In the

United States Court of Appeals

For the Seventh Circuit

No. 11-3706

UNITED STATES OF AMERICA,

Plaintiff-Appellee,

v.

FUNDS IN THE AMOUNT OF ONE HUNDRED THOUSAND ONE HUNDRED AND TWENTY DOLLARS ($100,120.00),

Defendant.

APPEAL OF: NICHOLAS P. MARROCCO and VINCENT J. FALLON

Appeal from the United States District Court for the Northern District of Illinois, Eastern Division.
No. 03-cv-03644 — **Elaine E. Bucklo**, *Judge.*

ARGUED MAY 31, 2013 — DECIDED SEPTEMBER 19, 2013

Before FLAUM, MANION, and ROVNER, *Circuit Judges.*

MANION, *Circuit Judge*. After a Chicago Police Department drug dog alerted to a briefcase at Chicago's Union Station,

Drug Enforcement Administration agents seized the briefcase and discovered that it contained $100,120.00 in United States currency. The federal government initiated a civil forfeiture proceeding against the currency, and the owners filed a claim for the currency. Ultimately, the district court granted the government's third motion for summary judgment and held that the undisputed facts proved by a preponderance of the evidence that the currency was either the proceeds of an illegal drug transaction, or was intended to facilitate such a transaction. The claimants appeal, and we reverse.

I. Facts

On December 4, 2002, Vincent Fallon purchased a one-way ticket for a train scheduled to travel from Chicago to Seattle on December 6. This conduct caused Drug Enforcement Administration Agent Eric Romano to suspect that Fallon might be a drug courier. Romano and Agent Sterling Terry approached Fallon after he had boarded the train at Chicago's Union Station, informed him they were doing a routine check, and proceeded to question him. Fallon provided the agents with identification and stated that he was unemployed, the address on his identification card was not current, and he was going to visit a friend in Seattle. Fallon refused to provide a current address, and Romano noticed that Fallon was sweating and trembling. Romano told Fallon he was looking for travelers with weapons, drugs, or more than $10,000 in currency, but Fallon denied carrying any such things. Fallon was traveling with a duffle bag and a brown briefcase, and he told the agents that he owned them both and knew what each contained. Fallon allowed the agents to search his duffle bag, but declined to permit them to open the briefcase. When Romano picked up

the briefcase, he noticed that it was locked. He asked Fallon why the briefcase was locked, and Fallon responded that it contained personal effects and that he did not care to have anyone rummage through it. Fallon also stated that he did not have a key to open the briefcase (although he continued to maintain that it belonged to him). When pressed by Romano, Fallon admitted that the briefcase contained about $50,000 and stated that he intended to purchase a house in Seattle. Romano then told Fallon the briefcase would be held for further investigation, and directed Fallon to exit the train and accompany the agents.

At the Amtrak police office, Romano contacted the Chicago Police Department and requested a drug-detection dog. Meanwhile, in the presence of Fallon, Romano used a pocketknife to pry the briefcase open, and observed that it contained bundles of currency. He then closed the briefcase and questioned Fallon further. Fallon now claimed that the currency actually belonged to a third person for whom Fallon was investing it in glass blowing and glass art.

Thereafter, Chicago Police Officer Richard King arrived. Terry testified that Romano showed King the briefcase, and King testified that the agents told him that the briefcase contained suspected "narcotics transaction money." Romano then placed the briefcase in the roll-call room of the Amtrak police office while King went to retrieve his drug dog, Deny.[1] No illegal drugs or suspected currency had been in the roll-call

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[1] As discussed in greater detail below, Romano and King's testimony differed regarding the location of the briefcase in the roll-call room.

room that day, although drug sniffs had previously been conducted in the roll-call room (including some performed by Deny). King then brought Deny to the roll-call room and ordered him to search for drugs. Deny alerted to the briefcase.[2] After Deny's alert the agents confiscated the briefcase, which contained $100,120.00 in United States currency ("the Funds").

