DETECTOR DOGS AND PROBABLE CAUSE

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In this Article, Professor Myers argues that an alert, even by a well-trained dog with an excellent track record in the field, cannot by itself constitute probable cause to search. By using a Bayesian analysis of the value of dog alerts, he demonstrates that additional evidence is needed before probable cause exists. He shows why police won't make changes to their use of dogs without outside prodding, and explores who might do so. The article makes some suggestions that, if adopted, will improve the courts' approach to detector dog technologies, allowing them to better strike the balance between the competing values of effective law enforcement and personal privacy. This article uses detector dogs as a case study in the difficulty the courts face in reevaluating old technology, a problem that brings with it additional layers of complexity, because stare decisis and settled expectations limit the courts' freedom to make adjustments through application of Fourth Amendment principles.

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Cry "Havoc," and let slip the dogs of [the drug] war.
William Shakespeare, JULIUS CAESAR, Act III, Scene 1.

I. INTRODUCTION

As criminals increase their sophistication at disguising drugs, explosives or other contraband, law enforcement agencies are deploying modern versions of one of man's oldest search technologies with increasing frequency. They go by names like Torque,[2] and Bobo,[3] and Razor,[4] and collectively, these detector dogs and their handlers are defining the scope of Fourth Amendment[5] rights in searches across the nation.

Last year, in *Illinois v. Caballes*[6] the Supreme Court determined that detector dogs may be used to sniff an otherwise lawfully stopped vehicle, even when the police officer handling them lacks reasonable suspicion or probable cause to believe that contraband may be present. The *Caballes* opinion halted what appeared to be first steps toward finding that the Fourth Amendment required reasonable suspicion before detector dogs could be deployed at an automobile stop.

The Court reached its conclusion in part because it accepted as a legal fact a very disputable scientific fact: that an alert by a properly-trained narcotics detections dog – standing alone – constitutes probable cause to believe that a vehicle or bag in fact contains narcotics. By giving its tacit approval to this widely-held presumption, the Court missed an opportunity to reexamine the law regarding the value of such an alert,

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[2] U.S. v. Owens, 167 F.3d 739 (1st Cir. 1999) (police canine named Torque).
[3] U.S. v. Kennedy, 131 F.3d 1371 (10th Cir. 1997) (police canine named Bobo).
[4] Matheson v. State, 870 So. 2d 8 (Fla.App. 2 Dist. 2003)
[5] U.S. CONST. AM. IV. The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

and has implicitly approved the practice of lower courts in what is in fact a significantly underdeveloped area of the law.

This paper argues that an alert, even by a well-trained dog with an excellent track record in the field, cannot by itself constitute probable cause to search. By using a Bayesian analysis[7] of the value of dog alerts, this paper demonstrates that additional evidence is needed before probable cause exists.

It then critiques the current practice of the courts through the analysis of a few sample cases. It shows why police won't make changes to their use of dogs without outside prodding, and explores who might do so. The paper recognizes that systemic resistance to the Bayesian analysis will make it very difficult for courts to reevaluate this old technology, and explores those barriers. It then makes some suggestions that, if adopted, will improve the courts' approach to detector dog technologies, allowing them to better strike the balance between the competing values of effective law enforcement and personal privacy. Finally, the article focuses on broader principles that we can extract from the examination of the way the courts are thinking about detector dogs and draws some broader conclusions about search and seizure law. This article uses the problems with detector dogs as an entry point for examining the courts' problems with reevaluating the use of established investigative technologies, in part because in a sense familiarity breeds contempt, not for the proponents of the familiar evidence but for the opponents, and in part because other institutional actors depend on the courts to leave

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[6] Illinois v. Caballes, 543 U.S. 405, 125 S.Ct. 834 (2005).
[7] Bayes theorem is a method used by scientists and doctors to update probabilities in light of new information.

settled practices in place.[8]   Other scholars have considered the adoption of new

technology and how that interacts with the concept of reasonable expectations of

privacy.[9] This article uses detector dogs as a case study in the difficulty the courts face in

reevaluating old technology, a problem that brings with it additional layers of complexity,

because *stare decisis* and settled expectations limit the courts' freedom to make

adjustments through application of Fourth Amendment principles.

     The paper proceeds as follows: Part II provides some background information

about the abilities – and limitations – of detector dogs. Part III examines the Supreme

Court's opinion in Illinois v. Caballes, showing how the Court collapsed the core concern

of this paper, the value of an alert, into a presumption, ignoring the concerns of the

dissenters and some lower courts. This was because the issue was framed as the timing

of the use of the dog, and not as the value we should ascribe to an alert by that dog once it

has been used. (The latter inquiry is the focus of this paper.) Part IV uses Bayes

Theorem to demonstrate why the Court was simply wrong to say that an alert by a

properly-trained dog constitutes probable cause. Part V examines how the lower courts

treat dog alerts, and shows that the sate of practice is even worse that the Caballes

opinion suggests. Many courts simply assume the conclusion, refusing to even grant

discovery of the records that would reveal the accuracy of particular dogs, or on the

conduct of particular searches. Part VI examines the systemic limitations that make it

difficult for courts to reevaluate technologies that are already in widespread use, such as

detector dogs. Part VII makes suggestions for changes that the courts and/or police

agencies could implement to improve the use of detector dogs. Part VII concludes.

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[8] See infra notes ___ and accompanying text.

II.   HOW DETECTOR DOGS WORK

A well-trained, well-handled detection dog can do remarkable things. We know it
because of science. Researchers at Auburn University studying dogs' capacity to identify
certain smells have found that some dogs can detect odors when the particles in the air
are at a concentration of 500 ppt – that's parts per *trillion*.[10] While there are no good
studies comparing humans to dogs under similar conditions, dogs react to many smells at
a threshold well below that of humans. Properly used, dogs can detect not only narcotics,
explosives, and accelerants, but land mines, contraband fruit or plants, cadavers, missing
people, or any one of thousands of scents that a trainer can imagine.[11] We know that
because of history -- any hunter or rancher has heard tales of superb (and highly
specialized) dogs. Anyone paying close attention to the news cannot help but be aware of
the deployment of bomb-sniffing dogs in airports, bus stations, and even the London
subway system.[12] The dog plays a special role in our popular culture -- Lassie's ability to

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[9] See infra notes ___ and accompanying text.
[10] J.M. Johnston, Ph.D., Canine Detection Capabilities: Operational Implications of Recent R&D Findings, Institute for Biological Detection Systems, Auburn University, June 1999.
[11] Marc Williams, et al., *Canine Substance Detection: Operational Capabilities*. Presented at the Office of National Drug Control Policy Technology Symposium (1999). Available at http://www.vetmed.auburn.edu/ibds/pdf/substance_detection.pdf, visited August 1, 2005. United States Police Canine Association Certifications are available for narcotics, explosives, accelerants, and cadavers. See http://www.uspcak9.com/html/home.shtml (visited December 19, 2005). Ann Goth, Ian G. McLean and James Trevelyan, How Do dogs Detect Landmines? A Summary of Research Results, in ODOUR DETECTION: THE THEORY AND THE PRACTICE, 195. Samuel G. Chapman, POLICE DOGS IN NORTH AMERICA (1990) (see particularly pages 64, 70—79, describing narcotics- and explosives-detection dogs and noting the possibility of cross training).
[12] See, e.g., Sari Horwitz and Lyndsey Layton, *So Far, Dogs Are Still Best Detectors of Bombs*, WASH. POST, July 19, 2005, A17.

detect little Timmy in a well is unquestioned.[13] Law enforcement uses dogs, and judges

believe in dogs, because they work.[14]

But not all dogs are well-trained and well-handled, nor are all dogs

temperamentally suited to the demands of being a working dog.[15] Some dogs are

distractible, or suggestible, and may alert improperly. What might lead to such an

unreliable alert? The simple fact is that dogs are living, thinking and feeling creatures.

Because dogs can learn new behaviors, a successful search for a substance on which it

was not trained – successful because the dog's handler is now happy – can lead to the dog

expanding its repertoire, and giving positive alerts on new substances. Or the dog can

learn to associate certain smells with the items on which it is trained, for example air

freshener or plastic baggies, alerting to non-contraband items. Such adaptability is

natural, and in some contexts highly desirable, but it can lead dogs to do different things

in the field than they do in the controlled environment of a training facility.[16]

Dogs respond by "alerting" to the presence of some chemical molecule that they

have come to associate with a reward – be it food, or playing with a toy, or praise from

their handler. The molecule could be a commonly used mixing chemical, it could be a

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[13] LASSIE COMES HOME (Warner Home Video 1943); LASSIE THE PAINTED HILLS (Alpha Video 1951); COURAGE OF LASSIE (Warner Home Video 1946).

[14] Andrew Taslitz, *Does the Cold Nose Know? The Unscientific Myth of the Dog Scent Lineup,* 42 HASTINGS L. J. 15-134 (1990). At least they work most of the time. See, e.g., U.S. v. Ebersole, 411 F.3d 517 (4th Cir. 1998) (trainer convicted of wire fraud and ordered to pay more than $700,000 in restitution for using under-trained dogs and handlers); Trainer gets Prison Term for Defective Bomb-Sniffing Dogs, last updated April 28, 2004, visited at http://sports.espn.go.com/espn/print?id=1611759&type=story.

[15] Kelly J. Garner, et al.. *Duty cycle of the detection dog: A baseline study. Final Report.* Federal Aviation Administration, Washington, DC. (2000). Available at http://www.vetmed.auburn.edu/ibds/pdf/dutycycle.pdf, visited August 1, 2005.

[16] Well-trained handlers are taught to "proof" the dog through the use of negative training aids. "The handler can then explain that his dog alerts to narcotic odor and only narcotic odor, and that he knows this because he has trained around negative training aids such as food items, animal scent, sterile packaging materials, etc. and can prove it with documentation." Ron Gunton, Documentation and K9 Policing, North

trace agent, or it could be the plant itself in the case of marijuana. The science is not yet

fully developed, and further experimentation is underway to determine to what the dog

alerts.[17]

Given the level of sensitivity that many dogs possess, it is entirely possible that if

the person being searched had been at a party where other people were using drugs, then

the dog would alert because of the residue on clothing or fabric.[18] It is possible that in a

vehicle that had formerly been used to transport drugs, the dog would alert, despite the

fact that drugs were no longer present -- which might be particularly problematic with

rental cars.[19] Or it is possible that some sort of residue normally associated with drugs

was present.[20] Part of the problem is that the dog can't tell its handler what it is alerting

to, and why. It also lacks a strength meter, or some way of telling its handler how

confident it is that the scent is strong enough to indicate the actual presence of the

substance.

