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# THERMAL IMAGING AND THE FOURTH AMENDMENT: PUSHING THE KATZ TEST TOWARDS TERMINAL VELOCITY

## I. INTRODUCTION

Fourth Amendment liberties are currently receding amidst the current tide of crime-fighting fever.<sup>1</sup> As political pressure mounts to combat crime, the United States government has unleashed F.L.I.R.<sup>2</sup> as its latest secret weapon to fight crime. F.L.I.R. is the acronym for Forward Looking Infra-Red Radar, also known as thermal imagery.<sup>3</sup> F.L.I.R. technology permits local police<sup>4</sup> to ascertain if a suspect is growing marijuana in his or her home, by monitoring escaping heat.<sup>5</sup> The heat produces light, which is detected by the F.L.I.R., through the use of a lens and a series of mirrors.<sup>6</sup> The F.L.I.R. then transforms emitted light into an electrical signal "that can be amplified, processed, and stored on

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1. See John DiPippa, *Is the Fourth Amendment Obsolete? Restating the Fourth Amendment in Functional Terms*, 22 GONZ. L. REV 483, 497 (1986/1987). DiPippa offers the proposition that the privacy standard utilized in Fourth Amendment analysis is shrinking when it is balanced against the government's interest in law enforcement because "it is more expedient to catch law-breakers than to adhere to technical rules." *Id.*

2. *United States v. Ishmael*, 843 F. Supp. 205, 208 (E.D. Tex. 1994). F.L.I.R. is the acronym for Forward Looking Infra Red Radar, which differentiates surface temperatures and records a visual image on video tape. See Bradley J. Plaschke, Note, *United States v. Deaner: Thermal Imagery, The Latest Assault on the Fourth Amendment Right to Privacy*, 12 J. MARSHALL J. COMPUTER & INFO. L. 607 n.4. Plaschke notes an interview with Col. Carlos Anigloh, President of Thermal Technologies, Inc., who explains that thermal imaging has a variety of applications including law enforcement, military, and rescue type services used by fire departments. *Id.*

3. Plaschke, *supra* note 2, at 607 n.2. Col. Carlos Anigloh further explains that thermal imaging is a passive device which does not penetrate a structure in any way when being used. See also Lisa J. Steele, *Waste Heat and Garbage: The Legalization of Warrantless Infrared Searches*, 29 CRIM. L. BULL. 19, 24 (1993). Steele explains that infrared emissions are comprised of "radio waves, microwaves, heat, visible light, ultraviolet light, X-rays, and gamma rays." *Id.* What distinguishes these different types of energy is the wavelength of the electric and magnetic fields. *Id.* The use of this tool by police resembles the use of a geiger counter to detect radiation. *Id.*

4. See Steele, *supra* note 3, at 24.

5. *Id.*

6. See *id.*

videotape or displayed on a screen,"<sup>7</sup> where officers may then interpret their findings. Application of this new tool<sup>8</sup> for crime fighting would indeed appear valuable. However, its value is substantially outweighed by its inherent potential to destroy basic Fourth Amendment rights.<sup>9</sup>

The use of F.L.I.R. raises the question of what constitutes a permissible search<sup>10</sup> under the Fourth Amendment.<sup>11</sup> The Fourth Amendment guarantees that no individual endure an unreasonable search.<sup>12</sup> The decisions of several lower courts have become clouded on the permissible

7. See *id.*

8. See Steele, *supra* note 3, at 24. Steele states the F.L.I.R. device's lens is transparent to infrared radiation. *Id.* The image produced will be displayed as various shades of gray which are dependent on "the amount of heat being radiated from the object" and the "emissivity" of whatever is being observed. *Id.* Emissivity refers to how transparent a particular object is to infrared emissions. *Id.* The author further explains that, similar to how a curtain or window allow different amounts of light to pass through them, different amounts of heat radiate from different objects. *Id.* Hotter objects radiate more energy and appear as a white hue through the F.L.I.R. device. *Id.*

9. See *Washington v. Young*, 867 P.2d 593 (Wash. 1994). *Young* held that a search occurred when officers used thermal imaging techniques to survey the escaping heat from the petitioner's home. *Id.* at 598. The court further held that art. I, §7 of Washington's Constitution was violated when this type of a search was conducted. *Id.* Article I, §7 provides that "no person shall be disturbed in his private affairs, or his home invaded, without authority of law." *Id.* at 596-97. Pursuant to this provision the court reasoned that this constitutional standard was violated by the infra red detection. The *Young* court reasoned that the home should receive heightened protection. *Id.* at 600. The court recognized that the thermal imaging data obtained by the police to gather information about the defendant was impossible to detect through the naked eye. *Id.* at 599. The court reasoned that the use of special equipment was particularly intrusive and thus, constituted a warrantless search. *Id.* at 600.

See also Tom Bush, Comment, *A Privacy-Based Analysis for Warrantless Aerial Surveillance Cases*, 75 CAL. L. REV. 1767, 1794 (1987). Bush argues that technological developments threaten the integrity of the Fourth Amendment as they "expos[e] the private details of peoples' private activities to government agents." *Id.* Bush further noted that the nature of this surveillance creates a "chilling effect on personal security and individual autonomy, values at the core of the fourth amendment and, indeed, the entire Bill of Rights." *Id.* Additionally, the author concludes by noting that the degree of intrusiveness is increased when this type of surveillance is performed "surreptitiously." *Id.* at 1795.

10. See Anthony Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349 (1974) (defining a search as "any physical entry by law enforcement officers and any physical intrusion of a surveillance device into the premises"). *Id.* at 356. See also Alan C. Schaefer, Comment, *Aerial Surveillance and the Fourth Amendment*, 17 J. MARSHALL L. REV. 455, 476 (1984) (noting that routine police aerial photographs of highways, which locate marijuana, do not constitute searches).

11. See *United States v. Field*, 855 F. Supp. 1518 (W.D. Wis. 1994). The court examined several prior opinions to determine whether defendant suffered a warrantless search when officers, operating a thermal imager, surveyed the defendant's home. *Id.* at 1525-26, *et. seq.* The court held that the defendant had suffered a search, because it rejected prior case law supporting thermal imaging as a useful police tool. *Id.* at 1519.

12. U.S. CONST. amend. IV.

search issue due to the growth of this sophisticated technology.<sup>13</sup> The current test used by the lower courts to protect citizens from impermissible searches falls short of the expansion needed to balance the continually improving police surveillance capabilities.<sup>14</sup> Thus, it appears the current constitutional test for protecting Fourth Amendment rights is circumvented through technological advances made by science.<sup>15</sup>

The Fourth Amendment serves to protect individuals from arbitrary and capricious searches by making warrantless searches impermissible.<sup>16</sup> The broad language of the Fourth Amendment does not specify a particular method of application.<sup>17</sup> In order for the Supreme Court to implement the general protections of the Fourth Amendment to fact specific cases, it is necessary for the Court to create standards so that the gap between general objectives and fact specific scenarios can be bridged.<sup>18</sup>

Currently, courts employ the *Katz* test as the standard to assess whether a Fourth Amendment violation has occurred.<sup>19</sup> However, because the use of thermal imaging in law enforcement has been held to be permissible under the *Katz* standard, but intrudes on the guarantees of the Fourth Amendment, the *Katz* standard should no longer be the dispositive test.

In response to this developing legal dilemma, this comment will suggest an alternative to the *Katz* test. The first section will examine the current constitutional protections and their origins. The second section will examine the varying decisions and conflicts of the lower courts on this issue. The third section will illustrate the weak links in the chain of reasoning utilized under the current constitutional test. The final section will illustrate the Supreme Court of Washington's test and how it is

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13. See *Washington v. Young*, 867 P.2d at 599 (holding that technology, which allows information to be derived from within a physical structure, can constitute a search).

14. See Schaefer, *supra* note 10, at 489. The author states that the Court is slow to implement changes to an old standard, which is used to determine the individual rights, when compared to speed at which society and its' technology evolves. *Id.*

15. *Id.* See also Schaefer, *supra* note 10, at 480 (stating that bypassing the Fourth Amendment is not justified on the basis that police can search unobtrusively, due to technological advances).

16. Amsterdam, *supra* note 10, at 411.

17. Owen M. Fiss, Groups and the Equal Protection Clause, 36 PHIL. & PUB. AFF. 107 (1976). Fiss uses this framework of analysis to explain an equal protection methodology, however, it is possible to use the same analysis in looking at the broad application of the Fourth Amendment.

18. See Fiss, *supra* note 16, at 107. The author delineates a method of constitutional interpretation that relaxes the focus on the actual text of the constitution and views it merely as a guide. The Court must then mediate this broad meaning with an adopted set of principles to employ specific meaning.

19. *California v. Ciraolo*, 476 U.S. 207, 209 (1986), *reh'g denied*, 106 U.S. 3320 (1986).

a viable alternative to the *Katz* standard.<sup>20</sup>

## II. BACKGROUND

Prior to considering why the present constitutional safeguards must be re-interpreted to respond to advances in technology, it is important to understand the foundation from which the United States Supreme Court has been operating. The current constitutional protections guarding against warrantless searches stem from *Katz v. United States*.<sup>21</sup> The defendant, in *Katz*, was surveyed by government agents while he used the telephone in a public telephone booth.<sup>22</sup> The Court held that this type of surreptitious surveillance constituted an impermissible search.<sup>23</sup> Although the majority's opinion is an integral part of the Fourth Amendment's development, Justice Harlan's concurrence must be especially noted.<sup>24</sup> Harlan articulated the modern two-part test used to determine whether a warrantless search is proper under the Fourth Amendment.<sup>25</sup> The first part of this test is whether the individual has a subjective expectation of privacy.<sup>26</sup> The second part of this test is whether this expectation of privacy is one which society will recognize as reasonable.<sup>27</sup> This two-part inquiry remains the litmus test by which the Court measures the validity of warrantless searches.<sup>28</sup>

It was not until 1986, in *Dow Chemical Company v. United States*,<sup>29</sup> that the uncertain future of the *Katz* test became readily apparent. *Dow*

20. *Washington v. Young*, 867 P.2d at 599.