The government initiated this civil forfeiture proceeding against the Funds. Fallon, and the owner of the Funds, Nicholas P. Marrocco, filed a joint claim for the Funds. (It is undisputed that Marrocco is the actual owner of the Funds. Thus, for simplicity's sake, we subsequently refer to the claimants as "Marrocco.") Marrocco, who was not charged with any crime connected to the Funds, moved to quash the seizure of the Funds and argued that they were the fruit of an illegal search and should be suppressed. The district court granted Marrocco's motion because the court thought that although the agents had reasonable suspicion to temporarily hold the briefcase, they lacked probable cause to open it prior to Deny's alert. After the district court denied the government's motion for reconsideration, the government appealed. We reversed based on the inevitable discovery doctrine and, in the alternative, because Romano's illegal "opening of the briefcase with a knife had no effect on the subsequent discovery that the

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[2] The record is ambiguous regarding how Deny performed the search. King testified that Deny began searching the perimeter of the room by going along the wall, eventually located the briefcase after a short search, and began clawing and biting at the briefcase itself. Romano testified that Deny went straight to the cabinet containing the briefcase, began clawing and biting on the cabinet door behind which the briefcase was located, and managed to pull the door open.

money was tainted by drugs." *See United States v. Marrocco*, 578 F.3d 627, 637–42 (7th Cir. 2009).

On remand, the government filed a motion for summary judgment. In response, Marrocco filed a motion *in limine* to exclude any evidence concerning Deny's alert to the briefcase. Relying on evidence that large quantities of United States currency are contaminated with illegal drugs, Marrocco also requested a hearing under *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993), and Federal Rule of Evidence 702 to challenge any evidence offered by the government purporting to establish that drug-dog alerts to currency demonstrate that the currency recently has been in contact with illegal drugs. The government withdrew its summary judgment motion, and the district court denied Marrocco's motion *in limine* and request for a *Daubert* hearing. In rejecting Marrocco's request for a *Daubert* hearing, the district court concluded that our precedent "puts to rest any argument that dog sniffs are universally unreliable based on the 'currency contamination' theory."

The government subsequently filed a second motion for summary judgment. Marrocco's response relied, in part, upon expert affidavits averring that Deny's alert does not establish that the Funds recently were in contact with illegal drugs because drug-dog alerts to currency are generally unreliable, Deny's training was inadequate, and Deny's sniff was conducted in an unsound manner. The government moved to strike Marrocco's expert evidence. The district court denied the motion to strike, but ruled that the government could subsequently make any appropriate *Daubert* challenges to Marrocco's expert evidence. The district court also denied the

government's motion for summary judgment, but granted leave to file a renewed motion supported by expert evidence.

Thereafter, the government filed its third motion for summary judgment and argued that the undisputed evidence demonstrated that the Funds were either the proceeds of an illegal drug transaction, or were intended to facilitate such a transaction, for four reasons. First, Fallon fit a drug courier profile. Second, Marrocco's tax returns, W-2 statements, and deposition testimony reveal that his expenses from 2000–2003 (approximately $111,625.00) exceeded his income from 1999–2002 ($96,006.90), and consequently Marrocco's legitimate sources of income were insufficient to account for the Funds.[3] Third, records and affidavit testimony from King regarding Deny's training, certification, and past performance in the field prove that Deny was a reliable drug dog. And fourth, testimony from Romano and King establish that the methodology employed during the sniff of the briefcase was sound. (Despite the district court's earlier admonishment, the government did not provide expert evidence in its motion for summary judgment, but argued instead that such evidence was unnecessary to establish that a particular drug dog was reliable or that a particular sniff was sound.) The government also challenged Marrocco's expert evidence under *Daubert* and Rule 702.