A drug detection dog is not a gas chromatograph-mass spectrometer. It does not

detect molecules in the air and produce a readout that states with empirical

reproducibility the chemical composition of the molecules. It is part of a team that

depends on a complex interaction of animal psychology and human factors.[21] The dog is

rewarded for finding drugs. Many training techniques use a Pavlovian response – the dog

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American Police Working Dog Association Website, http://www.napwda.com/tips/index.phtml?id=25, visited Nov. 5, 2005 (copy on file with author).
[17] J.M. Johnston, Ph.D., Canine Detection Capabilities: Operational Implications of Recent R&D Findings, Institute for Biological Detection Systems, Auburn University, June 1999.
[18] *Caballes* 543 U.S. at 410, (residual odor theory).
[19] See Jorge G. Aristotelidis, *Trained Canines at the U.S.-Mexico Border Region: A Review of Current Fifth Circuit Law and a Call for Change*, 5 SCHOLAR 227 (2003) (discussing residual odor issues).
[20] Andy G. Rickman, Currency Contamination and Drug-Sniffing Canines: Should Any Evidentiary Value Be Attached to a Dog's Alert on Cash?, 85 Ky. L.J.. 199,
[21] Lawrence Myers, interview with author.

doesn't eat until it correctly alerts on the presence of drugs.[22] This may lead to an incentive to alert in cases where there is such a low threshold of detectable molecules that there is no probability that contraband is present. Because the dog sniff includes no measure of strength – it's purely binary, it should be treated with caution.

Another potential drawback in the use of an animal that hopes to please its handler is the problem of handler cuing. Even the best of dogs, with the best-intentioned handler, can respond to subconscious cuing from the handler. If the handler believes that contraband is present, they may unwittingly cue the dog to alert.[23] And of course, some handlers may consciously be cuing their dog to alert, using the dog to ratify a search they already want to conduct.

III. *ILLINOIS V. CABALLES*

In *Illinois v. Caballes*,[24] the Supreme Court held that when police and their canine counterparts arrive at the scene of a traffic stop and circle and sniff a car, even in the absence of evidence suggesting that a narcotics search is warranted, that activity is not a search that implicates the Fourth Amendment.[25] Their decision matched that reached by each of the federal circuit courts that had considered the issue.[26] In coming to its holding, the Court reaffirmed its earlier precedent in *United States v. Place*,[27] which treated "a

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[22] Lawrence Myers, interview with author
[23] See, e.g., Military Dog Working Program, Department of the Army Pamphlet 190-12, 30 Sept. 1993, at 24; See Jorge G. Aristotelidis, *Trained Canines at the U.S.-Mexico Border Region: A Review of Current Fifth Circuit Law and a Call for Change*, 5 SCHOLAR 227, 239-40 (2003) (discussing handler cuing).
[24] 543 U.S. 405 125 S. Ct. 834 (2005)
[25] Id. at 409-10.
[26] See infra note ___ and accompanying text.
[27] 462 U.S. 696 (1983). See Comment, *Sniffing Out the Fourth Amendment: United States v. Place – Dog Sniffs – Ten Years Later*, 46 Me. L. Rev. 151 (1994).

canine sniff by a well-trained narcotics-detection dog as "*sui generis*"[28] because it "discloses only the presence or absence of narcotics, a contraband item.'"[29]

Roy Caballes was stopped for speeding on an Illinois highway. While he was pulled over on the side of the road, enduring the mundane procedures followed whenever someone receives a warning ticket, a second trooper arrived in a separate patrol car and decided to walk his narcotics detection dog around Mr. Caballes's car to see if it alerted to the presence of drugs. When it did, the police searched Mr. Caballes trunk and found enough marijuana to warrant a 12-year prison sentence and a $256,136 fine. Caballes appealed, arguing that the Fourth Amendment required more than a suspicion of speeding before a narcotics detector dog could be deployed. The Illinois Supreme Court agreed with his contention there must be some basis for turning a speeding investigation into a narcotics investigation before a drug dog could be deployed.

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[28] Latin for "of its own kind or class." SEE BLACK'S LAW DICTIONARY, (8th Ed. 2004). The Court's positions on the Fourth Amendment often appear incoherent. This is at least in part because we are battling over property-based and information-based conceptions of the Fourth Amendment. It is the tension between what many scholars see as the prevailing view of the Fourth Amendment set forth in *Olmstead v. United States,* 277 U.S. 438 (1928) and that set forth in more recent cases such as *Kyllo v. United States*, 533 U.S. 27 (2001) . As Professor Orin Kerr and others have demonstrated, property rights are still, at the very least, an excellent starting point for analyzing whether one has a reasonable expectation of privacy. See   However, there are definite limits to the property arguments. In *Kyllo*, a case involving the heat signature that could be detected by infrared monitors, without invading any property interests, the court held that there is a reasonable expectation of privacy in the home, notwithstanding significant advances in surveillance technology. Early cases involving the use of microphones to record conversations had focused on where the microphone was. A spike microphone driven through a wall was a clear violation of property rights. A sensitive microphone that heard sound waves that left the defendant's property was seen as raising issues that were different in kind. As we can see from the examination of the off-the-wall/through-the-wall arguments in *Kyllo* over how to delineate the limits for emanations, the Court is still working its way through several overlapping views of how the Fourth Amendment is designed to operate. This may suggest that the courts apply an incorrect understanding of "privacy" and wrongly downplay freedom of movement? (Cf. Andrew A. Taslitz, *The Fourth Amendment in the 21st century: Technology, Privacy, and Human Emotions*, 65 L. & CONTEMP. PROBS 125 (2002)).
What the Court has done in the context of dog sniffs is create a separate category – one it calls sui generis – for technologies that detect only contraband.
[29] *Caballes*, 543 U.S. at 409.

The U.S. Supreme Court disagreed. *Caballes* was a relatively narrow decision,

focusing on whether the deployment of the dog constituted a search under the Fourth

Amendment. Specifically, the Court held that conducting a dog sniff would not change a

traffic stop that was lawful when it began and was otherwise executed in a reasonable

manner into an unlawful search, unless the manner in which the dog sniff itself was

conducted infringed the citizen's constitutionally protected interest in privacy.[30] "A dog

sniff conducted during a concededly lawful traffic stop that reveals no information other

than the location of a substance that no individual has any right to possess does not

violate the Fourth Amendment."[31] Recognize that this reasoning is based on two

propositions – first, that under these circumstances no search has occurred,[32] and second,

that because this non-search activity only reveals contraband, there is no reasonable

expectation of privacy in the presence or absence of detectable narcotics (or other

contraband) molecules.[33]

The dissenters would have called the sniff a search, and would have required

reasonable suspicion before allowing the sniff to take place.[34] They lost that argument.

But that does not mean that they did not have a valid core concern about the way dogs are

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[30] *Id.* at 408.

[31] *Caballes*, 543 U.S. at 410.

[32] The Court has gone through a convoluted process of determining when Fourth Amendment rights are implicated based on the uses of specific technologies. At one time, under a property-based view of the Fourth Amendment, the most important issue was whether or not there was a physical trespass into the property of the accused. The Fourth Amendment interest was considered coextensive with the defendant's right to exclude. In *Katz v. United States*, 389 U.S. 347 (1967), the Supreme Court changed its inquiry to an exploration of the defendant's reasonable expectation of privacy.

[33] See Arnold H. Loewy, *The Fourth Amendment as a Device for Protecting the Innocent*, 81 MICH. L. REV. 1229 (1983). Professor Loewy argues that where the police can create a "divining rod" that reveals only the presence of contraband, there is no reasonable expectation of privacy. "[A]n accurate dog approaches the hypothetical divining rod by separating the innocent from the guilty." He recognizes the limitations that the theory has – a search even by a perfectly accurate dog still exposes one to the indignity and possible trauma of being sniffed when the search is of one's person.

[34] *Caballes*, 543U.S. at 418-25, Ginsburg, J., dissenting; Id. at 410, Souter, J. dissenting.

actually used in the field. The question presented by the *Caballes* case was in fact

incredibly narrow: Was it a search to bring the dog out and have it sniff? One can be

agnostic on the question presented in Caballes – was a sniff a search – and still believe

that the end result was wrong.

The Court dismissed the defendant's contention that error rates and false positives

may call into question a core premise of the opinion – that the dogs alert only to

contraband. The Court has held that the sniff itself does not violate the Constitution.

This will be true for future cases unless the rule is changed. However, the subsequent

search of a trunk – or other private space – is premised on the fact that the dog has alerted

to the presence of contraband, and the government now possesses probable cause to

search for it.[35]

The dissenters in *Caballes* were duly concerned with the larger issue -- that these

dog alerts culminate in searches, and the dissenters' core concern was right: A dog alert

alone should not constitute probable cause to search.[36]

Some additional quantum of evidence, probably amounting to reasonable

suspicion, should be necessary before the search is initiated.[37] That additional evidence

could also be developed after an alert. It is not *when* the additional evidence is developed

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[35] This may be the most fundamental criticism of all. The statement that an alert by a properly trained dog is prima facie evidence of the presence of contraband is based on flawed statistical analysis. There is clearly a problem in setting an appropriate level of background expectation that needs to be addressed. Officers clearly can support their instincts with articulable facts. They do it all the time in the Terry-stop context, and it won't be hard for prosecutors and judges to adapt those requirements to the dog sniff context. While Justices Ginsburg and Souter would require reasonable suspicion before searching, under a different rationale, the result may be the right one. Requiring reasonable suspicion coupled with the dog sniff – whether it be before the sniff or after – is a simple and practical safeguard for ensuring the presence of probable cause before the search is conducted.
[36] See infra, notes ___ and accompanying text.

relative to the dog sniff that is the key to the inquiry; it is the fact that the additional

evidence must also be developed before a search of the vehicle or bag is initiated, and the

dog alert and the additional evidence must combine to constitute probable cause.

For those wondering where the Court's decision leaves the battle over introducing

evidence of contraband seized after a narcotics detection dog alerts, nothing significant

has changed. The critical issue in the suppression hearings that will continue in trial

courts will not be whether the mere act of the dog sniffing the car or bag in question is a

constitutional violation.[38] Under *Caballes*, it clearly is not.[39] Instead, prosecutors and

defense attorneys will be asking a judge to determine two things: First, was the dog used

in a place where it had a right to be, during the course of an otherwise lawful stop or

seizure?[40] The second inquiry, and the more critical one, that is left unanswered by

Caballes was whether this alert, by this dog, under this specific set of circumstances, was

enough to establish probable cause to search.[41] Whether or not the sniff takes place and

the dog alerts is usually of no great moment to defendants, or to the innocent public who

are potentially subject to search.[42] It is what happens next – the search based on the alert

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[37] Where I think the dissenters were wrong as a matter of Fourth Amendment principle is that they would require that the reasonable suspicion be developed *before* the dog was allowed to sniff.

[38] This was the focus of the dissent, and has been the focus of the scholarly criticism or support of the opinion. The analysis in those articles focuses on whether or not there was a search, not on whether or not the alert constitutes probable cause. See, e.g., Note, *Fidos and Fi-don'ts: Why the Supreme Court Should Have Found a Search in Illinois v. Caballes*, 9 CAL. CRIM. L. REV. 1 (2005); Milton Hirsch and David Oscar Markus, *Drugs, Dogs and Cars: Oh My!*, 29 CHAMPION 48 (2005).

[39] *Caballes*, 543 U.S. at 409-10.

[40] Id. at 409.

[41] See infra, notes ___ and accompanying text.

