment. But we are not prepared to say, as the Smith Memorandum suggests, that any "extra-sensory" technological development that assists authorities in ferreting out crime is automatically one that society would deem unreasonably intrusive, no matter how minimal the intrusion on the privacy interests of the citizenry. The Supreme Court has "never equated police efficiency with unconstitutionality," *Knotts*, 460 U.S. at 284, and we fear that acceptance of the Smith Memorandum's analysis would come perilously close to doing so.

B.

More fundamentally, the Smith Memorandum suggests that extension of the public exposure doctrine to endorse the use of FLIR would threaten to "repudiate" *Katz*, because "any member of the public who could obtain a sophisticated listening device could have heard everything the police heard" in *Katz*. Smith Memorandum at 28. This contention does illustrate that the public exposure doctrine must have limits, and it points to an internal tension in the reasoning of *Katz* itself. It could reasonably be argued that *Katz*, given the availability of listening devices, knowingly exposed his conversations to the public by using a public telephone booth to place his calls. It may well be that the Supreme Court will eventually be forced to revisit its Fourth Amendment jurisprudence and explain the relationship between *Katz* and the "public exposure" doctrine.

In the light of decisions subsequent to *Katz*, however, it appears that the Court concluded that the eavesdropping in *Katz* was a search not simply because the FBI employed technology, but because the technology permitted the interception of "private communication." 389 U.S. at 352. Private communications, like private papers and the interior of a home, implicate a privacy interest of the highest degree. As Justice Brandeis explained in his prescient dissent in *Olmstead*, the Supreme Court has long held that private letters are protected by the Fourth Amendment, *see Ex parte Jackson*, 96 U.S. 727 (1877), and "[t]here is, in essence, no difference between the sealed letter and the private telephone message." *Olmstead*, 277 U.S. at 475 (Brandeis, J., dissenting). "Society" is plainly prepared to recognize as reasonable the expectation that private telephone calls will remain free from monitoring by the government. Heat emissions from the exterior of a structure — providing, as they do, no precise details about a structure's interior — do not, in our view, enjoy a similar status.

C.

The principal case relied on by the Smith Memorandum for the conclusion that FLIR surveillance is a Fourth Amendment search is *United States v. Karo*, 468 U.S. 705 (1984). In *Karo*, drug enforcement agents installed an electronic beeper in a can of ether, which they believed was to be delivered to buyers for use in extracting cocaine from clothing that had been imported into the United States. After the ether was delivered to the buyers, who had no knowledge of the presence of the beeper, the agents monitored the movement of the can of ether within a private residence where it was stored and used.

The Court held that “the monitoring of a beeper in a private residence, a location not open to visual surveillance, violates the Fourth Amendment rights of those who have a justifiable interest in the privacy of the residence.” *Id.* at 714. After reciting the basic rule that “[s]earches and seizures inside a home without a warrant are presumptively unreasonable absent exigent circumstances,” *id.* at 714-15, the Court explained that monitoring of the beeper inside the private residence was the functional equivalent of a physical search of the premises:

In this case, had a DEA agent thought it useful to enter the . . . residence to verify that the ether was actually in the house and had he done so surreptitiously and without a warrant, there is little doubt that he would have engaged in an unreasonable search within the meaning of the Fourth Amendment. For purposes of the Amendment, the result is the same where, without a 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. The beeper tells the agent that a particular article is actually located at a particular time in the private residence and is in the possession of the person or persons whose residence is being watched.

Id. at 715. The Court distinguished its earlier decision in *United States v. Knotts*, which held that the monitoring of a beeper on public roads was not a Fourth Amendment search. The *Karo* Court concluded that although the use of a beeper inside a home is “less intrusive than a full-scale search,” it “reveal[s] a critical fact about the interior of the premises that the Government is extremely interested in knowing and that it could not have otherwise obtained without a warrant.” *Id.*

The Smith Memorandum states that it “appears likely” that the Supreme Court would hold, primarily on the authority of *Karo*, that FLIR surveillance is a Fourth Amendment search. Smith Memorandum at 25. The Memorandum

reasons that FLIR would enable investigators to deduce whether an object, such as a generator, is within a private structure in which there is a reasonable expectation of privacy. Accordingly, like a beeper, FLIR could permit the government to learn "a critical fact about the interior of the premises" without obtaining a warrant.