In response, Marrocco argued that the evidence created genuine issues of material fact regarding whether Marrocco

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[3] At his deposition, Marrocco testified that he was unemployed from April 2002 until the seizure of the briefcase on December 6, 2002.

had a legitimate source for the Funds and whether Deny's alert demonstrated that the Funds recently had been in contact with illegal drugs.[4] On the first issue, Marrocco relied primarily upon his affidavit testimony that the Funds were savings from his lawful employment over the course of his life. On the second issue, Marrocco again offered expert evidence that drug-dog alerts to currency are generally unreliable, Deny's training was inadequate, and Deny's sniff was conducted in an unsound manner.

Concluding that the undisputed evidence shows that Fallon matched a drug courier profile, the Funds could not be attributed to a legitimate source, and Deny's alert demonstrated that the Funds recently had been in contact with illegal drugs, the district court granted the government's motion for summary judgment. However, the district court did not resolve the government's *Daubert* and Rule 702 challenges. Marrocco appeals.

II. Discussion

On appeal, Marrocco reiterates his arguments that genuine disputes of material fact exist regarding whether the Funds could have come from a legitimate source and whether Deny's alert demonstrates that the Funds recently had been in contact with illegal drugs. Marrocco also contends that the district court applied an improper legal standard, and that the Funds

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[4] Marrocco also argued that the district court had previously found that Fallon did not fit a drug courier profile. But this argument is without merit because, in reversing the district court's decision containing that finding, we held that Fallon *did* "fit the profile of a drug courier." *Marrocco*, 578 F.3d at 633.

should be suppressed because the search and seizure of the briefcase was unconstitutional.

We review a grant of summary judgment *de novo*. *United States v. Funds in Amount of Thirty Thousand Six Hundred Seventy Dollars*, 403 F.3d 448, 454 (7th Cir. 2005) (hereinafter, "*$30,670*") (citing *Celotex Corp. v. Catrett*, 477 U.S. 317 (1986)). We must construe the facts in the light most favorable to Marrocco, and draw all reasonable inferences in his favor. *Smith v. Sangamon Cnty. Sheriff's Dep't*, 715 F.3d 188, 191 (7th Cir. 2013). Furthermore, the government carries the burden of proving by a preponderance of the evidence that the Funds were either the proceeds of an illegal drug transaction, or were intended to facilitate such a transaction. 18 U.S.C. § 983(c)(1); 21 U.S.C. § 881(a)(6). Where, as here, "the Government's theory of forfeiture is that the property was used to commit or facilitate the commission of a criminal offense, or was involved in the commission of a criminal offense, the Government [must] establish that there was a substantial connection between the property and the offense."[5] 18 U.S.C. § 983(c)(3).

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[5] The Civil Asset Forfeiture Reform Act of 2000 heightened the government's burden of proof in civil forfeitures. *See* Pub. L. No. 106–185, 114 Stat. 202 (2000). Previously, the government only had to establish probable cause to believe there was a connection between the property to be forfeited and illegal drug activity. *See United States v. 5 S 351 Tuthill Rd., Naperville, Ill.*, 233 F.3d 1017, 1024–25 (7th Cir. 2000). Marrocco contends that the district court applied the older probable-cause standard. In support of this argument, Marrocco relies upon the district court's remark that the "totality of the circumstances" showed that the Funds were connected to a drug offense. Marrocco argues that "totality of the circumstances" is a concept tied to probable-cause determinations and has no application in the

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Marrocco does not challenge the district court's ruling that the government *could* satisfy its burden under Section 983(c)(3) by proving that Fallon matched a drug courier profile, the Funds could not be attributed to a legitimate source, and Deny's alert demonstrated that the Funds recently had been in contact with illegal drugs. *See $30,670*, 403 F.3d at 454–70; *see also United States v. $174,206.00 in U.S. Currency*, 320 F.3d 658, 662 (6th Cir. 2003). Rather, Marrocco argues that genuine disputes of material fact exist with respect to whether he had legitimately acquired the Funds and whether Deny's alert demonstrated that the Funds recently had been in contact with illegal drugs.