[42] At least in terms of collecting evidence. There may be additional concerns regarding the fear many people feel in the presence of search dogs, or the public messages involved in having passers by see the police using dogs to sniff around an individual, their vehicle or their possessions.

-- that implicates the Fourth Amendment. The lower courts have often conflated the two inquiries,[43] and post-*Caballes* are even more likely to do so.

IV.   DOG SNIFF CASES AFTER CABALLES

A. Lawful stop

When analyzing detector dog cases post-*Caballes*, it is important to take the inquiries in order: First, was the dog in a place where it had a right to be, during a lawful stop? *Caballes* was clear that the rule it stated applies in the event of an otherwise lawful stop. It also assumed that the court would have been warranted in suppressing the evidence "if the dog sniff had been conducted while the respondent was being unlawfully detained."[44] The range of lawful stops varies from the probable cause traffic stop at issue in *Caballes* to border stops to traffic checkpoints to *Terry*-style "stop and frisk" scenarios based on reasonable suspicion.[45] The full range of lawful stop scenarios is beyond the scope of this article. The key issue for the courts is to be sure that whatever the basis, the police did not violate the suspect's rights to put the dog and the items sniffed in the same place at the same time

B. Probable Cause – quantum or conclusion?

The second inquiry is whether a search by this dog under these circumstances constitutes probable cause to search under the Fourth Amendment. Just because the sniff

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[43] See infra, at notes ___ and accompanying text. So have the commentators. See supra, note ___. Jorge G. Aristotelidis, *Trained Canines at the U.S.-Mexico Border Region: A Review of Current Fifth Circuit Law and a Call for Change*, 5 SCHOLAR 227 (2003); Note, *Fidos and Fi-don'ts: Why the Supreme Court Should Have Found a Search in Illinois v. Caballes*, 9 CAL. CRIM. L. REV. 1 (2005); Comment, *Sniffing Out the Fourth Amendment: United States v. Place – Dog Sniffs – Ten Years Later*, 46 ME. L. REV. 151 (1994);;
[44] *Caballes*, 543 U.S. 405, 408.

itself isn't a violation doesn't mean that the searches that follow the sniff are legal. For

the search to be valid, the search must satisfy the quantum of suspicion appropriate for

the particular situation and environment.[46] *Caballes* does not suggest that the automobile

exception to the warrant requirement[47] lowers the quantum of proof required. It remains

probable cause. Instead, *Caballes* specifically relied on the trial court's determination

that "the dog sniff was sufficiently reliable to establish probable cause to conduct a full-

blown search of the trunk."[48]

What one thinks about the validity of that conclusion turns in part on what one

believes the courts should be doing when they interpret the Fourth Amendment's

probable cause requirement. Consider the text of the Fourth Amendment for a moment.

> 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.

The probable cause standard actually applies to the issuance of warrants, not to

warrantless searches. The people have a right otherwise to be secure against

unreasonable searches and seizures. The courts have read the probable cause requirement

for warrants back into the term reasonable, holding the probable cause is necessary for

warrantless searches as well, absent some exigent circumstance. Some commentators

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[45] *See Terry v. Ohio*, 392 U.S. 1, 26 (police may stop a suspect briefly and frisk him for weapons when there is a reasonable and articulable suspicion that a crime may be about to occur).

[46] In *Illinois v. Gates*, the Stated that probable cause deals with probabilities, not certainties. "Long before the law of probabilities was articulated as such, practical people formulated certain common-sense conclusions about human behavior; jurors are permitted to do the same, and so are law enforcement officers. 426 U.S. 213, 231-32 (citing *U.S. v. Cortez*, 449 U.S. 411, 418 (1981).

[47] *See U.S. v. Ross*, 456 U.S. 798, 804-09 (1982); *Pennsylvania v. Labron*, 518 U.S. 938 (1996) (per curiam) (ready mobility of vehicle and probable cause to believe that the vehicle contained contraband obviated warrant requirement).

have suggested that the probable cause requirement has nothing to do with probabilities, and is instead the system's collective shorthand for a search we are willing to permit, i.e. searches that are "reasonable." Professor Ronald Allen has called this shorthand "local knowledge" specific to an area of Fourth Amendment law, and points out that the concept of probable cause is in a sense impossible to determine without resort to the surrounding circumstances. Courts search for analogues to see how much evidence, of what kind, was found to rise to the level of permitting a search, and call it probable cause. He recognizes that there are inherent difficulties in most situations in determining what weight should be accorded to particular evidence ex ante. "What specific evidence equates to any burden of persuasion cannot be said in advance about any aspect of the human condition. … The only method of reducing the analytical indefiniteness of 'probable cause' would be not to treat it as a probability measure, and instead to generate another type of local knowledge."[49]

For example, these commentators suggest that the courts have developed a "local knowledge" of reasonable searches during various stages of the vehicle search context. The area within the defendant's reach may be searched for officer safety. The trunk may be searched as part of an inventory search once the vehicle has been seized. The decided cases no longer rely on fresh determinations of the presence of probable cause in each new case, but instead are based on what amounts to a common-law police practice code,

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[48] *Caballes* 543 U.S. at 409.
[49] See Ronald J. Allen and Ross M. Rosenberg, *The Fourth Amendment and the Limits of Theory: Local Versus General Theoretical Knowledge*, 72 ST. JOHN'S L. REV 1149, 1160 (1998). Professor Albert Alschuler has made similar arguments. See Albert W. Alschuler, *Bright Line Fever and the Fourth Amendment*, 45 U. PITT. L. REV. 227 (1984).

which officers can be taught once a particular case is decided.[50] If the commentators are correct and the Fourth Amendment is all about "local knowledge," then the Court's determination that a sniff is sufficient to constitute probable cause would be determinative under the Fourth Amendment.

Nevertheless, the courts still seem to be speaking the language of probability when they determine whether a search should take place.   So while the facts are repeating themselves often enough to lead to well-settled responses, the amount of proof remains a constant. If that is so, then new information about the accuracy of particular tests will lead to a reevaluation of the legal conclusion that flows from its presence. We will now explore what that means in the context of a dog sniff.

V.   A BAYESIAN CRITIQUE OF THE PROBABLE CAUSE DETERMINATION

Caballes stands for the proposition that a drug sniff that does not prolong an otherwise lawful stop is not a search for purposes of the Fourth Amendment. It does not definitively answer the more fundamental question of whether an alert standing alone constitutes probable cause. As I will demonstrate, under even the most generous definition of probable cause, it does not.

Justice Souter suggested that this might be a potentially fruitful area for further development.[51]

> The infallible dog, however, is a creature of legal
> fiction. Although the Supreme Court of Illinois did not get
> into the sniffing averages of drug dogs, their supposed

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[50] This is particularly important because police in the field need rules of behavior, not abstract legal standards. We will return to this issue below. See infra notes ___ and accompanying text.
[51] *Caballes*, 543 U.S. at 411 (Souter, J. dissenting).

infallibility is belied by judicial opinions describing well-trained animals sniffing and alerting with less than perfect accuracy, whether owing to errors by their handlers, the limitations of the dogs themselves, or even the pervasive contamination of currency by cocaine.[52]

First, let us consider false positives, highlighted by Justice Souter in his dissent in *Caballes*.[53] A false positive is an alert by the dog in the absence of the substance it is trained to detect. False positives are an inherent problem with any less-than-perfect system. It is going to be wrong sometimes, even when the operator is well-trained and acting in good faith. This leads to a search of an innocent person – or at least to the search of a person who isn't carrying drugs right now. In some cases, a false positive leads to a search that results in contraband different than the substance the dog is trained to detect; for example, a dog trained on cocaine and marijuana may falsely alert, leading to the discovery of methamphetamine, cash, or firearms. False positive alert notwithstanding, if the alert is deemed to have constituted probable cause rendering the search legal under the Fourth Amendment, any additional contraband or inculpatory materials discovered in the course of that search are going to be deemed properly seized under a plain-view analysis.[54]

But the dissenters missed a more fundamental criticism regarding false positives. Even error rates the dissenters would consider perfectly acceptable make it plain that the mere fact of an alert cannot be probable cause, once one considers the effect of Bayes's Theorem, a formula commonly used by medical doctors and scientists for taking proper

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[52] Id.

[53] "The infallible dog … is a creature of legal fiction. … In practical terms, the evidence is clear that the dog that alerts hundreds of times will be wrong dozens of times." *Caballes* 543 U.S. at 411-12 (Souter, J. dissenting).

account of new information, such as that provided by some type of laboratory test. It tells

us, through a little calculation, how strong our belief should be that a particular fact or

condition exists if we are given a new piece of information to add to what we knew

before. Or, in the language of statisticians, what the formula does is allow the user to

update their beliefs about certain events in light of new information.[55]

Applying Bayes' Theorem debunks the common fallacy that an alert by a dog

with a 90 percent success rate means there is a 90 percent chance that this particular

vehicle contains the controlled substance.[56] That couldn't be further from the truth, yet,

as the literature and the cases confirm, it is a widely held and intuitive misconception. It

should not be surprising that unless the dog is perfect, the test only increases the

likelihood that there are drugs there, it does not establish it. We don't expect a 90 percent

accurate test to leave us with a 100 percent conviction that there are drugs there. But that

90 percent accurate test increases the likelihood that drugs are there far less than most

people think. If the probability was low to begin with, even a really good test will still

result in a relatively low number.[57] Imagine that there has been a stop by a deputy

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[54] Under this view, the officer had probable cause to search the place or compartment. The fact that the search revealed different contraband or evidence does not render the evidence inadmissible, because it was in plain view from a position where the searching officer had a right to be.

[55] The use of Bayesian analysis in court has been the subject of some controversy, especially where the proponent of evidence wants to use Bayes theorem to show that a particular piece of evidence has extraordinary probative value. See Finkelstein and Fairley, *A Bayesian Approach to Identification Evidence*, 83 HARV. L. REV. 489 (1970); Broun and Kelly, *Playing the Percentages and the Law of Evidence*, 1970 U. ILL. L. REV. 23, Lawrence Tribe, *Trial By Mathematics*, 84 HARV. L. REV. 1329 (1971). For those seeking a more straightforward explanation of Bayes' theorem and how it works, there is an excellent website explaining the application of Bayes Theorem in various contexts which may be helpful for the uninitiated. *See* Eliezer Yudkowsky, *An Intuitive Explanation of Bayesian Reasoning: Bayes' Theorem for the curious and bewildered; an excruciatingly gentle introduction*, available at http://yudkowsky.net/bayes/bayes.html (visited July 12, 2004). Compare Lea Brilmayer, *Second-Order Evidence and Bayesian Logic*, 66 B. U. L. REV. 673, (1986), passim, (discussing the potential limitations on Bayesian Logic in the courtroom).

[56] For an earlier, abbreviated discussion of Bayes theorem in the dog sniff context, see Robert C. Bird, *An Examination of the Training and Reliability of the Narcotics Detection Dog*, 85 KY. L.J. 405 (1997).