21. *Katz v. United States*, 389 U.S. 347 (1967). In *Katz*, the petitioner sought relief from the government's electronic surveillance of his conversation in a public phone booth. *Id.* at 348-49. The court held that a search could still occur without a physical penetration of the phone booth's barriers. *Id.* at 511-12. Therefore, it is the expectation of privacy that governs whether an individual is protected from warrantless searches under the Fourth Amendment. The fact that a phone booth is in a public area is irrelevant for purposes of protecting a Fourth Amendment right, since the petitioner had an expectation of privacy in his conversation once he shut the booth door. *Id.*

22. *Id.* at 348.

23. *Id.*

24. *Id.* at 360.

25. *Id.* at 361. A person may attach subjective expectations of privacy in activities that occur in their home, however, activities which occur in "plain view" are not protected because those activities are not intended to be private. *Id.*

26. *Id.*

27. *Katz v. U.S.*, 389 U.S. at 361. Justice Harlan attempted to propose as a universal truth that activities transpiring in the home derive an expectation of privacy, while activities outside the home will produce varying expectations of privacy depending on the circumstances. *Id.*

28. *California v. Ciraolo*, 476 U.S. 207, 211 (1986).

29. *Dow Chemical Company v. United States*, 476 U.S. 227 (1986) (holding that the EPA was entitled to view the plaintiff's premises from an airplane via the use of a commercial mapping camera). In *Dow*, the Environmental Protection Agency was denied an on site inspection of the plaintiff's complex. *Id.* at 229. The EPA then employed a commercial

*Chemical* is currently the closest the Supreme Court has come to defining what constitutes a search in light of recent advances in technological sophistication.<sup>30</sup> In *Dow Chemical*, the EPA procured a plane and utilized a commercial mapping camera to view the plaintiff's industrial complex from great altitudes after the plaintiff refused a ground inspection of the physical plant.<sup>31</sup> The plaintiff asserted that the photographs taken by the EPA amounted to a search in light of the fact that the quality of these photographs allowed "wires as small as 1/2 -inch in diameter" to be observed.<sup>32</sup>

The Supreme Court disagreed, holding this type of observation did not raise any constitutional concerns.<sup>33</sup> The Court premised its reasoning on the fact that the EPA did not use any rare or out of the ordinary devices to gather the information.<sup>34</sup> Additionally, the Court seemed to take comfort in the fact that the information acquired through the EPA's photographer was accomplished with nothing more than a lens to enhance the natural sense of sight.<sup>35</sup> However, the Court noted that constitutional concerns would be raised if the government had engaged in the use of highly sophisticated equipment that generally was unavailable to the public.<sup>36</sup>

In the companion case with *Dow Chemical*, *California v. Ciraolo*,<sup>37</sup> the Court held that an aerial observation made by police who observed

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aerial photographer using a commercial mapping camera to take pictures of the complex from altitudes ranging from 1,200 to 12,000 feet. *Id.*

30. Prior to the *Dow Chemical* decision, in *United States v. Henry*, the 9th Circuit noted that the use of an x-ray scan was:

... clearly a search. It is true that it is less intrusive than a physical search, but it nonetheless reveals to a certain extent, articles the owner has chosen to conceal from view. It is certainly a more intrusive device than the magnometer, the use of which has been held to constitute a search.

*United States v. Henry*, 615 F.2d 1223, 1227 (9th Cir. 1980).

31. *Dow Chemical Co. v. United States*, 476 U.S. 207 (1986).

32. *Id.* at 238.

33. *Id.* at 238.

34. *Id.*

35. *Id.*

36. *Id.*

37. *California v. Ciraolo*, 476 U.S. 207 (1986). Police were unable to observe defendant's backyard because of the presence of a six foot high outer fence and a ten foot high inner fence. *Id.* at 209. The defendant believed this afforded him privacy to conceal his activities from the general public. *Id.* at 211. Police proceeded to use a helicopter to view defendant's backyard and consequently spotted several marijuana plants. *Id.* at 209. Ultimately, the Court held that petitioner's claim failed to satisfy the second prong of the *Katz* test delineating an expectation of privacy that society would deem as reasonable. *Id.* at 213-14. Thus, police use of their helicopter and the findings of their search were permissible. *Id.* at 215.

the defendant growing marijuana plants was not overly intrusive.<sup>38</sup> The majority conceded that the defendant had a subjective expectation of privacy pertaining to his agricultural pursuits,<sup>39</sup> thus satisfying the first prong of *Katz*.<sup>40</sup> However, the Court gave substantial consideration to the second prong of the *Katz* test.<sup>41</sup> This determination hinged on several factors. The first factor was public accessibility.<sup>42</sup> The Court refused to acknowledge the defendant's expectation of privacy in airspace as reasonable by society's standards.<sup>43</sup> The Court reasoned that any member of the public who happened to be hovering at 1,000 feet over the defendant's yard could have observed the defendant's marijuana plants, since this airspace<sup>44</sup> is a public thoroughfare.<sup>45</sup> The second factor the court noted was that these officers were able to make their observations with the "naked eye,"<sup>46</sup> unassisted by any sophisticated technology.<sup>47</sup> Thus, any member of the public could have also made this plain view observation.<sup>48</sup> As a culmination of these several factors, the Court ulti-

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38. *Id.* The Court in this instance held that the nature of this observation was on its face reasonable and thus did not require a warrant. *Id.*

39. *Id.* at 211. The Court conceded that the defendant's ten foot fence was placed there with the intention to prevent others from observing his activities and therefore established a subjective expectation of privacy. *Id.* However, the Court noted that the defendant was unclear as to the type of assertion that he made. *Id.* at 211-12. Due to the defendant's lack of clarity, the Court felt free to hypothesize that even though defendant had erected multiple fences, police still might be able to see into his backyard if they were perched on a two level bus or on top of a truck. *Id.*

40. *Id.*

41. *Id.* at 212.

42. *Id.* at 213. The court stated that the police helicopter was in legally navigable airspace and therefore, the police need not turn away because "Fourth Amendment protection . . . has never been extended to require law enforcement officers to shield their eyes when passing by a home on public thoroughfares." *Id.*

43. *California v. Ciraolo*, 476 U.S. at 215.

44. Mark Llyod Smith, Comment, *Warrantless Aerial Surveillance: Searching for Constitutional Standards*, 52 J. AIR L. & COM. 257, 268 (1986). Navigable airspace is defined pursuant to certain altitudes such as: "... any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft." *Id.* Population density also dictates what are acceptable altitudes "other than congested areas." *Id.* An altitude of 500 feet above the surface except over open water or sparsely populated areas. In that case, "the aircraft may not be operated closer than 500 feet to an person, vessel, vehicle, or structure." *Id.* (quoting 14 C.F.R. § 91.79 (1985)).

45. *California v. Ciraolo*, 476 U.S. at 213.

46. *Id.* at 215.

47. *Id.* at 213.

48. See Schaefer, *supra* note 10, at 466. Plain view is defined as a view providing police incident to lawful entry or arrest. *Id.* at 466. See also Schaefer, *supra* note 10, at n.50. The plain view doctrine is a supplementary reason to be present and unconnected to the defendant for purposes of a search permitting warrantless seizure. In addition, the parameters are "legitimate only where it is immediately apparent to the police that they have

mately held that a completely fenced in backyard did not establish an expectation of privacy which society would recognize as reasonable.<sup>49</sup>

Attempting to apply the *Katz* standard to determine how the lower courts will rule on pre-warrant uses of thermal imaging is similar to predicting when lightning will strike.<sup>50</sup> Courts which have approved the use of thermal imaging without a search warrant regularly base their reasoning on *United States v. Penny-Feeney*.<sup>51</sup> The district court in *Penny-Feeney* reasoned that police use of a thermal imaging device, for the sole purpose of measuring heat emanations from the defendant's home, did not constitute a search of the home.<sup>52</sup>

In its opinion, the *Penny-Feeney* court held that when a person cannot keep excess heat from escaping his home, that person ceases to enjoy a reasonable expectation of privacy because the heat is now the equivalent of waste.<sup>53</sup> Additionally, the *Penny-Feeney* court attempted to compare a non intrusive canine sniff to thermal imaging, comparing emanating odors to emanating heat.<sup>54</sup> On appeal the Ninth Circuit upheld this reasoning.<sup>55</sup>

Other courts have also upheld the *Penny-Feeney* rationale pursuant to thermal imaging. The Fifth, Sixth, Eighth and Eleventh Circuits have upheld pre-warrant searches using thermal imaging in *United States v. Broussard*,<sup>56</sup> *United States v. Zimmer*,<sup>57</sup> *United States v. Pinson*<sup>58</sup> and

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evidence before them; the 'plain view' doctrine may not be used to extend a general search from one object to another until something incriminating at last emerges." *Id.*

49. *California v. Ciraolo*, 476 U.S. at 214.