We do not believe that *Karo* should be read so broadly. First, it is clear that not every acquisition of information by the government from which it can *deduce* facts about the interior of a residence or other private structure constitutes a search. In *California v. Greenwood*, 486 U.S. 35 (1988), for example, the Court held that a search of trash placed outside a home for removal by the trash collector did not infringe upon a legitimate expectation of privacy of the homeowner. The Court reached this conclusion despite the fact that, as the dissent pointed out, "a sealed trash bag harbors telling evidence of the 'intimate activity associated with the sanctity of a man's home and the privacies of life.'" *Id.* at 50 (Brennan, J., dissenting) (internal quotations omitted). Likewise, in *Smith v. Maryland*, 442 U.S. 735 (1979), the Court held that the installation and use of a pen register to record telephone numbers dialed by Smith was not a search, although the pen register revealed to police telephone numbers that Smith dialed within the privacy of his own home. *See id.* at 743.

Many other observations permit police to discern what might in some cases be "critical facts" about the interior of a residence, although they almost certainly do not constitute searches under the Fourth Amendment. The sighting through a nightscope of smoke emanating from a chimney on top of a house, for example, allows an inference that a fire is burning inside the house. Observation through binoculars of light beams coming from a window permits the conclusion that someone (or some device) has activated a light inside the house. Yet in light of the decisions of the Supreme Court in *Ciraolo* and *Riley* and of the various state and lower federal courts involving binoculars and nightscopes, we believe it quite unlikely that the Supreme Court would hold, by analogy to *Karo*, that such observations of activity exposed to public view infringe upon Fourth Amendment rights.

Second, the Court in *Karo* rested its holding on the fact that the government had "*surreptitiously employ[ed]* an electronic device to obtain information that it could not have obtained by observation from outside the curtilage of the house." 468 U.S. at 715 (emphasis added). By contrast, the owner of a structure on private property has full knowledge that heat is emitted from the structure and, presumably, that it can be monitored by infrared radars.¹³ The result in *Karo* would likely have been different had the owner of the residence knowingly placed his own beeper in the ether

¹³ We are informed by DoD that "infrared technology has been in use by local, state, and federal law enforcement officials for years." Smith Memorandum at 6. FLIR is mentioned in a reported court decision as early as 1977, *see United States v. Potter*, 552 F.2d 901, 906 n.7 (9th Cir. 1977), and it has been discussed by several courts in the last fourteen years. The existence and usefulness of FLIR may be

Continued

container and voluntarily conveyed the signal to anyone in the public who might desire to monitor it. Cf. *United States v. Rose*, 699 F.2d at 26 (no reasonable expectation of privacy in communications broadcast on a ham radio frequency); *Edwards v. Bardwell*, 632 F.2d at 589.

The Smith Memorandum contends that "the only constitutional significance of the fact in *Karo* that the beeper monitoring was done 'surreptitiously' appears to be that it was done without the knowledge and consent of *Karo*" and that "[t]o this extent, the proposed use of FLIR is as surreptitious as was the use of the beeper in *Karo*." Smith Memorandum at 25. As noted, we believe this analysis fails to recognize the distinction between knowing and unknowing conveyance of information for receipt by the public. *Karo* did not know that the beeper was emitting its signal from the interior of his residence, because DEA agents surreptitiously planted the beeper in his home. By contrast, the owner of a structure on private property knows that he is emitting heat through the roof of the structure.¹⁴

D.

Finally, the Smith Memorandum predicts that a court considering the use of FLIR over private property would invoke the Supreme Court's cautionary note in *Dow Chemical* that "surveillance of private property by using highly sophisticated surveillance equipment not generally available to the public, such as satellite technology, might be constitutionally proscribed absent a warrant." 476 U.S. at 238. See Smith Memorandum at 27. Whatever the significance of this dictum, we do not believe it applicable to aerial reconnaissance that makes use of FLIR. While FLIR equipment may be expensive, we are informed that it is available to any member of the public who might wish to purchase it for use. FLIR does not, therefore, constitute "surveillance equipment not generally available to the public."

To be sure, the proposed uses of FLIR raise difficult Fourth Amendment issues. FLIR enables the government to acquire information concerning heat emissions from private structures that has not been readily available in the past. We do not believe, however, that every technological advance in the service of law enforcement will inevitably infringe upon expectations of privacy that society is willing to honor. FLIR collects information about heat that is emanating from the exterior of structures and conveyed openly into the atmosphere. It does not reveal any precise or intimate details about

¹³ (...continued)

known among the citizenry as well, for law enforcement officials have informed DoD that individuals attempting to cultivate illegal drugs "will often insulate their growing houses in an effort to preclude discovery of the intense heat generated by [the cultivation] process." Smith Memorandum at 1.