[57] *See* YUDKOWSKY, *supra* note 54.

sheriff, and while he is writing the driver of the car a ticket, a colleague runs this 90 percent successful dog around the car. The handler has not talked to the other deputy at all about the stop, the reasons for it, the driver's demeanor, story, or other conditions. The dog alerts at the trunk, scratching vigorously as it has been trained to do in the presence of cocaine or marijuana. Knowing nothing else about the driver and her demeanor, what are the odds that the trunk in fact contains an illegal drug? Despite what your instincts may tell you, there is not a 90 percent chance that there will be drugs in the car. It is closer to 16 percent. Surprised? Here's why.

To see how the error rate of dog alerts alters the probable cause calculation, one needs to understand some statistics. Bayes' rule provides a framework for this analysis. As stated above, Bayes' rule is concerned with updating of beliefs about certain events in light of new information.[58] That sounds technical, so consider the following example. Suppose the police, because of prior experiences, believe that one out of fifty stopped cars will contain drugs. In other words, the police officer's original assessment is that two percent of the cars stopped will possess drugs. (Admittedly, one of the problems with performing this type of analysis is getting a reliable number for the background expectation. Drug usage surveys may provide some help in establishing a useful figure, but there will be considerable disagreement over what figure should be used. This figure is chosen for purposes of illustration only.) Suppose, then, that the dog alerts after the

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[58] *See, e.g.*, Richard Lempert, *Some Caveats Concerning DNA As Criminal Identification Evidence: With Thanks to the Reverend Bayes*, 13 CARDOZO L. REV. 303, 316-18 (1991), (explaining Bayesian analysis in the context of DNA evidence).

car is stopped. The legal question is whether the dog alert *alone* is enough to justify a search.[59]

This depends on the dog's error rate coupled with the officer's original assessment of guilt. Take first the error rate. The dog might commit two types of errors. First, the dog might fail to alert when there are drugs in the car. Second, the dog might alert when there are no drugs in the car. Assume that the dog is pretty good. He fails to alert in the presence of drugs only 5 percent of the time. Put another way, he has a 5 percent false negative rate. He alerts when drugs aren't present 10 percent of the time. He has a 10 percent false positive rate.

For our purposes, the important number is the false positives. What we want to know is the probability the car contains drugs conditional on (or in light of) the dog alert. Given this information, Bayes rule tells us the chance that the dog alert is correct and the person stopped has drugs. The formula and computation follow:

First, some notation for the mathematically-inclined.

Let $P[\text{not alert} \mid \text{guilty}]$ equal the probability the dog commits the first type of error -- 5 percent. Related, of course, the dog correctly alerts in the presence of drugs 95 percent of time. So, $P[\text{alert} \mid \text{guilty}] = .95$. Let $P[\text{alert} \mid \text{innocent}]$ equal the probability the dog commits the second type of error -- 10 percent. Hence, $P[\text{not alert} \mid \text{innocent}] = .90$

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[59] Remember that this depends on the stated premise – that we are talking about the value of the alert standing on its own. If we had more information, we could adjust the prior probability upward or downward.

Finally, we need the background expectations. Let $P[guilty] = .02$ represent the original assessment of guilt and $P[innocent] = .98$ represent the original assessment of innocence.

$$P[\text{guilty} \mid \text{alert}] = \frac{P[\text{alert} \mid \text{guilty}]P[\text{guilty}]}{P[\text{alert} \mid \text{guilty}]P[\text{guilty}] + P[\text{alert} \mid \text{innocent}]P[\text{innocent}]}$$

$$= \frac{(.95)(.02)}{(.95)(.02) + (.10)(.98)}$$

$$= .162393$$

With a pretty good dog, but a largely innocent population, a dog alert will signal drugs only about 16 percent of the time. The reason is this: Because the officer is stopping mostly innocent people, one has to be more concerned about the false positive error (alerting when there aren't drugs). Because there are more cars without drugs in them, the gross number of searches that result from the error rate will be higher than the gross number of searches that result from correct alerts. Overall, there will be many more searches of innocent people than there will be searches of guilty people.[60]

Now that we have done the math, the constitutional question that follows is: Is a 16 percent likelihood probable cause? Maybe. Perhaps counterinuitively, this too

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[60] Lawyers seem to do particularly poorly with evaluating the value of such a search. See Michael O. Finkelstein and Bruce Levin, *On the Probative Value of Evidence From a Screening Search*, 43 JURIMETRICS 265, 268-69. (2003) ("In biomedical applications, the strengths and weaknesses of screening tests are well understood. For example, it is recognized that even very good blood tests for rare conditions yield many false positives. Nevertheless, a similar appreciation has not been evident in the law."). See also Bird, supra note 55, pp. 427-28 (showing that a 98 percent accurate dog, in a population with a 0.5%

requires some thought. We know from the Court's decisions that probable cause to

search does not mean, as any non-lawyer would think, that it is more likely than not that

there are drugs in the car. But how much less still qualifies? The Supreme Court has

scrupulously avoided answering that question, choosing instead a range of answers –

leaving the touchstone at some unquantified "fair probability."[61] Is a one in eight chance

a fair probability? If a 16 percent chance isn't good enough, then there isn't probable

cause for the search.[62] (While some believe the caselaw suggests that a one in three

chance is probably enough,[63] it is likely that one in six is not.)

And a search in the absence of probable cause violates the Fourth Amendment.[64]

Lower court holdings to the contrary notwithstanding, an alert alone should not permit a

search. But the courts are permitting searches on alert and nothing more.[65] Such, for

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drug possession rate, will yield 199 searches of innocent people versus 49 searches of guilty people, in a random search of 10,000 people).

[61] See Ronald J. Bacigal, *Making the Right Gamble: The Odds on Probable Cause*, 74 MISS. L.J. 279, passim (2004); William J. Stuntz, *Commentary: O.J. Simpson, Bill Clinton, and the Transubstantive Fourth Amendment*, 114 HARV. L. REV. 842 (2001).

[62] Unlike many other instances where probable cause is considered a fluid concept, "turning on the assessment of probabilities in particular factual contexts – not readily, or even usefully, reduced to a set of neat legal rules," Illinois v. Gates, 462 U.S. 213, 232, (1983), some lower courts have been establishing a rule for dog cases that the alert of a well-trained dog, standing alone, is enough to constitute probable cause. Because the numbers demonstrate that such an alert is not enough to amount to a "fair probability," the rule has been drawn the wrong way.

[63] The Supreme Court has steadfastly resisted reducing probable cause to percentages. "The probable cause standard is incapable of precise definition or quantification into percentages because it deals with probabilities and depends on the totality of the circumstances." *See Maryland v. Pringle*, 538 U.S. 921 (2003). In *Pringle*, three men were arrested after police stopped a car in which all three were riding and found $763 in cash and several glassine bags of cocaine hidden behind the rear seat armrest. Under the circumstances, the Supreme Court held that there was probable cause to arrest any one or all three of the men. When the front seat passenger, Pringle, confessed to ownership of the drugs, and said that the other two men did not know the drugs were there, police released his companions. Some commentators have read Pringle as stating that a one in three chance will be sufficient to constitute probable cause. Given the possibility of joint dominion and control in a common criminal enterprise, the better reading of the opinion may be that in the Court's view under the circumstances there was probable cause to find that the men were commonly engaged in selling the drugs, and therefore there was probable cause to arrest any or all of them. That belief was reduced as to the other two men when Pringle confessed.

[64] LAFAVE, SEARCH AND SEIZURE: A TREATISE ON THE FOURTH AMENDMENT.

[65] Courts may not be inclined to be sympathetic to a Bayesian analysis, if they are willing to focus on it and can be made to understand it. See DAVID W. BARNES & JOHN M. CONLEY, STATISTICAL EVIDENCE IN

example, was the holding of the lower court in *Caballes*. "[I]n this case, the trial judge found that the dog sniff was sufficiently reliable to establish probable cause to conduct a full-blown search of the trunk."[66]

The fact that the alert alone should not constitute probable cause does not mean that the dog's alert is not a critical piece of evidence that can be combined with other evidence to constitute probable cause. Suppose instead that the dog is deployed when the police officer has a suspicion, based on other factors, that suggests that there may be narcotics present. If he has a pretty good nose for narcotics dealers of his own, then other studies on hit rates of police officers conducting searches based on factors that otherwise have been held to constitute probable cause suggest he may have a 30 percent chance of being right.[67] In that case, the prior probability that the car contains drugs will significantly increase the importance of the detector dog's alert. Under those conditions, the Bayesian calculation, with a 30 percent prior probability and a 90 percent accurate dog, would result in a 79 percent chance that there are drugs in the car – clearly probable cause.

Perhaps this analysis explains why a reasonable justice might believe that there should be reasonable suspicion before the dog is deployed. This was certainly the position of the *Caballes* dissenters.[68] This requirement would make sense in light of the Bayesian analysis, because the objective, articulable facts that would lead a well-trained

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LITIGATION, at 498. ("The lawyer who is about to offer statistical proof should begin with two sobering assumptions. These are (1) that the trier of fact will rarely have any knowledge of statistical techniques and (2) that the trier of fact will probably be unsympathetic to the general concept of statistical proof.")
[66] *Caballes*, 547 U.S. at 409.
[67] See Bird, supra note 55, at 429-431; John Knowles, Nicola Persico & Petra Todd, *Racial Bias in Motor Vehicle Searches: Theory and Evidence*, CARESS WORKING PAPER 99-06 (1999) at 10, available at http://www.econ.upenn.edu/Centers/CARESS/CARESSpdf/99-06.pdf .

officer to have that reasonable suspicion, coupled with an alert, would constitute probable cause. However, the reasonable suspicion need not come before the dog is deployed to meet the constitutional concerns. It is also possible, and in some instances perhaps preferable, to permit the deployment of the dog, but to require some additional articulated basis amounting to reasonable suspicion before deciding that under the totality of the circumstances, there is indeed a "fair probability" that there are drugs in the car. [69]

None of this is to suggest that the use of a well-trained narcotics dog (or explosives dog or cadaver dog) in conjunction with other good police practices should not result in a finding of probable cause. A dog with a decent accuracy rate is a tool much like a test for cancer. It may not be enough to warrant beginning a course of treatment, but it certainly warrants further investigation, including more painful and intrusive tests.

Before we can determine that the level of proof has risen to whatever quantum the courts deem sufficient to constitute probable cause, it stands to reason that the dog must be reliable. Indeed, the foregoing analysis was based on the belief that the dog in question was 90 percent accurate in the field. That is a very accurate dog. Unlike a scientific test for cancer, the reliability of detector dogs can vary widely from individual to individual. Change the presumptions about error rates, and the ultimate reliability figure will change. If the dog that is actually used is not very good, then the number of searches of innocent people will rise.

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[68] *See* 543 U.S. 405, 410-417, (Souter, J. dissenting), 543 U.S. 405, 417-425. (Ginsburg, J. dissenting).
[69] In other contexts, we might want to fall back on the special needs doctrine to deem reasonable searches conducted on less than probable cause. For example, we want to be able to deploy bomb-sniffing dogs in airports or on subways when there is a heightened terrorism threat.