50. *United States v. Olson*, 21 F.3d 847 (8th Cir. 1994), *cert. denied*, 115 S.Ct. 230 (1994); *United States v. Casanova*, 835 F. Supp. 702 (N.D.N.Y. 1993). Courts seem to vary widely on the issue of thermal imaging. In *Olson*, the defendant's mobile home was subjected to thermal imaging but there was probable cause to uphold a warrant without considering the thermal imaging issue. *Id.* at 708. In *Casanova*, the court felt no need to resolve the thermal imaging issue. *Id.*

51. See *United States v. Penny-Feeney*, 773 F. Supp. 220 (D. Haw. 1991), *aff'd* 984 F.2d 1053 (9th Cir. 1993). *Penny-Feeney* held that officers, who flew over the defendant's home at 5:30 a.m. and used a thermal imager to detect heat emanations, did not violate the *Katz* test because, pursuant to the second prong, society would not recognize a reasonable expectation of privacy in escaping heat. *Id.* at 226-28.

52. *Id.* at 226. Additionally, the defendant did nothing to impede the heat from escaping his home and therefore did not have an expectation of privacy that society would recognize as reasonable. *Id.*

53. *Id.*

54. *Id.*

55. See *United States v. Penny-Feeney*, 984 F.2d at 1056. The Court found that there was independent probable cause to search the defendant's garage. *Id.* The Court stated that it would not address a constitutional question in advance or short of an absolute necessity. *Id.*

56. See *United States v. Broussard*, 987 F.2d 215 (5th Cir. 1993) (upholding the use of thermal imaging on a defendant's trailer home after defendant sealed and blackened out his windows to raise his own level of privacy).



*United States v. Ford*,<sup>59</sup> respectively. In *Broussard* and *Zimmer*, neither defendant challenged the use of thermal imagers, and consequently the court did not have to analyze its appropriateness.<sup>60</sup> In *Pinson*, however, the court, consistent with *Penny-Feeney*, held that society would not recognize a reasonable expectation of privacy in escaping heat produced by grow lamps from within the defendant's home.<sup>61</sup>

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57. See *United States v. Zimmer*, 14 F.3d 286 (6th Cir. 1994). The *Zimmer* court again upheld the legality of thermal imaging on a defendant's home which revealed marijuana cultivation. *Id.* at 288-89.

58. See *United States v. Pinson*, 24 F.3d 1056 (8th Cir. 1994). The police utilized a Forward Looking Infra-Red Radar device to view an open window on the third floor and detected an inordinate amount of escaping heat which indicated the cultivation of marijuana. *Id.* at 1057. The court held that pursuant to the second prong of the *Katz* test, society would not recognize an expectation of privacy in escaping heat from the defendant's home as reasonable. *Id.* at 1058-59. Thus, the use of a Forward Looking Infra-Red Radar did not constitute an illegal search. *Id.* at 1059.

59. *United States v. Ford*, No. 92-5181, 1994 WL 514580 (11th Cir. 1994). In *Ford*, defendant owned a mobile home in Venus Florida. *Id.* at 1. Police established surveillance in very thick foliage, approximately thirty-five to forty-five yards away from the mobile home. *Id.* *Ford* went to great lengths to conceal his activities, as he boarded the windows and punched holes in the floor to allow excess heat to escape. *Id.* The court upheld the magistrate's initial holding stating that the defendant did not manifest an expectation of privacy in escaping heat. *Id.* at 3. The court further held that *Ford* exposed his heat to the public "even if the emissions were not visible to every passerby." *Id.* at 6. Following *Pinson*, the court ultimately concluded that thermal imagery was a technological equivalent to that of the mapping camera in *Dow*, and therefore, thermal imagery is "incapable of revealing the intimacy of detail and activity protected by the Fourth Amendment." *Id.* at 5.

60. *United States v. Broussard*, 987 F.2d 215 (5th Cir. 1993); *U.S. v. Zimmer*, 14 F.3d 286 (6th Cir. 1994).

61. See *United States v. Pinson*, 24 F.3d at 1058 (holding that escaping heat from the home of the defendant is similar to garbage). For a contrasting view of whether escaping heat is garbage and deserves an expectation of privacy, see *United States v. Field*, 855 F. Supp. 1518 (W.D. Wis. 1994).

In *Field*, the court specifically mentions the *Pinson* case and notes that its reasoning parallels that of the *Penny-Feeney* case, with regard to whether heat escaping an individual's home is similar to garbage and does not deserve an expectation of privacy. *Id.* at 1525-26. Differing from both of these cases, *Field* states that this argument is not logically sound. *Id.* at 1532. It is particularly questionable on nights when the temperature is sub-zero. *Id.* On the night the government observed the defendant, in *Field*, the temperature was fourteen degrees Fahrenheit. *Id.* The court notes that "[t]here is no reason to believe that *Field* was throwing away heat on that day." *Id.* Conversely, the court inquires about investigations of suspects in the summertime. *Id.* The court ponders whether everyone who uses a fan or air conditioner abandons the heat escaping from their home. The court reasons that the concept of heat waste and the disposal of garbage are "conceptually different." *Id.* The court reasons that the analogy of garbage implies an intentional act of disposal. *Id.* Therefore, the court could not find justification for police to warrantlessly employ a thermal imager on escaping heat that is not disposed of in a similarly deliberate fashion. *Id.* at 1533. Thus, pursuant to the *Field* court, the reasoning in *Penny-Feeney* and *Pinson* should confine law enforcement officers, who utilize thermal imaging technology, to only focus on deliberate conduits of heat disposal, such as an air conditioning unit. *Id.* The

Some of the cases which have followed this line of reasoning are *United States v. Kyllo*,<sup>62</sup> and *United States v. Porco*,<sup>63</sup> of the district courts of Oregon and Wyoming, respectively. As in *Pinson*, both the *Kyllo* and *Porco* courts cited *Penny-Feeney* extensively, holding the pre-warrant use of a thermal imager was unobtrusive and did not constitute a search.<sup>64</sup>

The rippling effect of the *Penny-Feeney* case has impacted federal courts, as well as state courts. In *Wisconsin v. McKee*, the Wisconsin Appellate Court held that a pre-warrant examination of a home through the use of a thermal imager was the equivalent to a canine sniff and therefore, did not constitute a search.<sup>65</sup> This opinion yielded no new in-

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court however, casts speculation on whether law enforcement will actually have any interest in pursuing investigations that are confined to limited search techniques. *Id.* at 1532. The court states that "[p]erhaps it goes without saying that the government is unlikely to have much interest in creating thermal images of the back of air conditioners, but only such heat fits within the concept upon which the warrantless search is premised." *Id.* The court acknowledged the state's line of reasoning that since escaping heat is supposedly like garbage, the police do not need warrants to utilize thermal imaging technology. *Id.* at 1525.

The *Field* court poses a hypothetical, in which police using thermal imagery survey several non suspects' homes to create a control group to measure against the defendant, during which the police discover that one of the persons within the control group may also be involved in growing marijuana. *Id.* at 1535. The court concludes that this situation does not lend itself to a clear resolution, as it is unclear as to whether the government would be entitled to open an investigation based on this type of information. *Id.*

The court ultimately concludes that if society were cognizant of the capabilities of thermal imaging, a subjective expectation of privacy in an individual's heat sources would certainly develop and thus, trigger an expectation of privacy that society would recognize as reasonable. *Id.*

62. *United States v. Kyllo*, 809 F. Supp. 787 (D. Or. 1992), *remanded*, 37 F. 3d 526 (D. Oregon 1994) (remanded for a determination of whether use of a thermal imaging device to scan the defendant's residence was a search and for findings on the technical capabilities of the device). The heat emanating from defendant's home was analogous to smoke exiting a chimney. *Id.* at 792. Therefore, the court determined society will not recognize an expectation of privacy over these materials as reasonable. *Id.* The court concludes by citing *Penny-Feeney* and holding that this heat detection did not amount to a search under the Fourth Amendment. *Id.*

63. *United States v. Porco*, 842 F. Supp. 1393 (D. Wyo. 1994). The detection of escaping heat by a thermal imaging system was in fact "heat waste" and defendants never manifested an expectation of privacy over it, as they never tried to impede its escape. *Id.* at 1397. The defendants contended that this was not true, as they covered their windows with cardboard and used a camper shell to shield the garage window. *Id.* In spite of these facts, the court held that defendants had yet to try to impede the escape of the heat and found the use of the thermal imager permissible. *Id.* at 1398.

64. *Kyllo*, 809 F. Supp. at 792; *Porco*, 842 F. Supp. at 1397.

65. *State v. McKee*, 510 N.W.2d 807, 810 (Wis. Ct. App. 1993). A different opinion was rendered on the merit of the canine sniff analogy in *United States v. Field*, 855 F. Supp at 1533. In *Field*, the court held the canine sniff was not analogous to thermal imaging due to the discrepancies in the distance and accuracy. *Id.* The court stated that it was not aware

sight or analysis and essentially mirrored the *Penny-Feeney* holding that a defendant's privacy was not unreasonably invaded.<sup>66</sup>

Three recent cases which take the opposite view of *Penny-Feeney* are *Washington v. Young*,<sup>67</sup> *United States v. Ishmael*<sup>68</sup> and *United States v. Field*.<sup>69</sup> *Young* was before a state Supreme Court while the other two

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"of a canine capable of detecting and pinpointing the location of contraband at a constant distance of 20 meters, let alone 200 meters." *Id.* Unlike thermal imaging, the average citizen is protected from arbitrary police searches where canines are involved, because canine sniffs occur in close proximity to the item being investigated, unlike thermal imaging. *Id.* Therefore, unless the suspect invites the officer and dog into his her home there is little danger of police using this investigatory technique capriciously. *Id.* Additionally, the court notes that a canine's degree of accuracy is more precise than that of a thermal imager. *Id.* When a canine detects contraband from an enclosed space the only information yielded is that there is contraband present. *Id.* An officer utilizing thermal imagery will nondiscriminately detect all heat being read by a thermal imager and will be able to make a variety of inferences based on that information, whether it is related to the investigation or not. *Id.*

66. *McKee*, 510 N.W.2d at 810. The court centered its reasoning on the fact that the nature of thermal imaging was not a tremendously sophisticated process in that it did not "peer into private places" and thus, could not intrude into one's private affairs. *Id.*

67. *Washington v. Young*, 867 P.2d 593 (Wash. 1994).