¹⁴ The Memorandum also relies on a number of lower court decisions holding that the use of a magnetometer to detect metal on a person is a search under the Fourth Amendment. See, e.g., *United States v. Albarado*, 495 F.2d 799 (2d Cir. 1974); *United States v. Bell*, 464 F.2d 667 (2d Cir.), cert. denied, 409 U.S. 991 (1972); *United States v. Epperson*, 454 F.2d 769 (4th Cir.), cert. denied, 406 U.S. 947 (1972).

the interior of a structure. Any member of the public flying over a building with FLIR could acquire the information proposed to be collected by DoD personnel.

In view of these factors and the relevant court precedents, we believe that the proposed use of FLIR to conduct aerial reconnaissance over structures located on private lands would not constitute a “search” under the Fourth Amendment, unless travel at the altitude to be flown by the aircraft carrying FLIR equipment is extraordinary. We believe this caveat is necessary, because Justice O’Connor’s concurring opinion in *Florida v. Riley* seemed to indicate that aerial surveillance from airspace that is rarely, if ever, traveled by the public would interfere with a reasonable expectation of privacy. 488 U.S. at 455 (O’Connor, J., concurring); *see also United States v. Hendrickson*, 940 F.2d 320, 323 (8th Cir.), *cert. denied*, 502 U.S. 992 (1991). It is uncertain whether the Supreme Court will ultimately adopt the reasoning of the *Riley* plurality or Justice O’Connor concurrence, but for the time being, the law is unsettled with respect to aerial surveillance conducted from airspace that an individual could prove is rarely, if ever, used by the general public. If DoD encounters a situation in which FLIR surveillance would be carried out from airspace that is rarely used by the public, we would be pleased to examine that issue in more depth.

IV.

You have also expressed concern that DoD personnel who conduct FLIR surveillance might be subject to tort liability in an action brought under *Bivens v. Six Unknown Named Agents of Federal Bureau of Narcotics*, 403 U.S. 388 (1971). We do not believe that DoD personnel engaged in such activity will be liable for damages. If, as we believe, FLIR surveillance does not constitute a Fourth Amendment search, there would of course be no constitutional violation and no potential liability.

Even if a court were to disagree with our conclusion and hold that FLIR surveillance is a search, we do not believe that DoD personnel would be subject to liability for monetary damages. Federal officers are entitled to “qualified immunity” from tort suits for actions taken in the course of their official duties. *E.g., Mitchell v. Forsyth*, 472 U.S. 511, 528 (1985); *Harlow v. Fitzgerald*, 457 U.S. 800, 819 (1982). In *Anderson v. Creighton*, 483 U.S. 635 (1987), the Supreme Court explained that an officer is entitled to such immunity unless he violates a constitutional right that is “clearly established” at the time

¹⁴ (...continued)

See Smith Memorandum at 14 & n.33. These decisions contain little or no analysis of the question whether use of such a device is a Fourth Amendment search, and we agree with DoD that “we cannot be certain that the [Supreme] Court would agree their use is a search or that it would apply the same analysis to use of FLIR.” *Id.* In any event, the use of a magnetometer is distinguishable from FLIR in at least one crucial respect. The magnetometer cases do not fall within the public exposure doctrine, because it is not true that “any member of the public” could learn what the government discovers through a magnetometer. The government is able to make use of a magnetometer only because it can require individuals to pass through the mechanism in order to travel on airplanes. *See Albarado*, 495 F.2d at 806-07.

of the officer's action. The right must be "clearly established" in this particularized sense: "The contours of the right must be sufficiently clear that a reasonable official would understand that what he is doing violates that right." *Id.* at 640.

Given the uncertainty surrounding what expectations of privacy "society is prepared to recognize as reasonable," we do not believe that the use of FLIR from airspace that is used by the general public — even if ultimately held to be a Fourth Amendment search — would violate a "clearly established" constitutional right of the owners of structures on private lands. As our legal analysis (and the difference of opinion among those to have examined the issue) shows, a reasonable officer certainly could believe that the use of FLIR to conduct aerial reconnaissance of private structures is lawful. Accordingly, we do not think that DoD personnel providing that type of assistance to civilian law enforcement agencies would be subject to liability for damages in a constitutional tort action.

TIMOTHY E. FLANIGAN
Acting Assistant Attorney General
Office of Legal Counsel