VI. WHAT THE COURTS ARE DOING

The systemic flaw that the Bayesian analysis reveals is compounded by the cavalier attitude many judges take to the value of a dog sniff. In many courtrooms, an alert by a trained detector dog, standing alone, constitutes sufficient probable cause to search. Courts in each of the federal circuits have reached this conclusion.[70] According to such courts, "[a] dog's positive indication alone is enough to establish probable cause for the presence of a controlled substance if the dog is reliable. To establish the dog's reliability, the affidavit need only state the dog has been trained and certified to detect drugs."[71] This approach is wrong both as a matter of science[72] and as a matter of Fourth Amendment law.[73]

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[70] See, e.g., *U.S. v. Sundby*, 186 F.3d 873 (8th Cir, 1999) (collecting cases**)**. The leading case for this view is *United States v. Williams*, 69 F.3d 27, (5th Cir. 1995). See also, by circuit, *U.S. v. Owens*, 167 F.3d 739, 749-50, (1st Cir. 1999); *U.S. v. Meyer*, 536 F.2d 963, 966, (1st Cir., 1976); *U.S. v. Race*, 529 F.2d 12,14 (1st Cir. 1976; *U.S. v. Waltzer*, 682 F.2d 370, 372 (2d Cir. 1982); *U.S. v. Johnson*, 660 F.2d 21, 22-23, (2d Cir. 1981); *U.S. v. Massac*, 867 F.2d 174, 176 (3d Cir. 1989); *U.S. v. Jeffus*, 22 F.3d 554, 557 (4th Cir. 1994); *U.S. v. Robinson*, 707 F.2d 811, 815 (4th Cir. 1983); *U.S. v. Outlaw*, 319 F.3d 701, 704 (5th Cir. 2003), *U.S. v. Williams*, 69 F.3d 27, 28 (5th Cir. 1995); *U.S. v. Daniel*, 982 F.2d 146, 151, n.7 (5th Cir. 1993); *U.S. v. Dovali-Avila*, 895 F.2d 206, 207-208 (5th Cir. 1990); *U.S. v. Berry*, 90 F.3d 148, 153-154 (6th Cir. 1996); *U.S. v. Klein*, 626 F.2d 22, 27 (7th Cir. 1980); *U.S. v. Sundby*, 186 F.3d 873, 876 (8th Cir. 1999); *U.S. v. Delaney*, 52 F.3d 182, 188-189, (8th Cir. 1995); *U.S. v. Maejia*, 928 F.2d 810, 815 (8th Cir. (1991); *U.S. v. Lingenfelter*, 997 F.2d 632, 639 (9th Cir. (1993)' *U.S. v. Spetz*, 721 F.2d 1457, 1464 (9th Cir. 1983);
[71] Id. at 876. 1976); *U.S. v. Shayesteh*, 166 F.3d 349 (10th Cir. 1998); *U.S. v. Kennedy* 131 F.3d 1371, 1378 (10th Cir. 1997); *U.S. v. Ludwig*, 10 F.3d 1523, 1527-1528, (10th Cir. 1993); *U.S. v. Nielsen*, 9 F.3d 1487, 1491 (10th Cir. 1993; *U.S. v. Gonzalez-Acosta*, 9898 F.2d 384, 388-389 (10th Cir. 1993); *U.S. v. Venema*, 563 F.2d 1003, 1007 (10th Cir. 1977); *U.S. v. Banks*, 3 F.3d 399, 402 (11th Cir. 1993); *U.S. v. Sentovich*, 677 F.2d 834, 838, n. 8, 11th Cir. 1982); *U.S. v. Trayer*, 898 F.2d 805, 808 (D.C. Cir. 1990); *U.S. v. Unrue*, 47 C.M.R. 56, 558, 560, (U.S.C.M.A. 1973); *U.S. v. Thomas*, 50 C.M.R. 114, 116-117 (U.S.N. 1975).
[72] See infra notes ___ and accompanying text.
[73] The courts have an independent duty to determine whether there was probable cause based on the particular circumstances of the case. *See Ornelas v. United States*, 517 U.S. 690, 695 (1996). It is a two-step inquiry. The court must determine what in fact happened, then determine whether from the standpoint of a reasonable police officer, the facts constituted probable cause. But it is important to note that in *Ornelas*, the Court distinguished cases there was a warrant, which led to a deferential standard on review, from cases where there is no warrant and the appellate courts review the existence of probable cause *de novo*. Searches following dog alerts often take place in the absence of a warrant. *See* Jorge G. Aristotelidis, *Trained Canines at the U.S.-Mexico Border Region: A Review of Current Fifth Circuit Law and a Call for Change*, 5 SCHOLAR 227 (2003)

Nevertheless, in many, and perhaps most, cases, even when the search following the alert proceeds without a warrant, judges have simply asked if the dog was certified, and ended the inquiry, refusing even to permit further discovery by the defendant into the particular dog and handler's training record or track record in the field.[74] This court-imposed limitation on questioning is wrongheaded. The simple fact of the matter is that some dogs, like some witnesses, are unreliable.[75] And some handlers, like some experts, are unreliable.[76] Refusing to grant the defendant discovery of information that can be used to impeach the credibility of the dog or its handler violates the core principles of *Brady v. Maryland*,[77] as well as Rule 16 of the Federal Rules of Criminal Procedure[78] and many state analogues. The Ninth Circuit, for example, reached this position in *United States v. Cedano-Arellano*.[79] There the Ninth Circuit held that training and certification records were "crucial to [the defendant's] ability to assess the dog's reliability, a very important issue in his defense, and to conduct an effective cross-examination of the dog's handler."[80] Other courts in the Sixth,[81] Seventh,[82] Ninth[83] and Tenth[84] Circuits have

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[74] See *State v. Nguyen, et al.*, 811 N.E.2d 1180, 157 Ohio App.3d 482 (2004) (collecting cases).

[75] Interview with Lawrence Myers; Bird, handler cuing

[76] BIRD, *supra* note 55, 420-23 (handler cuing); *See* Andrew Taslitz, *Does the Cold Nose Know? The Unscientific Myth of the Dog Scent Lineup,* 42 HASTINGS L. J. 15-134 (1990).

[77] 373 U.S. 83, (1963). *Brady* requires that the government disclose any potentially exculpatory evidence to the defendant in advance of trial. Evidence that might be relevant to the existence or absence of probable cause has been deemed to be *Brady* material. See _____.

[78] FED. R. CRIM. P. 16(a)(1)(C): DOCUMENTS AND TANGIBLE OBJECTS. Upon request of the defendant the government shall permit the defendant to inspect and copy or photograph books, papers, documents, photographs, tangible objects, buildings or places, or copies or portions thereof, which are within the possession, custody or control of the government, and which are material to the preparation of the defendant's defense or are intended for use by the government as evidence in chief at the trial, or were obtained from or belong to the defendant.

[79] 332 F.3d 568 (9th Cir. 2003).

[80] *Id*. at 571.

[81] *U.S. v. Littleton*, 15 Fed,. Appx. 189, 192-193 (6th Cir. 2001); *U.S. v. Hill*, 195 F. 3d 258, 273-274 (6th Cir. 1999); *U.S. v. Diaz*, 25 F.3d 392, 393-396 (6th Cir. 1994); *U.S. v. $67,220.00 in U.S. Currency*, 957 F.2d 280, 285-286, (6th Cir. 1992).

[82] *U.S. v. Limares*, 269 F.3d 794, 707-798 (7th Cir. 2001).

[83] *U.S. v. Spetz*, 721 F. 2d 1457, 1464 (9th Cir. 1983).

[84] U.S. v. Ludwig, 10 F.3d 1523, 1527-1528, (10th Cir. 1993).

reached similar conclusions. Courts that permit such discovery recognize that there may be differences between a team's performance in controlled conditions and in the field, and will permit the discovery of records that may document those differences.

If the dog is unreliable, what problems can we expect those records to reveal? The experts point to three: general false positives, handler cuing, and poorly performing teams. We have already considered the false positives problem. Before we get to the problems of handler cuing and poorly-performing teams, we need to spend a little bit of time on how scenting dogs work. Given the fact that dogs remain crucial participants in cases defining the scope of the Fourth Amendment, it is critical that the courts improve their understanding of the pluses and minuses of using them.[85]

A.   Bad dog, "good" search

In practice, how accurate have the courts required a dog to be to establish probable cause to search? Depending on the courtroom, not very.[86] Even a cursory review of the caselaw demonstrates that for defense attorneys, the cases are not great. Consider Torque, the canine at issue in *United States v. Owens*.[87] Torque was hardly the best in the business. He had flunked drug dog school not once, but twice.[88] In the two years prior to the search at issue, according to the defendant's briefs, he had a less than 50 percent hit rate in automobile searches where he alerted.[89] That means that police

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[85] Of the existing literature on this topic, the two seminal articles are Andrew Taslitz, *Does the Cold Nose Know? The Unscientific Myth of the Dog Scent Lineup,* 42 HASTINGS L. J. 15-134 (1990), and Robert C. Bird, *An Examination of the Training and Reliability of the Narcotics Detection Dog*, 85 KY. L.J. 405 (1997). See also Comment, *Common Scents: Establishing a Presumption of Reliability for Detector Dog Teams Used in Airports in Light of the Current Terrorist Threat*, 28 U. DAYTON L. REV. 89 (2002);.
[86] See supra note ___, collecting cases.
[87] 167 F.3d 739, (1st Cir. 1999).
[88] Id. at 749.
[89] Brief for Appellant No. 97-1838 May 20, 1998 p.34

actually found drugs in the vehicle in fewer than half of the cases where Torque indicated

that drugs would be there. A defense expert in animal behavior and detection dog

training, one who had previously worked for the government in various capacities,

testified that in his opinion the dog was unreliable in the field, based on the objective

evidence presented.[90] The defense relied on information that showed that in 1994, 50

percent of the searches in which Torque alerted yielded drugs or money, and that in 1995,

only 40 percent of such searches did.[91]

In response to this attack on Torque's reliability, the government witness

suggested his own math. He used any failure to alert as a true negative, and bootstrapped

that information into the prosecution's statistical analysis as evidence of Torque's success

rate.[92] (Given that there is no way to tell if a negative result is correct, those numbers

should be considered irrelevant in evaluating the dog's accuracy.)

Torque's handler and his trainer testified that in their opinion, Torque was "an

extremely reliable dog."[93] They defended his failure to find narcotics on a "residual

odor" theory, arguing that Torque was not wrong, but was instead reacting to the

presence of trace amounts of drugs that were still present.[94] As the head of the Sheriff's

Departments detector dog unit testified, "I think you have to take into consideration

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[90] Government's brief (brief for appellee) p. 42
[91] Government's brief p. 42. Appellee
[92] Appelle brief p. 42
[93] Apellee brief p. 42
[94] Gov't brief (appellee) p. 42-43.

when you have a nonproductive search on a drug dealer's vehicle that there's a good chance there's been some type of narcotics in that vehicle."[95]

The Court found Torque reliable, and admitted the evidence.[96] If an alert by Torque can be the basis for probable cause, then it's going to require an extraordinarily bad dog before a defense expert can successfully impeach the government's "expert."