68. *See United States v. Ishmael*, 843 F.Supp. 205 (E.D. Tex. 1994). Police use of thermal imaging during aerial observation was impermissible because use of this tool violated the defendant's reasonable expectation of privacy. *Id.* at 212. The defendant used a building in a secluded wooded area out of sight of the public and then proceeded to buy and mix his own concrete to construct a private basement at costs higher than a contractor would have charged. *Id.* at 208. The court examined *Riley*, and concluded that the thermal imaging findings were not through the product of "naked eye" observation and thus can be distinguished from *Riley*. *Id.* at 212. The court also examined the *Dow Chemical* decision, finding thermal imaging to be the exact kind of technology the court in *Dow Chemical* reasoned to require a warrant. *Id.* Ultimately the court held that if the government is allowed to use these type of sensory devices and other "advanced technology all without warrant, there is precious little left of the right to privacy." *Id.* at 213.

69. *Field*, 855 F. Supp. 1518. Unlike the Fifth, Sixth, Eighth, and Eleventh circuits a district court of the Seventh circuit separated itself from the other circuits in its view of thermal imaging technology. *Id.* at 1525-30. The *Field* court analyzed several of the arguments used in the other circuits. *Id.* The court was unimpressed with the argument used previously that an individual voluntarily relinquishes heat from his or her home or body because in actuality there is no way of controlling this process. *Id.* at 1532. The court was equally unimpressed by the thermal imager's passive nature holding the true relevance of this instrument centers around the fact that it is capable of recording. *Id.* at 1530-31. Therefore, "to the extent the device can pick up such radiation and record it, it can 'see through' walls." *Id.* at 1519. The totality of the circumstances that ensue with the use of thermal imaging technology directed the district court to denounce its pre-warrantless use. *Id.* The court stated:

[t]hermal imaging can extract information from within a person's home, the place most deserving of protection from government intrusion. This information is more detailed than mere records of gas or electrical usage or observations of smoke rising from a chimney. The imager can pick up heat sources of many kinds, including those not commonly thought of as such. To this extent the imager "intrudes" into the home, the place that has always enjoyed the highest level of protection in

were before district courts. All three cases involved the use of thermal imagers to examine enclosed structures, two of which were private homes.<sup>70</sup> In these three cases, the courts rejecting the *Katz* test, held that impermissible searches occurred, and rejected the analogies used by other courts.<sup>71</sup> In light of the disagreement and conflicts among the lower courts, it appears that the issue of sophisticated technology, particularly thermal imaging, and what constitutes a permissible search, is ripe for a United States Supreme Court examination.

### III. ANALYSIS

#### A. STRUCTURAL PROBLEMS WITH KATZ

Today, the *Katz* test fails to effectively bridge the Fourth Amendment and individual rights. The rapid advancement of technology is causing the *Katz* test to decay to the point of uselessness. The primary cause of this problem is the second prong of the *Katz* test, which focuses on what society is willing to find as a reasonable expectation of privacy. This part of the test fails to keep pace with advancing technology and thus creates a gap. The *Katz* test can no longer adequately protect the individual from Fourth Amendment violations given the widespread infusion of thermal imaging technology. This next section will illustrate the problems which have surfaced with the evolution of the *Katz* test, through *Dow Chemical* and *Ciraolo*, as applied to thermal imaging and other technological advances.

#### B. THE FORESHADOWING OF *DOW CHEMICAL*

The Court in *Dow* prophetically stated that, had the government employed a technology more sophisticated than a readily obtainable mapping camera without a search warrant, serious constitutional concerns would arise.<sup>72</sup> However, the Court went on to hold that a search warrant

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Fourth Amendment jurisprudence. A person can expect that his movements in a car may be tracked or that the suitcase he takes with him on a trip might be subject to inspection; he does not expect that his activities within his own home will be subject to high technology surveillance of the sort employed here. Unlike the dogs employed to sniff for contraband, the thermal imager picks up information of lawful activities as well as unlawful.

*Id.*

70. See *Washington v. Young*, 867 P.2d 593 (Wash. 1993); *United States v. Field*, 855 F. Supp 1518. Both cases involved thermal imaging surveillance while the defendants were in their homes.

71. See *Washington v. Young*, 867 P.2d 593 (Wash. 1994); *United States v. Field*, 855 F. Supp 1518; *United States v. Ishmael*, 843 F. Supp 205 (E.D. Tex. 1994). All three of these cases analyzed and rejected various analogies used by other courts to legitimize thermal imaging.

72. See *Dow Chemical Co.*, 476 U.S. at 238. The Court stated that a mapping camera, although sophisticated, did not raise any constitutional concerns. *Id.* The crux of this rea-

was unnecessary because, although the government's mapping camera significantly enhanced the view of the Dow Chemical plant,<sup>73</sup> it did not allow agents to become privy to information that was not otherwise observable.<sup>74</sup> Under the reasoning of *Dow Chemical*, it seems that surveillance evolves into an impermissible search when police gather information beyond technological enhancement of their senses.<sup>75</sup> This standard remains the threshold for what constitutes a permissible surveillance and when a search occurs.<sup>76</sup>

Unlike *Dow Chemical*'s mapping camera technology, thermal imaging is not available to the public, and it allows police to infer information they should not have access to absent a warrant.<sup>77</sup> Thus, the nature of thermal imaging indicates that we have indeed arrived at the point which the *Dow Chemical* Court forewarned.<sup>78</sup>

The recent decisions of *Pinson*, *Penny-Feeney*, and *Kyllo*, all contain similar reasoning based on *Dow Chemical*, and hold that society will not recognize an expectation of privacy in escaping heat as reasonable.<sup>79</sup> The courts that follow this line of reasoning conclude that thermal imaging is not overly intrusive because it does not allow police to gather information other than heat patterns.<sup>80</sup> The *Penny-Feeney* court noted that a

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soning relied on the fact that this information could be ascertained through the naked eye although not as accurately as with the mapping camera. *Id.* Therefore, since the mapping camera accomplished nothing more than enhance what was already open to plain sight, its use was upheld. However, the court did note that use of "highly sophisticated surveillance equipment not generally available to the public, such as satellite technology, might be constitutionally proscribed absent a warrant." *Id.*

73. *Id.* at 240. The dissent in *Dow Chemical* notes that degree of surveillance should not dictate the level of protection afforded under the Fourth Amendment stating:

... that the photography was not a Fourth Amendment search because it was not accompanied by a physical trespass and because the equipment used was not the most highly sophisticated form of technology available to the government. Under this holding, the existence of an asserted privacy interest apparently will be decided solely by reference to the manner of surveillance used to intrude on that interest. such an inquiry will not protect Fourth Amendment rights but rather will permit their gradual decay as technology advances.

*Id.*

74. *Id.* at 238.

75. *Id.*

76. *Id.*

77. See *Young*, 867 P.2d at 598 (holding that the power to obtain certain information about the occupant while standing outside the home is still improper if it leads to specific inferences).

78. See *Dow Chemical Co.*, 476 U.S. at 238 (holding that the utilization of satellite technology raises serious constitutional concerns).

79. *Pinson*, 24 F.3d at 1056; *Penny-Feeney*, 773 F. Supp. at 220; *Kyllo*, 809 F. Supp. at 787.

80. *Penny-Feeney*, 773 F. Supp. at 226. Both *Kyllo* and *Pinson* affirm the reasoning in *Penny-Feeney*, holding that society will not accept an expectation of privacy in escaping heat as reasonable.

warrant is merited where police become privy to information concerning intimate details of a person's home life.<sup>81</sup>

### C. THE *KATZ* TEST: STANDING ON ITS LAST LEG

To use the *Dow Chemical* court's reasoning as a basis for upholding the use of thermal imaging, is repugnant to the Fourth Amendment. Presumably, the purpose of thermal imaging is for the police to discover activities they would not otherwise be able to observe.<sup>82</sup> This in itself serves as *prima facie* evidence of an unlawful search. A police officer using thermal imagery can detect a person through a curtain or behind a thin wall of plywood.<sup>83</sup> In addition, the officer may ascertain information pertaining to the financial ability of the occupant to heat his or her home or to determine how many occupants are in the home at one time.<sup>84</sup>

In *United States v. Field*, the operator of the thermal imager stipulated that his training included differentiating between the varying "level[s] of coffee in a cup, and tear ducts on a human face."<sup>85</sup> Although thermal imaging does not "see" through walls, it enables those operating it to draw inferences about a person's life that is ordinarily protected and generally unknown to the public.<sup>86</sup> It is this form of observation that the *Dow Chemical*<sup>87</sup> Court forewarned<sup>88</sup> of, and that the *Katz* test should

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81. *Id.* at 228.

82. See *United States v. Field*, 855 F. Supp. at 1531. Chief Judge Crabb found that Officer Russel's ambiguous answers and coyness during questioning concerning the capacity of a thermal imager impermissible. *Id.* The court further held that if the thermal imagers do not reveal anything of significance then they would be useless to determine probable cause for a warrant. *Id.*

83. See *Washington v. Young*, 867 P.2d at 595 (stating that DEA Special Agent trained in the use of thermal imagers stipulated to these capabilities of thermal imagers).

84. *Id.* at 598.

85. *United States v. Field*, 855 F. Supp. at 1531.

86. See *Washington v. Young*, 867 P.2d at 598. Although the police were positioned lawfully in the street, the use of a thermal imager went well beyond that of natural senses by allowing them to "detect heat distribution patterns undetectable by the naked eye or other senses." *Id.* "With this device the officer was able to, in effect, 'see through the walls' of the home." *Id.* See also Brian J. Serr, *Great Expectations of Privacy: A New Model for Fourth Amendment Protection*, 73 MINN. L. REV. 583, 632 (1989) (suggesting that the threshold as to whether the police invade upon private areas lies in whether the police have become privy to information of a greater degree than those who the individual has knowingly exposed these activities).

87. See *Dow Chemical Co. v. United States*, 476 U.S. at 238 (holding that the use of sophisticated surveillance equipment, not readily available, to the public would raise constitutional questions).

88. *United States v. Ishmael*, 843 F. Supp. at 212. The *Ishmael* court states that the Supreme Court in *Dow Chemical* specifically intended that its holding to apply to situations like that of thermal imaging. *Id.* The court in this case held that thermal imaging cannot be considered plain view observation. *Id.* at 213.

protect against.<sup>89</sup> Absent a search warrant, thermal imaging focused on the home allows many otherwise impermissible private inferences to be drawn.<sup>90</sup> Thus, when applied to thermal imaging the *Katz* test is incapable of preventing warrantless searches.

The *Ciraolo* Court, also relying on *Katz*, held that a police aerial observation of *Ciraolo*'s property was permissible.<sup>91</sup> In addition to reiterating the principles in *Dow Chemical*, the court also noted that public awareness of commercial flights prevented *Ciraolo* from deriving an expectation of privacy that society would deem reasonable.<sup>92</sup> Therefore, the Court's reasoning in *Ciraolo* suggests that an individual's expectation of privacy necessarily depends upon the extent to which that aspect of privacy is accepted by society.<sup>93</sup> In this instance, air flight was a pervasive enough technology that the defendant could not expect society to accept his expectation of privacy. As the dissent in this case notes, it appears the second prong of *Katz* is malleable to varying levels of public awareness.<sup>94</sup>

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89. See *Serr*, *supra* note 85, at 585 *Serr* outlines why the *Katz* test can no longer serve as an effective Fourth Amendment test when he states the:

[T]he Supreme Court's recent laissez faire attitude toward law enforcement searches and seizures, government investigatory techniques threaten to intrude more and more on the privacies of everyday life. Where we go, who we see, who we call, what we do in our backyards, what we read, and the contents of intimate letters we have thrown away are all increasingly subject to unlimited government supervision, unconstrained by constitutional safeguards. Government officials can peek at these aspects of our lives as often as they want, for as long as they want, whenever they want because the Supreme Court has held there is no fourth amendment protection whatsoever from such diverse government investigatory techniques.

*Id.*

90. *Washington v. Young*, 867 P.2d at 598. The court listed some examples of impermissible inferences, such as financial status of an occupant by observing a home's heat output or how many people were in a room or a house at any one given time. *Id.*

91. See *California v. Ciraolo*, 476 U.S. at 214 (noting that in an age of commercial air flight, it was unreasonable for the defendant to expect his marijuana plants would be constitutionally protected because police traveling public airways are not required to obtain a warrant to look down).

92. *Id.* at 215.

93. See *id.* at 214 (holding that the defendant's garden was open to public view, and therefore, as a member of the public, he should be aware of the aerial traffic that may pass over his garden). Thus, the defendant could not derive an expectation of privacy that society would consider reasonable. *Id.* See also *Washington v. Young*, 867 P.2d at 598. The *Washington* court explains its severe discontent with measuring privacy rights in terms of public awareness of changing technology as "subjective expectations of privacy [which] may be unconsciously altered." *Id.*

94. *California v. Ciraolo*, 476 U.S. at 226 (Powell, J. Dissenting). Justice Powell writing for the dissent took note of the problem of malleability with the *Katz* test. See *supra* note 20. He was particularly disturbed of the possibility of ramifications upholding a standard that hinges on public awareness in particular because of "[r]apidly advanc[ing] technology now permits police to conduct surveillance in the home itself, an area where privacy

*Dow Chemical*<sup>95</sup> and *Ciraolo*<sup>96</sup> have set forth a framework of analysis that permits police to conduct warrantless searches through the *Katz* test, as applied to thermal imaging.<sup>97</sup> The evolution of the *Katz* test up to *Ciraolo*,<sup>98</sup> allows police to use a wide variety of intrusive technologies, so long as the use is routine and well publicized.<sup>99</sup>

The *Katz* test is ineffective in providing Fourth Amendment protections for two reasons. First, the lower courts have not followed the *Dow Chemical* Court's reasoning, which stated that technology beyond enhancing the natural senses in most circumstances raises constitutional concerns.<sup>100</sup> Second, the logic of *Ciraolo* suggests that the government may violate Fourth Amendment rights through public awareness.<sup>101</sup> Therefore, to re-evaluate whether the *Katz* test is being misapplied in conjunction with thermal imaging is futile because the construction of this protective standard has reached a point of diminishing returns.

Sufficiently analyzing the effectiveness of the *Katz* test requires more than simply illustrating its recent shortcomings as applied to new technology. When evaluating the worth of the *Katz* test, or another viable alternative, it is also necessary to investigate the fundamental purpose behind any test that is designed to operate as a search and seizure safeguard. This analysis has recently become much more problematic, due to the new technology available to police, such as thermal imaging.

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interests are most cherished in our society . . ." *Id.* See also *Amsterdam*, *supra* note 10, at 384. *Amsterdam* considers whether each individual's subjective expectation of privacy would be diminished if announcements were made in half hour increments, stating the government was going to engage in extensive electronic surveillance. *Id.* See also *State v. Delaurier*, 488 A.2d 688, 694 (R.I. 1985).

In *Delaurier*, the defendant, while speaking into his cordless phone, had his voice inadvertently transmitted into radio waves. *Delaurier*, 488 A.2d at 690. This was picked up by an AM radio which transmitted conversations pertaining to drug transactions and was monitored by the police. *Id.* The court examined whether under *Katz* the eavesdropping was proper. *Id.* at 694. The court conceded that the defendant had a subjective expectation of privacy in his conversations. *Id.* at 694. However, the court held that the defendant did not have an expectation of privacy that society would recognize as reasonable because "[t]he defendant was fully advised by the owner's manual that came with the phone, as was required by FCC regulations, that given the nature of the phone, privacy was not ensured." *Id.*

95. *Dow Chemical Co. v. United States*, 476 U.S. at 230.

96. *California v. Ciraolo*, 476 U.S. at 212.

97. *United States v. Penny-Feeney*, 773 F. Supp. at 226.

98. *California v. Ciraolo*, 476 U.S. at 214.

99. *Id.*

100. *Dow Chemical Company v. United States*, 476 U.S. at 238.

101. *California v. Ciraolo*, 476 U.S. at 215.



D. PUTTING IT ALL IN PERSPECTIVE: THE FUNDAMENTALS OF THE  
FOURTH AMENDMENT

The Fourth Amendment was, historically, an attempt to set parameters on the conduct of a government's police powers.<sup>102</sup> The cornerstone of the Fourth Amendment was premised on establishing consistency in how and why warrants should be issued.<sup>103</sup> The framers of the Constitution intended to accomplish this objective through the issuance of very specific warrants.<sup>104</sup> The framers' primary objective was to establish peace of mind for the average citizen by eliminating arbitrary searches.<sup>105</sup> Additionally, the framers worked towards eliminating the capriciousness of searches<sup>106</sup> in an effort to halt the imposition of a tyrannical government.<sup>107</sup>

If we are to accept these principles as the continuing objectives of the Constitution, then the *Katz* test has reached the end of its effectiveness. Anthony Amsterdam, an expert in this field, has poignantly noted that rapid technological advances and the consequent recognition of the "frightening paraphernalia which the vaunted marvels of an electronic age may visit upon human society" have underlined the possibility of worse horrors yet to come.<sup>108</sup> Thermal imaging and the supposed protections of the *Katz* test vividly illustrate how far the courts have drifted from the basic principles of the Fourth Amendment. Recently, in *Young and Field*, officers used thermal imagers on innocent neighbors of vari-

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102. See Amsterdam, *supra* note 9, at 369 (explaining that regulating police behavior is fundamental to the Fourth Amendment).

103. *Id.* at 411 (noting the specificity requirement alleviated the indiscriminate character of warrants and gave birth to the probable cause requirement).

104. *Id.* (stating that the descriptive nature of warrants was crucial because it was evidence that even when the framers recognized a reasonable search, it was still unreasonable to seize property indiscriminately). See also Schaefer, *supra* note 10, at 459 n.19. Schaefer notes that a general warrant refers to a warrant "issued without particularity; lacking in their description of persons, places, or things." *Id.*

105. See Schaefer *supra* note 10, at 460. General warrants in colonial America did not conform to a particular style rather, they were left blank by the magistrate and were filled in at the time of the search. *Id.* The random nature of these searches and the extensive power granted to the soldiers by the magistrate is considered to be one of the primary catalysts to the revolutionary war. *Id.*

106. See Amsterdam, *supra* note 10, at 411. See also *Camara v. Municipal Court of City and County of San Francisco*, 387 U.S. 523, 528 (1967) (holding that one of the basic tenets of the Fourth Amendment is to protect citizens from arbitrary invasions of their privacy and security by government officials).

107. See Amsterdam, *supra* note 10, at 400 (noting that although the framers appreciated a strong central government, they feared it at the same time for its tyrannical potential that could be imposed upon the states or individuals).