But there may well be more to the story. The training officer may have a point. It is true that correct alerts may fail to yield drugs or explosives. The dog's nose is incredibly sensitive. Remember that testing by experts at Auburn University has shown that some trained dogs can detect concentrations of scent molecules in the air at concentrations as low as 500 parts per *trillion*.[97] Return for a moment to the search in *Owens*. Torque was used primarily by his department in responding to search warrants, where the police already had information that the person being searched was involved in drug activity. His handler expected to find drugs. When he alerted, but no drugs were found, it is indeed possible that he was responding as he had been trained to do, but he was alerting to trace amounts of the substance. The problem is that there was no objective evidence on which to base that conclusion.

Perversely, the better the dog is at detecting trace amounts of the desired substance, the higher the likelihood that the dog will alert on trace amounts that are inadvertently present in materials owned by the innocent. For example, this risk was the basis for the dissenters' in *Caballes* discussing the possibility that the money supply in

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[95] Appellee brief at p. 37 Note that this cuts both ways. A dog that alerts regularly to residual odors is actually less reliable at discerning whether drugs are actually present. This is the functional equivalent of staleness in the warrant application process.
[96] *Owens* at 749-50.

the United States is generally contaminated with cocaine, and dogs detecting these trace amounts of contraband may lead to numerous constitutionally-impermissible searches as a result of alerts by sensitive canines.[98]

B. Handler cuing (Good dog, bad Handler?)

A handler may cue his dog to alert, leading to a search based not on the dog's response to the presence of contraband, but on its response to the handler's emotions. Consider *South Dakota v. Lockstedt*,[99] which demonstrates these dangers in detail. The case involved two state troopers, two narcotics detector dogs, and three passes around the vehicle. This narcotics case arose, as many do, out of a lawful traffic stop.[100] While one state trooper, Trooper Swets, took his time writing a ticket for speeding, his colleague, Trooper Oxner, walked his dog, Jake, around the car, sniffing for drugs.[101] In a full circuit of the vehicle, Jake failed to alert at all.[102]

Trooper Swets, who was writing the ticket, noticed that the driver of the car, who was sitting in the patrol car, was becoming increasingly nervous as he watched Jake circle the car.[103] Based on this observation, he uncrated his own dog, Crockett, and had him circle the car. Crockett was trained to alert aggressively – that is, he was supposed to scratch at the vehicle if he smelled drugs.[104] On the first pass, Crockett did not alert at all. Unsatisfied with this response, Trooper Swets had him circle the car again. This

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[97] See supra, note ___ and accompanying text.
[98] *Caballes*, 534 U.S. at 412.
[99] 695 N.W.2d 718 (2005),
[100] Id. at 723.
[101] Id. at 720.
[102] Id. at 720.
[103] Id. at 720.
[104] Id. at 721.

time, the dog stopped and took a longer sniff at the door seams, where odors could be expected to be coming from inside the vehicle. He still failed to alert as trained. However, his handler encouraged him, telling him "I saw that."[105] Then the Trooper walked the dog to the trunk, where he had failed to alert, previously, and ordered him up on the trunk.[106] Finally, Crockett alerted. And it turned out that there were drugs in the car. According to the defense's expert, the stops at the door seams, where the dog failed to alert, were equally consistent with some other odor catching the dog's interest, because Crockett did not alert as he was trained to do.[107] The government's expert, who was responsible for training in the state, also testified that he would not consider the dog's behavior, which he reviewed on videotape from the patrol cars' cameras, sufficient indication that a search was warranted.[108] The lower court found in the government's favor, on the basis of the Trooper's testimony, in which he equivocally suggested that the dog's behavior had changed significantly as he aged, so this behavior was now an indication that drugs might be present.[109]

Defense counsel was refused a discovery request when Lockstedt sought the dog's service records, which would have shown how often the dog alerted, and how often those alerts resulted in false positives.[110] The narcotics evidence came in, and Lockstedt was convicted. One need not impute bad motives to the police officer to see that there is a complex interaction here. The distinction between reliable and unreliable alerts may depend on the seat in which one sits.

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[105] Id. at 721.
[106] Id. at 721.
[107] Id. at 728.
[108] Id. at 728.
[109] Id. at 729.
[110] Id. at ___

In contrast, in *United States v. Heir*,[111] the court suppressed evidence found when the dog "alerted" to the presence of drugs by sniffing more intensely around certain parts of the vehicle. Robbie, the canine in question, had been trained to aggressively alert by pawing or scratching at the car. His handler acknowledged that the behavior he deemed an alert "was subtle, and might only be recognized by himself or another person who was familiar with Robbie's tendencies."[112] Defense experts saw no evidence of an alert on the videotape, and pointed out actions that might have amounted to cuing by the handler.[113] The court found that "there must be an objectively observable 'indication' by the dog of the presence of drugs" and suppressed the evidence, declining to address other concerns about the dog's accuracy.[114]

The foregoing cases highlight two concerns, one operational and one evidentiary. If dogs can alert in response to handler cuing, conscious or subconscious, how can we tell if in this particular case the dog is responding to the odor of drugs or explosives, or to his handler's belief that under these circumstances, this person probably has drugs? As a substantive matter, we want training methods that will yield accurate results. Therefore, we must initiate processes that will ensure that result.[115]

Second, if the dog can function two ways, as a drug or explosives detector, or as a handler-hunch detector, both yielding the same behavior, and the dog itself can't be

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[111] 107 F.Supp2d 1088 (D. Neb. 2000).
[112] Id. at 1095.
[113] Id. at 1097.
[114] Id. at 1091-1096. In *Heir*, there was videotape – one of the tools that may result in a better understanding of how these dogs actually perform in the field.
[115] See Wayne R. LaFave, *Case-By-Case Adjudication Versus "Standardized Procedures": The Robinson Dilemma*, 1974 SUP. CT. REV. 127, 141. "Fourth Amendment doctrine, given force and effect by the exclusionary rule, is primarily intended to regulate the police in their day-to-day activities, and thus ought to be expressed in terms that are readily applicable by the police in the context of the law enforcement

cross-examined to ask it which, how can the courts test whether this particular dog and handler combination is yielding accurate results? The only way for a court to tell is for law enforcement agencies to be required to scrupulously maintain records showing how often the dog alerts, under what circumstances, and to make that information available to judges when they are determining if this event constitutes probable cause. If the records were kept, they would give us insights into whether the dogs operating in the real world have or reflect handler biases along any number of dimensions.

C. A few dissenting state voices

The Court's decision in *Caballes* came in the face of a few scattered opinions in the state courts that would require reasonable suspicion before a dog was deployed. **The Illinois Supreme Court, had counterparts in North Carolina[116] and Minnesota.[117]** In some instances, state courts are taking different approaches to the problem. For instance, Minnesota, in *State v. Carter*,[118] rejected the analysis of *Caballes* altogether in analogous circumstances, and held that "the sniff of a drug-detection dog outside appellant's storage unit was a search for purposes of the Minnesota Constitution."[119] Interestingly, the Minnesota Supreme Court accepted Justice Ginsburg's caveat, and decided to specifically limit its decision to drug-detection dogs. "We express no opinion

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activities in which they are engaged." Whether regulating police dogs is better done by the courts, the legislature, or an administrative agency we will explore below.

[116] *See State v. Branch,* 162 N.C. App. 707, 591 S.E.2d 923 (2004) (officers did not have reasonable suspicion to conduct dog sniff of defendant's vehicle while detaining defendant at vehicle checkpoint to conduct driver's license check), *review granted,* 358 N.C. 237, 595 S.E.2d 438 (2004);

[117] *See State v. Wiegand,* 645 N.W.2d 125 (Minn. 2002) (to lawfully conduct drug dog sniff around exterior of motor vehicle stopped for routine equipment violation, law enforcement officer must have reasonable, articulable suspicion of drug-related criminal activity).

[118] 697 N.W.2d 199.

[119] Id. at 211.

regarding bomb-detection dogs, as to which the needs of law enforcement might well be significantly greater."

Defendants might find some hope in *Matheson v. State*,[120] a case involving Razor, a narcotics detection dog who alerted to the presence of methamphetamine. Razor was not certified for meth, although he had received departmental training on the drug. Razor did not alert the first time he circled Matheson's car, but after his handler took him around again, pausing at the door seams, Razor did alert. Officers searched the car and found drug paraphernalia, including syringes and spoons, as well as hydrocodone, tablets, morphine tablets, and methamphetamine.

At the subsequent suppression hearing, the prosecution deliberately did not present evidence of Razor's performance in the field. From the stand, Razor's trainer suggested that data from the field was useless, because the dog could be alerting correctly on dead scents, and it would be impossible to assess the dog's reliability under field conditions.

Florida's Second District Court of Appeals was unimpressed by this line of reasoning. The court noted that the state had the burden to show that there was probable cause for the warrantless search.

> Given the "language barrier" between humans and
> canines–thus, for example, preventing the officer from
> questioning the dog further for corroborative details, as he
> might a human informant–the most telling indicator of what

the dog's behavior means is the dog's past performance in

the field. Here, the State did not present any evidence of

Razor's track record. Accordingly, we conclude that the

State did not meet its burden to establish that the deputies

had probable cause to search Matheson's car. [121]

The Florida Supreme Court heard oral arguments in the case, and questioning

focused on the recordkeeping issue. Ultimately the Supreme Court dismissed the case

without an opinion, leaving the appellate ruling intact. Florida attorneys, it appears, may

be able to argue for suppression in the absence of such records.

VII.   REEVALUATING OLD TECHNOLOGY

A.   Divergence of Interests

Different institutional actors will have different responses to the problems these

cases present. There are perverse investment incentives and a collective action problem

when it comes to training and evaluating detector dogs, just as there are in many other

areas of Fourth Amendment law.[122] The government has a diffuse interest in protecting

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[120] 870 So. 2d 8 (Fla. 2d DCA 2003).
[121] Id. at 16.
[122] The seminal article in this area is Anthony G. Amsterdam, *Perspectives on the Fourth Amendment*, 58
MINN. L. REV. 349, 378-79 (1974). See also Michael C. Dorf and Michael Isaacharff, *Can Process Theory
Constrain Courts*, 72 U. COLO. L. REV. 923, 928 (2001); Michael J. Klarman, *The Puzzling Resistance to
Political Process Theory*, 77 Va. L. Rev. 923, 928 (2001). An intriguing view of the relationship in the last
decade can be found in Craig S. Lerner, *Legislators as the "American Criminal Class": Why Congress
(Sometimes) Protects the Rights of Defendants*, 2004 ILL. L. REV. 600, 605-09. Lerner lays out the recent
changes to the historic relationship between legislative default in the Fourth Amendment arena, and the
Court's Fourth Amendment jurisprudence. "Academics have developed at least two theories (political
process and public choice) to explain and predict "legislative default" in the criminal procedure field. Both

privacy – and in some cases no interest whatsoever – and the innocent parties being

searched are disorganized and only minimally invested in preventing future searches.[123]

The guaranteed repeat players, law enforcement officials, have a pressing interest in

searching as many vehicles or other private spaces as they think may yield some

incriminating information,[124] and it is the law enforcement officials who identify and

compensate the vendors who train and certify police dogs.[125] Under the most cynical

view of the issue, the incentive for law enforcement is to get the most hypersensitive dog

that passes constitutional muster. A dog that reliably responds to the presence of drugs,

and is sensitive to handler cuing as well, will endorse the most searches possible. Under

this view, the cost of incorrect alerts in time and effort is low in the context of street-

encounter law enforcement searches, where the officer has other suspicions that led her to

call for the dog in the first instance. This misalignment of interests may lead the police to

choose the certifying agency with the loosest standards, because dogs trained to the

loosest standards will permit the most searches. And such an approach will create

significant competition between the certifying agencies to provide the training methods

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theories are premised on the claim that legislators, responding to public pressure, are unlikely to identify with criminal defendants or seek to offer them any protections."