108. See Amsterdam, *supra* note, 10 at 386 (explaining that the court cannot lock itself into a framework of analysis that does not keep their "contours fluid, so as to maintain extensibility over the unexpected," because "the Court never knows what the police will come up with next").

ous suspects for the purpose of determining whether these suspects were engaging in the manufacturing of marijuana.<sup>109</sup>

Thermal imaging is too broad of a crime fighting technique when it is used without a warrant. It not only exposes criminal suspects to risks that government agents might pry into their private affairs, but it also "subjects each and every law-abiding member of society to that risk."<sup>110</sup> The real impetus behind the "interposition of a warrant requirement is designed not to shield 'wrongdoers' but to secure a measure of privacy and a sense of personal security throughout our society."<sup>111</sup> In his dissent in *United States v. White*, Justice Harlan notes that the premise of constitutional liberty and security extends farther than the concrete boundaries of any instant case, but rather applies to all governmental invasions on the sanctity of a person's home and privacy.<sup>112</sup> Therefore, "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 infeasible right of personal security . . . ."<sup>113</sup>

The type of arbitrary discretion by the police in examining non-suspect's homes exhibited in *Young* and *Field* erodes the basic principles of the Fourth Amendment.<sup>114</sup> Thermal imaging allows police officers to make inferences about an individual's life to which they should not be privy, absent a warrant.<sup>115</sup> Thus, it appears the threshold used in *Dow Chemical* can no longer serve as the proper measure of what is permissibly observed. Arbitrary glances into non-suspects' homes completely un-

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109. *Washington v. Young*, 867 P.2d at 600; *United States v. Field*, 855 F. Supp. at 1523.

110. See *United States v. White*, 401 U.S. 745, 789 (1971), *reh'g denied*, 402 U.S. 990 (1971). Defendant was convicted for narcotics violations based on a warrantless wire worn by an informer. *Id.* The government supplied this wire and listened to the conversation as it was transpiring. *Id.* Justice Harlan in his dissent discussed the merits of the government obtaining a search warrant before they may be allowed to utilize this technology to eavesdrop. *Id.*

111. *Id.* at 790. Justice Harlan in his dissent contemplated many of the same problems with warrantless eavesdropping as are presented now with warrantless thermal imaging.

112. *Id.* at 793.

113. *Id.*

114. See *Serr*, *supra* note 85, at 623 (commenting that asking the government to police itself from unreasonably intruding upon the individual is "blatantly at odds with both the express guarantee of the fourth amendment and the framers' concern about governmental overreaching"). See also *Silverman v. United States*, 365 U.S. 505, 511 (1961). A police officer's use of a microphone was impermissible in an effort to ensnare a gambling ring. *Id.* at 509-10. District of Columbia police officers placed a "spike mike" on the defendant's heating duct, effectively transforming the home into a giant microphone. *Id.* In holding that this violated the defendant's Fourth Amendment rights, the court noted that the very core of the Fourth Amendment is to allow the average citizen to retreat into the domain of his own home free from governmental intrusion. *Id.* at 511.

115. *Washington v. Young*, 867 P.2d at 599.

dermine<sup>116</sup> the safeguards of the Fourth Amendment.<sup>117</sup> Warrantless use of thermal imaging robs citizens of the peace of mind that the Fourth Amendment was formed to protect.<sup>118</sup>

Although courts have yet to use the general acceptance of certain technologies as a justification for invading Fourth Amendment rights in conjunction with thermal imaging, it is likely they soon will. Ciraolo's expectation of privacy was unreasonable because of the pervasiveness of commercial air flights.<sup>119</sup> Society's general acceptance of thermal imaging should not be the linchpin for police to conduct warrantless searches which intrude upon the lives of innocent neighbors while they investigate a suspect's alleged production of marijuana.<sup>120</sup>

The Fourth Amendment has no utility and is worthless<sup>121</sup> if the average citizen is required to cover every crack and crevice of his or her home to prevent the government from peering into their private affairs with thermal imagery.<sup>122</sup> When non-suspects are forced to take security

116. See *Silverman*, 365 U.S. at 512. In *Silverman*, the court drew its reasoning from *Boyd v. United States*, 116 U.S. 616, 635 (1868), and held that even the slightest invasion of a constitutionally protected right is intolerable because that is how these practices get their "first footing". *Id.*

117. See David E. Steinberg, *Making Sense of Sense-Enhanced Searches*, 74 MINN. L. REV. 563, 569 (1990) (noting that sense-enhanced searches and the police discretion that stems from them serves to eviscerate traditional requirements of the Fourth Amendment).

118. See *Amsterdam*, *supra* note 10, at 411 (commenting that "every citizen is entitled to security of his person and property unless and until an adequate justification for disturbing that security is shown").

119. See *California v. Ciraolo*, 476 U.S. at 215 (noting that public air travel is routine and therefore, it is unreasonable to expect privacy from the air).

120. See *Washington v. Young*, 867 P.2d at 598 (holding that Washington will resist tying the right to privacy to a "constant state of changing technology").

121. See *Serr*, *supra* note 85, at 619. The *Serr* explains that engaging in:  
... a speculation game begs the constitutional question of whether society deems a manifested subjective privacy expectation to be worthy of fourth amendment protection from unreasonable governmental intrusion. Indeed, the Court's analysis has no stopping point. If the mere possibility of public observance or intrusion renders subjective privacy expectations illegitimate, the fourth amendment will not protect even the home, unless its occupants take steps to ensure that no other member of the public enters.

*Id.*

122. See *Amsterdam*, *supra* note 10, at 402; See also *United States v. Wright*, 449 F.2d 1355, 1368 (1971). Justice J. Skelly Wright dissenting stated:

It is not important to our American way of life that when a citizen does as much as ordinary care requires to shield his sanctuary from strangers his constitutional right to maintain his privacy should not be made to depend upon the resources of skillful peepers and eavesdroppers who can always find ways to intrude?

*Id.*

See also *Field*, 855 F. Supp. at 1531. Which states that although thermal imaging devices are passive they can still invade a person's privacy. *Id.* The court recognizes that thermal imaging is different than the type of image gathered by a telescope or open window, however, thermal imaging does provide "visual images of varying clarity that allow

measures to prevent the government from peering into their homes or face the possibility of surveillance,<sup>123</sup> it is obvious that the Fourth Amendment extends no further than its four corners. Although the ordinary citizen will not have to worry about criminal penalties unless a crime is being committed in their home, this ignores the fundamental purpose behind the Fourth Amendment.<sup>124</sup>

#### E. REDEFINING A FUNCTIONAL TEST TO PRESERVE FOURTH AMENDMENT PROTECTIONS

As technology develops, the *Katz* test continues to become increasingly unworkable in defining a permissible search under the Fourth Amendment. The failures in *Katz* are rooted in the second prong of the test, which states that an impermissible search occurs when a reasonable expectation of privacy is invaded.<sup>125</sup> What constitutes a reasonable expectation of privacy is determined by society and can be equated with public awareness.<sup>126</sup> Currently, the *Katz* test fails because it lays down a foundation where the combination of technology and publicity permit the police to legally invade domains once thought of as private. As technology improves the quality of surveillance, it is vital that the standard used to define a search remain functional enough to respond accordingly.

A viable solution to the *Katz* test dilemma is present in the Washington state Constitution, article I, section 7. The Washington test, adopted as a replacement for the *Katz* standard, can provide a solution to the infringement on traditional Fourth Amendment rights caused by thermal imaging and other technologies. Section 7 states that: "no person shall be disturbed in his private affairs, or his home invaded, without

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the operator to draw, attempt to draw, or claim to draw conclusions about what is happening on the other side of the house wall." *Id.* The court also gives an excellent illustration of such an intrusive example:

[h]ypothesize a homeowner at 1:00 a.m. lying immobile on his bed in a first story bedroom smoking a cigarette, with a cup of coffee on the night stand, watching late night television. There are French doors out to a ten foot patio, leading to a forty foot backyard, beyond which is an alley that is public access. The doors are open to let in air, but lightweight curtains are drawn to ensure privacy. Could a properly trained operator with a currently available thermal imager scan the house from the alley, fifteen meters distant, and discern the heat sources in the bedroom and draw accurate conclusions about what was happening inside that room?

*Id.* at 1531.

123. See Amsterdam, *supra* note 10, at 403.

124. *Id.* at 402. If the touchstone of the Fourth Amendment was to curb this discretion for the purpose of maintaining privacy, then it is unnecessary to retreat into the recesses of one's home to enjoy the protections of the fourth amendment. *Id.* If it were the "benefit would be to stingy to preserve." *Id.*

125. *California v. Ciraolo*, 476 U.S. at 211.

126. *Id.* at 215.

authority of law."<sup>127</sup> This language, juxtaposed against that of the Fourth Amendment,<sup>128</sup> offers a broader spectrum of protection for the individual against government searches.<sup>129</sup> It has been noted that unlike the U.S. Constitution, Washington's Constitution recognizes the right to privacy with no "express limitations."<sup>130</sup> This is important since, as the *Young* court notes, the average person's rights should not rest on the government's success in making the public aware of technological<sup>131</sup> advances.<sup>132</sup> Unlike the *Katz* test, the *Washington* test does not encourage society to accept a receding level of privacy due to well-publicized technological advances.<sup>133</sup> Therefore, the focal point of the *Washington* test is not whether society deems an expectation of privacy as reasonable, but rather, whether the private affairs of an individual have been unreasonably intruded upon.<sup>134</sup>

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127. WASH CONST. art. I, §7.

128. The Fourth Amendment provides:

[T]he 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.

129. See *Washington v. Young*, 867 P.2d at 597 (making the distinction between their constitution and the federal government's constitution, the court states that Washington's offers a broader spectrum of protection).

130. See *Washington v. Simpson*, 622 P.2d 1199, 1205 (Wash. 1980). Art. I, §7 "differs from the Fourth Amendment in that it clearly recognizes an individual's right to privacy with no express limitations." *Id.* In *Simpson*, the defendant was arrested for first degree forgery. The arresting officers impounded the defendant's car and learned that defendant's license was suspended. The arresting officers suspecting the car stolen unlocked it and checked the vehicle identification number. At this time they learned the car was stolen. In examining the defendant's claim that the acquisition of the vehicle identification number was unlawful the court compared the Washington Constitution to that of the Federal government. *Id.* at 1202-03.

131. See Schaefer, *supra* note 10, at 480 (stating this assertion which is consistent with the *Young* court the author notes:

Technological advances in police capabilities should not be allowed to circumvent the fourth amendment's proscription of general searches merely because those searches can now be performed unobtrusively. . . . General searches are as reprehensible as specific searches: it should not be viewed as less offensive to spy on society generally than to spy on society individually.

*Id.*

132. *Washington v. Young*, 867 P.2d at 597.

133. *Id.*

134. *Id.* For an excellent discussion of how art. I, §7 applies to homeowner's rights of privacy, see 879 P.2d 984 (Wash. Ct. App. 1994).

In *Johnson*, an anonymous tip from a citizen indicated that the defendant may have been involved in producing large amounts of marijuana. Both local and federal officers went to the defendant's residence, however, there was only one accessible road into the property which was blocked by a fence and a chain linked gate. Additionally, there were several signs posted stating "No Trespassing" and "Private Property." *Id.* at 987. Three

#### F. THERMAL IMAGING APPLIED TO WASHINGTON'S CONSTITUTION

Perhaps the greatest problem with thermal imaging is that it allows police to remain at a lawful vantage point gathering information otherwise not available absent a warrant.<sup>135</sup> The government then protects the fruits of this poisonous tree,<sup>136</sup> by utilizing the *Katz* test claiming there is no reasonable expectation of privacy recognized by society in escaping heat. Unlike *Katz*, the Washington test resists sense-enhanced,

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days later the officers returned to the defendant's property late at night. This time they proceeded through the gate which was unlocked and followed the road about 200 yards until they reached a barn. *Id.* At this time the officers noticed an odor they recognized as marijuana and aimed a thermal imaging device at the barn which indicated that the defendants were growing marijuana.

Defendants contended that the officers who proceeded down this road onto their property violated art. I, §7 of Washington's Constitution. Specifically, defendant's pointed out that when the officers opened the fence (which was unlocked) and proceeded down this road to their property "under the cover of darkness" the officers intruded upon the defendant's private affairs. *Id.* at 987. The state put forth a counter argument contending that since the officers "approached the house by [an] impliedly open access area," their subsequent actions should not constitute a search under art. I, §7. *Id.* at 991.

The *Johnson* court quickly dismissed the state's argument holding that the officers were not using this road as a means of access, rather they were using it to trespass onto private property. *Id.* The court noted that the officers failed to contact the defendant's nor attempt to approach the house. The court ultimately held that the officers only purpose was "to conduct a search and gain information by trespassing on private property." *Id.* Pursuant to their holding that the defendant's private affairs were intruded upon, the court did not attempt to determine whether under the second prong of *Katz*, society would have recognized a reasonable expectation of privacy in the sole road leading back to the defendant's residence. Rather, the court used a culmination of factors to reach this determination, such as: the multiple "No Trespassing" signs, the fact that the defendants did everything in their power to keep others out, the element of darkness during the search, and the totality of the circumstances in that the officers neglected a fence, a gate, and trespassing signs. *See Id.* at 993.

Furthermore, in construing art. I, §7's importance in protecting the individual's private affairs the court considered an important policy consideration stating that: "[i]n many parts of the country, landowners feel entitled to use self-help in expelling trespassers from their posted property. There is thus a serious risk that police officers, making unannounced warrantless searches. . . will become involved in violent confrontations with irate landowners, with potentially tragic results." *Washington v. Crandall*, 39 Wash. App. 849, 861 (Wash. App. 1985), *reh'g denied*, 102 Wash. 2d 1036 (1985). *United States v. Oliver*, 466, U.S. 170, 195 n.19 (Marshall, J. dissenting). Instead of being confined to the constraints of *Katz* in whatever society considers reasonable right here, right now, the court was able to fashion an outcome that upholds the premise of what the Fourth Amendment was founded upon; the limitation of warrantless inspections.

135. *See Washington v. Young*, 867 P.2d at 598 (holding that police surveillance from a lawful vantage point is not necessarily intrusive).

136. *United States v. Crews*, 100 S. Ct. 1244, 1250 (1978) (explaining that this phrase refers to evidence acquired by the police after a violation of the Fourth Amendment has occurred and, thus, the assertion is now that the challenged evidence is the product of illegal governmental activity).

warrantless searches. Once surveillance succeeds in gathering information beyond what is "publicly exposed," an unreasonable intrusion occurs pursuant to article I, section 7.<sup>137</sup> Additionally, the character of the structure being searched is pertinent because this factor helps to determine when surveillance has developed into an unreasonable intrusion.<sup>138</sup>

In *Washington v. Young*, the court held that thermal imagery allowed police to discern various activities occurring within the defendant's home.<sup>139</sup> This enabled police to make inferences they could not have otherwise made through plain view observations.<sup>140</sup> Applying article I, section 7 of Washington's constitution, the court held that information ascertained by police invaded the private affairs of an individual, which is violative of article I, section 7's permissible threshold of surveillance.<sup>141</sup> In concluding this type of surveillance was overly intrusive, the court reasoned that the police could not have become privy to this information without the use of thermal imaging technology, unless they inspected the interior of the defendant's home.<sup>142</sup> As one court has noted, it is "the character of the information actually revealed"<sup>143</sup> that defines whether a surveillance technique is invasive. When this surveillance technique was scrutinized under the *Washington* test, the government was unable to argue successfully its lawfulness, although it is routinely upheld when the *Katz* test is in operation.<sup>144</sup> Merely because the officers remained outside the premises does not mean they could not invade the

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137. See *Washington v. Young*, 867 P.2d at 598. See also *United States v. Thomas*, 757 F.2d 1359, 1367 (1985) (holding that police use of a dog was impermissible), *cert. denied sub nom. Fisher v. United States*, 474 U.S. 819 (1985), *Wheeling v. United States*, 474 U.S. 819 (1985), *Rice v. United States*, 479 U.S. 818 (1986). In *Thomas*, the defendant was caught with narcotics after police used a dog to detect the emanating odor of narcotics. The court held that the police impermissibly gathered this information about a defendant through the use of a canine sniff. *Id.* The court reasoned that a canine sniff enabled the officers to improve their sense of smell to a degree "far superior than any sensory instrument" and thus constituted an impermissible search. *Id.*

138. *Washington v. Young*, 867 P.2d at 598.

139. *Id.*

140. *Id.*

141. *Id.* at 599.

142. *Id.*

143. See *United States v. Domitrovich*, 852 F. Supp. 1460, 1475 (E.D. Wash. 1994). In this case the defendant was not unreasonably intruded upon by the use of thermal imaging. *Id.* The court stated that the character of information revealed was the true judge of whether an intrusive search had occurred. *Id.* The defendant moved to suppress evidence revealed by a DEA agent equipped with a thermal imager, who hiked around in the woods surrounding the defendant's home where he lurked as he took readings on bales of hay outside the defendant's home. The court did not follow suit with *Young*, holding that a bale of hay did not present the same privacy concerns as a heat reading of an individual's home might. *Id.*

144. See *Washington v. Young*, 867 P.2d at 597.

defendant's home<sup>145</sup> for purposes of violating article I, section 7 protections. Inextricably linked to the *Young* court's application of article I, section 7 was an analysis of the *Katz* test as used in *Ciraolo*. The Supreme Court of Washington illustrated *Katz*'s flaws, stating that the general acceptance of sophisticated law enforcement techniques should not necessarily correlate to a diminishing Fourth Amendment expectation.<sup>146</sup> Evidenced by this case, the Washington test steadfastly withstood the Fourth Amendment challenges posed by advancing technology.

Since the origin of the Fourth Amendment was geared towards limiting police discretion, it is useful to see how the *Young* court dealt with this very issue under article I, section 7. In *Washington v. Young*, police used a thermal imaging device on the defendant's surrounding neighborhood to ascertain if the defendant's home was producing an inordinate amount of heat, indicating the manufacturing of narcotics.<sup>147</sup> Although not critical of the police department's objectives, the *Young* court held that continued allowance of this practice<sup>148</sup> circumvents the traditional concept of the search warrant.<sup>149</sup> Pursuant to article I, section 7, the *Young* court stated the Fourth Amendment would be eviscerated if it did not protect innocent citizens from arbitrary searches and prohibit police from investigating the homes of persons who were not suspects.<sup>150</sup> The court under this test and in a manner similar to Amsterdam's historical imperatives,<sup>151</sup> held that the rights of the Fourth Amendment are not protected when police no longer need to state specific reasons or target specific people before obtaining the kind of information that would otherwise constitute a search.<sup>152</sup>

Despite the fact that the retrieval of information in this case was from a lawful vantage point, the court held that thermal imagery is a method of surveillance that is violative of article I, section 7 for two reasons. First, thermal imagery's technology permits a warrantless search when police are able to infer certain kinds of information that they would not otherwise be able to without a warrant or viewing the interior of a person's home.<sup>153</sup> To be privy to this quality of information invades upon a person's private affairs under article I, section 7 of Washington's Constitution.<sup>154</sup> Second, thermal imagery lends itself to a "dangerous

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145. *Id.* at 599.

146. *Id.* at 598.