[123] See Craig S. Lerner, *Legislators as the "American Criminal Class": Why Congress (Sometimes) Protects the Rights of Defendants*, 2004 ILL. L. REV. 600, 605-09.

[124] The rewards are often financial as well as intangible. Officers are rewarded for making good busts, departments report amounts of drugs seized to the city councils or legislatures that fund tem, cash or property seized along with the drugs is often rolled back into law enforcement, many departments keep seized drug vehicles for use by undercover officers, or assign them to officers as department vehicles.

[125] Public choice theory suggests that small well-organized groups can capture the legislative process through rent-seeking. See MANCUR OLSON, THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS, 53-65 (1965); Daniel A. Farber, *Public Choice and Just Compensation*, 9 Const. Comment. 279, 289,. See also Adam Feibelman, *Federal Bankruptcy Law and State Sovereign Immunity*, 81 TEX. L. REV. 1381, 1436 (2003) ("If public law is a product of technical expertise and bureaucratic professionalism, it is also shaped by the conflict of competing interests. This conflict is resolved partly according to the ideological preferences of the lawmakers themselves and partly according to the political power of the various interests.").

and certifications that most closely comport with the interests of the people writing the checks.[126]

But there is not always a mismatch between the incentives for law enforcement and the public's privacy interests. When Transportation Safety Authority officials use dogs to screen bags for explosives at the airport, or USDA officials use them to screen containers for contraband fruit, their incentives are to use the most accurate dogs consistent with the mission because there are limited resources and a high volume of materials to be searched. The airlines and shippers also provide the organized and interested deep pockets that will stand in as proxies for the public, solving the collective action problem.

Perhaps not surprisingly, given the divergence of interests in these different contexts, in practice there are many competing standards. Some are set by the individual states, some by private groups such as the United States Police Canine Association, some by federal agencies, such as Immigration and Customs Enforcement or the Border Patrol, and there is a separate set of standards for the military. There is very little oversight of what it means to be certified. Given the diffuse nature of law enforcement in the United States and the realities of mixed standards in a federal system, enforcing some minimum through the Fourth Amendment will prove incredibly difficult. Nevertheless, one method of evaluating standards worth considering is comparing the accuracy standards and training methods used where the interests of the public and law enforcement are more closely aligned with those used in contexts where one expects a broader divergence.

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[126] There can be significant competition for the training contract. Some examples of the competing

B.   Practical Limitations

And there may be some practical limitations as well. Even if we really want accurate dogs, there may not be enough of them to go around. Given the increase in demand for detection dogs post-9/11, there are also significant financial incentives for trainers and certifying agencies to deploy dogs of marginal talent.[127]

There are additional problems in the Fourth Amendment context regarding the reevaluation of an established technology such as detection dogs.   The courts set standards for law enforcement conduct through the caselaw, and the police adopt procedures and train their officers to meet those standards.[128] We are a long way from fundamental reform of the warrant process, and courts and police are eager to get on with the business of searching vehicles. In the wake of terror attacks that have intensified existing concerns and have led to an increased demand for tools that will help us find certain forms of contraband, it does not strain credulity to predict new caselaw that will loosen, not tighten, standards for admitting evidence. But all of us, the police, the public, and those who work in the administration of justice, have a Fourth Amendment-mandated interest in making sure that the dogs are accurate, and that searches based on their alerts are justified.[129]

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certifying or training groups include the National Narcotic Detector Dog Association, Eastern States Working Dog Association, International Police Working Dog Association, Virginia Police Work Dog Association, Tarheel Training, Inc.

[127] This shortage has led to overreaching in some cases. See, e.g., U.S. v. Ebersole, 411 F.3d 517 (4th Cir. 1998) (trainer convicted of wire fraud and ordered to pay more than $700,000 in restitution for using under-trained dogs and handlers); Trainer gets Prison Term for Defective Bomb-Sniffing Dogs, last updated April 28, 2004, visited at http://sports.espn.go.com/espn/print?id=1611759&type=story.

[128] *See generally* LaFave, *supra* note 114.

[129] See Anthony G. Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349, 353, ("[W]hen we seek to understand the Supreme Court's difficulties in grappling with the fourth amendment, we observe the Court in the throes of one of its noblest labors. That labor is to be the instrument by which

C.   The conservatism of the courts

Will the foregoing arguments lead the courts to reevaluate the use of detector

dogs? I think it is unlikely. This is due at least in part to the court's inherent

conservatism when reevaluating any established technology. A combination of factors is

at play here.

A reexamination of the canine sniff technology implicates concerns extensively

covered by an earlier generation of scholars such as Wayne LaFave,[130] and Anthony

Amsterdam[131] -- the interrelationship between the Supreme Court's Fourth Amendment

precedent, police practices based on these settled expectations, and reasonable

expectations of privacy. Now that the Fourth Amendment has been applied to the states,

police nationwide depend on the courts' interpretations to determine how to train their

officers on acceptable search and seizure practices. The courts' opinions also inform the

public's expectations of privacy. A new generation of scholars such as William

Stuntz,[132] Orin Kerr,[133] Daniel Solove,[134] and Christopher Slobogin[135] is at work on

developing theories that will help us understand the institutional limitations on courts,

legislatures and administrative agencies, the structures in place to determine how best to

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a free society imposes on itself the seldom welcome, sometimes dangerous, always indispensable restraints
that keep it free.")

[130] Wayne R. LaFave, *Case-By-Case Adjudication Versus "Standardized Procedures": The Robinson Dilemma*, 1974 SUP. CT. REV. 127.

[131] Anthony G. Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349 (1974).

[132] See William J. Stuntz, *Commentary: O.J. Simpson, Bill Clinton, and the Transubstantive Fourth Amendment*, 114 HARV. L. REV. 842 (2001).

[133] Orin Kerr, *The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution*, 102 MICH. L. REV. 801-888 (2004), Orin Kerr, *Technology, Privacy, and the Courts: A Reply to Colb and Swire*, 102 MICH. L. REV. 933-943 (2004).

[134] See Daniel J. Solove, *Fourth Amendment Codification and Professor Kerr's Misguided Call For Judicial Deference*, 74 FORDHAM L. REV. ___ (2005).

[135] Christopher Slobogin, *Peeping Techno-Toms and the Fourth Amendment: Seeing Through Kyllo's Rules Governing Technological Surveillance*, 86 MINN. L. REV. 1393 (2002).

incorporate new technology into police practice, while still respecting reasonable expectations of privacy.[136]

Courts have an inherent conservatism in the Fourth Amendment arena. The courts set standards for law enforcement conduct through the caselaw, and the police adopt procedures and train their officers to meet those standards.[137]   The sorts of limitations on privacy that society is willing to deem reasonable are part of a feedback loop between the courts, the public, and the police. Once matters are decided as a matter of Fourth Amendment law, it is not surprising that the system needs and encourages stability, given the various educative functions to be fulfilled. The systemic desire for stability in settled expectations makes it particularly difficult for courts to employ new research into the efficacy of old technologies.

On the frontiers, we expect new technologies to change settled expectations of privacy. Techniques such as thermal imaging, portable gas chromatography/mass spectroscopy analyzers, and devices for detecting explosives molecules can all bring to light things that were formerly unknown and unknowable. [138] Professors Kerr and Solove are in the midst of a fresh debate in the literature over the efficacy and strengths of legislative or judicial attention to new technology.[139] We would expect the process to be interested in updating the rules as new information is gathered. New technologies also

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[136]   See Kerr, 102 MICH L. REV. 861. "It is generally agreed that the general pragmatic goal of both constitutional and statutory law governing search and seizure is to create a workable and sensible balance between law enforcement needs and privacy interests. … A secondary goal is rule clarity." See also Andrew E. Taslitz, *The Fourth Amendment in the Twenty-First Century: Technology, Privacy and Human Emotions*, 65 LAW & CONTEMP. PROBS. 125, 131 (2002).
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[138] Jeffrey Rosen, THE UNWANTED GAZE: THE DESTRUCTION OF PRIVACY IN AMERICA, 60-61 (2001); Kerr, 102 Mich. L. Rev., 808-815; Ric Simmons, From Katz to Kyllo: A Blueprint for Adapting the Fourth Amendment to Twenty-First Century Technologies, 53 HASTINGS L.J. 1303 (2001)

have the benefit of legislative attention. Courts are thinking about them afresh. There are incentives to gather data on both sides of the issue, with groups interested in protecting privacy interests as engaged as the government.

But old technologies suffer from both a legal stickiness problem, and a legislative inattention problem. The legal stickiness problem is a result both of the need for stability addressed earlier, and of the courts' desire to avoid thinking about complex scientific issues if it can trot out the rubric "The use of [insert technology here] is well-settled in the law of this [state/circuit] and we need not revisit it here." Judges prefer to do what they do best – construe the law, so this should come as no surprise. Legislatures are likewise unlikely to pay attention to old technologies, unless an egregious misuse brings it to the attention of a sponsor, who will take the time and energy to draft legislation. Because of the diffusion of interest in privacy, and the widely-held public belief that the courts unnecessarily coddle criminals already, there is often little benefit to offset the legislator's cost in time and energy.

At trial, new scientific advances in our understanding of old technology can bring into question the reliability of techniques previously thought well-settled, implicating the courts' gatekeeper role under *Daubert*.[140] The court has an independent duty to evaluate the reliability of scientific evidence in the first instance. The court is supposed to consider the views of the experts in the field, arrive at some independent evaluation of new advances in scientific understanding, and apply its critical faculties to the issue of admissibility. This is a role that many courts find difficult, and unpleasant. Perhaps we

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[139] *See* Kerr, supra note 133; *See also* Daniel J. Solove, *Fourth Amendment Codification and Professor Kerr's Misguided Call for Judicial Deference*, FORDHAM LAW REVIEW, Vol. 74, Winter 2005

should not be surprised that many judges fall back on their own specialized training, and use precedent as an evaluative tool, accepting the conclusions of their predecessors rather than engaging in a fresh reevaluation of particular technologies.[141]   In suppression hearings, courts don't have the *Daubert* admissibility issues to contend with, because the judge rather than the jury is the factfinder, and the risk of jurors being misled by experts is obviated. However, the court as factfinder has an independent duty to evaluate the strength of the evidence, and deciding as a matter of law that particular kinds of evidence are deemed reliable seems a dereliction of that duty.