147. *Id.* at 600.

148. See Serr, *supra* note 85, at 585.

149. *Washington v. Young*, 593 P.2d at 600.

150. *Id.* at 600.

151. See Amsterdam, *supra* note 10, at 411 (asserting that this type of specificity was geared specifically to prevent the tyranny of arbitrary searches).

152. *Washington v. Young*, 867 P.2d at 600.

153. *Id.* at 599.

154. *Id.* at 598.



amount of police discretion"<sup>155</sup> because currently under the *Katz* test police may use thermal imaging on the homes of non-suspects in an effort to ascertain if the suspect is producing marijuana. The breadth of this discretion allows police to invade the private affairs of individuals which article I, section 7 does not allow.<sup>156</sup>

G. THE NEXT STEP: LAW ENFORCEMENT BEYOND THERMAL IMAGING,  
AND WHETHER THE *KATZ* TEST MUST NOW REMAIN OUR ONLY  
OPTION

As technology continues to advance exponentially, the Court will face new challenges in redefining the parameters<sup>157</sup> of the Fourth Amendment.<sup>158</sup> The *Katz* test can no longer serve to safeguard Fourth Amendment liberties for the future because as the case law since *Katz* demonstrates, the combination of publicity and technology will allow police to conduct warrantless searches. In the same fashion that thermal imaging has circumvented the *Katz* test, so too will satellites. Similar to thermal imaging, satellites also gather information surreptitiously. In *Young*, the court took special note of thermal imaging utilized at night.<sup>159</sup> The court held that it is disconcerting to think that police were now empowered to gather information beyond that of a plain view observation without detection, or more importantly a warrant.<sup>160</sup>

Thermal imagery lends itself to a useful comparison of similar problems that will soon arise with the widespread use of satellite surveillance in law enforcement techniques.<sup>161</sup> In time it is not unreasonable to expect that satellites will be integrated into useful law enforcement ap-

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155. *Id.* at 600. The *Young* court expressed their disdain over the police department's cavalier use of the thermal imaging device among various non suspects in the surrounding neighborhood. *Id.*

156. *Washington v. Young*, 867 P.2d at 601.

157. *Dean v. Superior Ct.*, 110 Cal. Rptr. 585 (1973). In *Dean*, the court held that:

Today's sophisticated technology permits verflights by vehicles orbiting at an altitude of several hundred miles. Tomorrow's sophisticated technology will supply optic and photographic devices for minute observations from extended heights. *Judicial implementations of the fourth amendment need constant accommodation to the ever-intensifying technology of surveillance.*

*Id.* at 588 (emphasis added).

158. See Schaefer, *supra* note 10, at 490 (illustrating the concern that arises with satellite searches because of their technological sophistication and general nature of their application).

159. *Washington v. Young*, 867 P.2d at 598. The court notes that pursuant to art. I §7 of Washington's Constitution infrared surveillance at night by police "represents a particularly intrusive means of observation that exceeds our established surveillance limits." *Id.*

160. *Id.* at 599.

161. See Schaefer, *supra* note 10, at 490 (noting one problem with satellite searches is that they are general searches).

plications,<sup>162</sup> as was thermal imaging.<sup>163</sup> Although satellites are not currently employed in local law enforcement, it is useful to examine the available technology that will invariably filter its way down towards law enforcement. The current capabilities of satellite technology are impressive. The KH-12 espionage satellite can view images with ten-centimeter resolution and radar images with 1-meter resolution.<sup>164</sup> These satellites are currently in use by the State Department's Bureau of International Narcotics Matters as they survey Peru's Upper Huallaga Valley for cultivation of narcotics.<sup>165</sup>

Satellites share many of the intrusive qualities that thermal imaging technologies possess with one important distinction. In due course, satellite technology will alter the face of police discretion. Police may now warrantlessly conduct a random thermal imaging scan of a whole neighborhood instead of merely comparing a suspect's home to that of a neighbors for purposes of establishing a heat signature.<sup>166</sup> It is distressing to consider the nature of this technology's intrusive potential under the current inadequacies of the *Katz* test in safeguarding Fourth Amendment liberties.

The majority of decisions on warrantless use of thermal imaging and how it has adopted the holding in *Dow* serves as the best predictor in interpreting how the court should hold if presented with a challenge to a satellite observation under the *Katz* test. In *Florida v. Riley*,<sup>167</sup> a recent

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162. See Schaefer, *supra* note 10, at 490 (noting that the Posse Comitatus Act was an act originally established to deny civilian police use of the military in law enforcement applications except by direct order of the president. However, in 1982 the act was amended that permits the military to assist police if they so request).

163. See Lisa J. Steele, Comment, *The View from on High: Satellite Remote Sensing Technology and the Fourth Amendment*, 6 HIGH TECH. J. 317, 327 (1991) (noting that it is uncertain whether civilians will have access to this technology, however, the potential exists and therefore should be investigated).

164. See *id.* at 319-20 (noting how far satellite technology has progressed even though this degree of technology remains out of reach for civilian manufacturers).

165. See *id.* at 326 (explaining these satellites area used specifically to mark the locations of marijuana farms and estimate their production).

166. See Steele, *supra* note 162, at 328. Steele states that the inability of subjects to discover whether they are being surveyed has been coined "constitutionally unfair" because the subject cannot therefore take appropriate measures to escape its gaze. *Id.* The "undetectability, fear of abusive surveillance, and the fundamental unfairness of being watched without an opportunity to notice the watcher" that separates satellite based surveillance. *Id.* These are critical factors of warrantless satellite searches when weighed against the protections of the Fourth Amendment. *Id.*

167. *Florida v. Riley*, 488 U.S. 445 (1989). Defendant owned a greenhouse where police observed marijuana plants through a hole in its roof by using a helicopter hovering around 400 feet. The hole was not large only comprising ten percent of the roof's total area. However, police were able to make these observations strictly through the use of naked eye observation. The court held pursuant to *Ciraolo's* reasoning the defendant could not expect to reasonably derive an expectation of privacy from this observation as the police helicopter

Supreme Court case which emulated the reasoning in *Ciraolo*, the Court suggests as long as satellites are legally in place and commercially routine, society may not recognize an individual's reasonable expectation in the atmosphere.<sup>168</sup>

It is apparent the *Katz* test is clearly outdated in terms of its usefulness when presented with the new challenges of today's technology. The Washington test, which examines whether one's private affairs have been intruded upon, offers a functional approach to this ever worsening problem. Under the this test there is no need to attempt to determine what society is going to deem reasonable today. Instead the analysis focuses on the character of the information<sup>169</sup> revealed by warrantless satellite observation. Therefore, the nature of this test stands stalwart in the face of an ever changing state of technology and society. As demonstrated through its application in *Young*, this test successfully confines police discretion within reasonable boundaries.<sup>170</sup> Unlike *Katz*, art. I §7 lays down a foundation of analysis that serves as a much more workable threshold for determining impermissible searches in lieu of ever increasing technology. In light of the innumerable problems and deficiencies of the *Katz* test, it is apparent that the federal government is in grave need of a new test that is not outdated in terms of its usefulness when faced with the new challenges of today's technology.

#### IV. CONCLUSION

The importance of privacy and the limitations on police discretion should remain of paramount importance in a society of rapidly advancing technology. The framers insured privacy and limited the invasiveness of police discretion by designing the Fourth Amendment to eliminate the arbitrary nature in which searches could be conducted. Using specificity as a requirement for warrants, the framers intended to construct a sys-

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was in navigable airspace and the use of helicopters was relatively routine in nature. Justice O'Connor in her concurring opinion chose to put emphasis on *Ciraolo's* rationale of frequency in determining if a society will recognize a person's expectation of privacy as reasonable. Justice O'Connor in her concurring opinion states that "...public air travel at 1,000 feet is a sufficiently routine part of modern life that it is unreasonable for persons on the ground to expect that their curtilage will not be observed from the air at that altitude." *Id.* at 453. Therefore, if there is "sufficient regularity" in the observation technique and the individual fails to take precautions to prevent observation, society will not recognize their expectation of privacy. *Id.* at 454.

168. See Steele, *supra* note 162, at 328 (stating that if Justice O'Connor's concurring opinion was adopted as controlling law then warrantless searches by satellites would reach the same outcome as warrantless aerial searches under the current standard).

169. *United States v. Domitrovich*, 852 F. Supp. at 1475.

170. See *State of Washington v. Young*, 867 P.2d at 600 (holding the police officers discretionary use of the thermal imager on the suspect's surrounding neighbors "constitutionally offensive" and thus will place limitations on its use).

tem that instilled a sense of security and confidence with respect to the government's police powers.

Constantly eroding this purpose and the liberties of the Fourth Amendment is the *Katz* test, which lends itself to easy manipulation by the government and by society's constant state of flux with respect to technology. To uphold a test which has become nothing more than an estimation of what the public may or may not accept as reasonable is a mockery of the safeguards that the Fourth Amendment was formed to protect.

Thermal imaging technology enables police to impermissibly search the homes of both defendants and non-defendants by allowing inferences to be drawn from information that could not have otherwise been obtained absent an on site inspection involving a warrant. The government cavalierly dismisses any concerns over police discretion or privacy by oversimplifying the issue and stating that under the *Katz* test society will not recognize a reasonable expectation of privacy in escaping heat.

Invariably, technology will develop to allow police to invade deeper into realm of protected zone of privacy guaranteed by the Fourth Amendment. It is for this reason that the Washington test must be adopted. This test does not lend itself to manipulation because it uses the private affairs of an individual to measure impermissible searches. Basing a decision to exclude evidence on the character of information revealed, the Court may deter warrantless searches and sustain public confidence instead of manipulating public awareness through its intrusive devices.

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