These limitations on the courts desire and ability to adapt to changed understandings of old technologies, especially in the suppression hearing context, intersect with the courts' role as drafters and enforcers of a police code of conduct, further limiting their willingness and ability to change. Even courts that might be skeptical about a particular technology would face the prospect of massively upsetting the system if they were to find a widely deployed and previously accepted technology unreliable. The police are invested in the courts' stated positions, leading to a deep conservatism with regard to old technology. The courts are not that inclined to update their thinking, in large part because of these institutional limitations.[142]

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[140] **See articles on rethinking fingerprints, DNA, blood typing, footprints**.
[141] There are significant costs involved in constantly reevaluating established technologies. If each court had to consider the scientific bases for the admissibility of fingerprint evidence or DNA evidence, trials would be significantly longer and more costly than they already are.
[142] See Peter Donnelly and Richard D. Friedman. DNA Database Searches and the Legal Consumption of Forensic Evidence., 97 MICH L. REV. 931, 976 (1998)(criticizing the courts for being slow to update their understanding of forensic evidence. "The law should not be a passive consumer of scientifically-based information, taking what scientists have to offer 'off the rack.' Rather, it should be an aggressive consumer, asking its suppliers to supply what it needs.")

An additional hurdle to unleashing the courts on the inquiry into the dog's accuracy is the nature of the remedy.[143] In almost all of the cases that result in an opinion, the search revealed some evidence of crime that the defendant is trying to suppress. There will be a strong and understandable urge on the part of many judges to find the dog reliable, if the alternative is excluding unmistakable evidence of the crime. As one trial judge put it, while pointing to the evidence the defendant was seeking to suppress, "I'm a practical man. The dog is accurate – the proof is right there."

Focusing the effort to manage the use of detector dogs at the trial court level will lead to undesirable results under the exclusionary rule – guilty people will go free – and also leaves the innocent with no remedy for potential violations of their rights. By the time the exclusionary rule is applied, the rights are long-since violated. As Caballes's attorneys noted in their Supreme Court petition, the exclusionary rule is only helpful in those cases where the alert did in fact result in a successful search[144] – and qualified immunity leaves the innocent who were unsuccessfully searched without a remedy. Because those innocent voices are largely excluded from the process, we don't know if the officers in the foregoing cases were really exercising solid instincts, which they well might have been, or if there is more to the story.

D.   Updating the Courts' Thinking About Dog Sniffs

Dog sniff technology is clearly an old technology – it dates back to prehistory, when ancient man took advantage of the domesticated dog's ability to seek out prey for

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[143] An explication of the extensive literature on the exclusionary rule and its effects on police conduct is beyond the scope of this paper. **See generally LAFAVE, SEARCH AND SEIZURE.**
[144] The lawyers for Caballes made precisely this argument in their briefs. See _____

their mutual benefit.[145] But the modern uses of dogs in police cases call for some updated thinking about the value of a dog's alert when privacy interests are being subordinated as a result. Fourth Amendment rules are supposed to be clear and readily applied. The best reason for permitting searches based on an alert by a trained and certified dog is ease of administration. The only things the police officer in the field has to know before commencing her search is that the dog is trained, and certified, and the dog alerted. End of internal inquiry, on with the search. But is ease of administration enough to overcome any constitutional concerns?   The very existence of the Fourth Amendment, and the oft-cumbersome warrant process, mandates otherwise.

 Desires for simplicity notwithstanding, adding a requirement that the officer show reasonable suspicion in addition to the dog alert, as the Caballes dissenters suggested would not pose a significant new burden. Every officer is trained to deal with the reasonable suspicion standard when it comes to traditional *Terry* stops, so training them to meet that requirement in dog search cases is not an insurmountable obstacle.[146]

VIII.   SOME SUGGESTIONS FOR THE FUTURE

A.   Collect Data

It is hard to get people to reassess things they believe they already understand. Given that difficulty, I would propose some measures that would give the courts something concrete to work with, should they choose to embark on the process:

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[145] Andrew Taslitz, *Does the Cold Nose Know? The Unscientific Myth of the Dog Scent Lineup,* 42 HASTINGS L. J. 15-134 (1990).
[146] Of course the safest solution for much of this is simply to allow the officer to detain the vehicle for a reasonable time, go before a magistrate in person or telephonically, explain the circumstances, and get a

mandatory data collection on dog deployments, including the use of videotape where feasible, and standardized training, around requirements set where the state's interest in accuracy is highest. Additionally, I would propose, where there is the political will to do so, addressing these issues not only in the courts, where the exclusionary rule may warp views of the stakes, but also in the legislature and administrative agencies, such as police commissions or other groups responsible for setting police training standards. Let us consider these proposals in turn.

At the very least, the courts should mandate the collection of data on the use of the dogs, and their accuracy rates in the field. If the dog is wildly inaccurate in the field, it can't be the basis for probable cause. Because the government is the one relying on the dog to override the protections of the Fourth Amendment, and because it is in the position to easily collect the data, it should be required to do so. It has the burden of proof, and the courts are perfectly within their power to require it to demonstrate accuracy in the field. The United States Army already mandates the collection of such data, with good results.[147] The information we should be collecting would include the time, date and place of the search, weather conditions, the characteristics of the driver, the physical characteristics of the place or vehicle searched. It should also include whether the search yielded anything. Remember, the issue is whether under the totality of the circumstances, when considered in conjunction with this particular dog's behavior under these

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warrant. Granted, that can be cumbersome and costly, but the innocent individual can choose to waive his rights, grant permission to search, and be on her way.
[147] *See* Department of the Army, Pamphlet 190-12, Military Working Dog Program (1993).

conditions, there was sufficient objectively verifiable evidence that probable cause existed to search this particular vehicle. [148]

The oversight agencies should mandate improved training, and fail to recognize certifications by agencies that fail to meet the highest standards. Critical issues include handler cuing, where even subconscious preconceptions on the part of the handler may bleed over to the dog. Under current practices, training programs often incorporate blind search patterns, with the instructors opting not to tell the student handlers where the samples have been hidden, because otherwise experience has proven that the dog is likely to pick up on that expectation on the part of the handler, and alert. One possible fix for this problem is to deliberately train the dogs by providing handlers with correct information in some searches, and misinformation in others, so that the dog learns that the handler's cues are unreliable, and ignores them. Every dog should also go through controlled negative testing, in which all objects or locations have no search items present. That way they learn that they do not always find something when they go to work.

If we are really interested in protecting the public's Fourth Amendment interests, we need to set state and federal standards for training dogs, rather than leaving them to the private sector. The process of drafting standards will move that debate out of the courts, where they are enforced by the exclusionary rule, and into police standards

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[148] See Richard Myers, "After Caballes, Should We Let Sniffing Dogs Lie?" CRIMINAL JUSTICE, Winter, 2005, at 4. Dr. Lawrence Myers of Auburn University, a nationally-recognized expert on dog searches, suggests that searches be videotaped when possible to ensure that the result is reliable, because it is very easy to cue the dog to alert, and this is very easy to do subconsciously. Even the best-intentioned officer may be telling his dog to alert without knowing it. Having an unbiased witness in the form of the camera will help courts determine whether probable cause in fact existed. And, for the prosecutor, in most cases it will also make a nice tool to demonstrate that the evidence was there, exactly where the dog said it would be. Some handler cuing is so subtle that it may be difficult to detect, even on tape. But the objective videotape will allow other experts an opportunity to critique the way the dog was used.

commissions and legislatures. If the standards in use in the private sector are good,[149] the

agencies should adopt them formally as part of department policy, so the courts can make

consistent – and uncontroversial – use of them. And when dogs fail to meet those

standards, the police should thank them for their service, award them a silver chew toy,

and send them off to a happy retirement.

B. Enforce the probable cause requirement, in light of the Bayesian analysis.

While Justices Ginsburg and Souter failed to convince the majority as a matter of

Fourth Amendment principles to require reasonable suspicion *before* bringing the dogs

into play, they ultimately came closer than the majority did to the right result, albeit for

other reasons. Requiring reasonable suspicion coupled with the dog sniff – whether it is

found before the sniff or after – is a simple and practical safeguard for ensuring the

presence of probable cause before the search is conducted. Officers clearly can support

their instincts with articulable facts. They do it all the time in the *Terry*-stop context, and

it won't be hard for prosecutors and judges to adapt those requirements to the dog sniff

context.

C. Move Standard-Setting Out of the Courts

The final suggestion, moving the inquiry to the legislature or to a police

commission, is more controversial. There is always the possibility that the public choice

limitations on legislative action will lead to worse standards, and that the floor set by the

Fourth Amendment is the best we can do. But assuming that the legislature or a police

commission is interested in representing the more diffuse public interest, it might be able

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[149] See supra, notes ___ and accompanying text.

to set training standards based on those circumstances that align the interests of the public and law enforcement. Rather than getting the most search-endorsing dogs that pass constitutional muster, we could seek some optimal degree of accuracy that accommodates privacy and law enforcement interests.

IX.   CONCLUSION

Detector dogs are extremely useful tools, but to use them in a manner that respects the privacy concerns of all citizens, courts and counsel need to learn how they work, where they may have problems, and how those problems can be addressed. While they aren't flawless, a little diligence on the part of all parties will guarantee that the ones that remain in service are, indeed, good dogs. Using them in a manner that comports with the probable cause requirement of Fourth Amendment requires an understanding of the limitations of even a very accurate scientific test in determining whether a relatively rare condition actually exists in an individual case in light of a positive test result. A little judicious judicial application of Bayes Theorem will help the courts move away from widely held and intuitive misunderstandings and toward a better understanding of the real import of an alert by a well-trained dog.

Whether or not one believes deploying a detector dog in a public space is a search, the standard the constitution requires before a search can begin is a warrant, issued on probable cause, or a good reason why the police don't have one. The standard the courts have consistently adopted for the warrantless search of automobiles and other private containers is generally probable cause. This article has demonstrated that an alert alone, even by a very accurate dog, does not constitute probable cause. Whether the

courts would choose to once again water down the meaning of the probable cause

standard in light of proper consideration of this information, or choose to adopt a "dog

sniff plus additional indicia" requirement is impossible to predict. The split on the Court

in *Caballes*, even when the justices believed an alert to constitute probable cause,

suggests that at least two justices will be open to beginning a new debate. The systemic

problems that arise in this context, "legal stickiness," conflation of probable cause

standards, collective action problems, and agency capture of standards, apply in other

circumstances as well. The lessons that the dogs can teach us can be applied to the

movement to reevaluate the accuracy of fingerprints, eyewitness identifications, law

enforcement profiles, and many other as yet unexplored examples of old technology. Just

because the Fourth Amendment is an imprecise tool for updating the way we use old

technology does not mean that we should concede that the problem is insoluble. The

courts may yet have something to say, if judges are willing to look past precedent with

fresh eyes to incorporate new information and update their understanding of old

technology.