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[5] (...continued)
context of the government's burden under the Act. Marrocco provides no citation to supporting authority, which is surprising given that our precedent has continued to use the "totality of the circumstances" concept in cases to which the Act applies. *See $30,670*, 403 F.3d at 467–70; *but see Illinois v. Gates*, 462 U.S. 213, 233 (1983) (noting that "the totality-of-the-circumstances analysis … traditionally has guided probable cause determinations"). The "totality of the circumstances" analysis merely requires the court to base its decision on *all* of the evidence. Thus, "totality of the circumstances" is a concept distinct from burden of proof. Regardless of whether the government must prove a fair probability (probable cause) or more likely than not (preponderance of the evidence), the court still looks to *all* of the evidence. Of course, one key distinction is that in a probable-cause determination, the "totality of the circumstances" is limited to what the officer knew, but in civil forfeiture proceedings, the "totality of the circumstances" is the entire body of evidence in the case. Here, the district court clearly articulated the preponderance-of-the-evidence standard and repeatedly referenced that standard throughout its analysis. We are convinced that the district court held the government to the correct standard of proof under the Act, and will continue to do so on remand.

A. Legitimate Source

The government relied upon Marrocco's tax returns, W-2 statements, and deposition testimony, which reveal that his expenses from 2000–2003 exceeded his income from 1999–2002, to prove that Marrocco could not have accumulated the Funds legally. In response, Marrocco offered affidavit testimony that the Funds were savings from his lawful employment over the course of his life—a claim that he had previously made at his deposition. Marrocco avers that, upon leaving college, he moved into his parents' house and took a position with a company called WCI Financial, a subsidiary of G.E. Capital Corporation. At the same time he also worked as a bartender at a successful sports bar franchise. He then worked as a shift manager and night bartender at the Naperville Country Club. While there, he was recruited to work as a controller/sales manager at a packaging graphics firm. And during his time at the firm, he also worked as a bartender at the Barn of Barrington.[6] In 1994, he began to work as a general manager at a local pizza restaurant. The restaurant was named Bloomingdale Pizza, Inc., and was a Rosati's franchise. Marrocco was working towards an ownership interest in the franchise, and he worked at the restaurant until April 2002.

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[6] Although the exact dates that Marrocco worked in these various positions are unclear from his affidavit, he testified at his deposition that he graduated from high school in 1988 and later spent two and one-half years attending Illinois State University as well as some "intermittent time" at two other colleges. Thus, the job history recounted in Marrocco's affidavit likely began sometime in 1991 or 1992.

During most of this time period, he lived rent-free and virtually expense-free with his parents and consequently he claimed that he was able to save a substantial portion of his earnings. Furthermore, according to Marrocco's deposition testimony, he kept his savings at home because he did not have a bank account.

Relying on *$30,670*, the district court held that Marrocco's affidavit testimony does not create a dispute of material fact because it is imprecise, unsubstantiated, and self-serving. But "we long ago buried—or at least tried to bury—the misconception that uncorroborated testimony from the non-movant cannot prevent summary judgment because it is 'self-serving.'" *Berry v. Chi. Transit Auth.*, 618 F.3d 688, 691 (7th Cir. 2010); *see also Payne v. Pauley*, 337 F.3d 767, 771 (7th Cir. 2003) ("We have routinely found that a nonmoving party's own affidavit can constitute affirmative evidence to defeat a summary judgment motion."). To reject testimony because it is unsubstantiated and self-serving is to weigh the strength of the evidence or make credibility determinations—tasks belonging to the trier of fact. *See Berry*, 618 F.3d at 691 (citing *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986)). At summary judgment, whether the movant's evidence is more persuasive than the evidence of the non-movant is irrelevant. *Id.* The only question is whether the evidence presented, reasonably construed in the light most favorable to the non-movant, creates a genuine dispute regarding any material fact precluding judgment as a matter of law. *See* Fed. R. Civ. Proc. 56(a).

$30,670 is not to the contrary. In that case, the government seized the currency in 2000, and the undisputed evidence revealed that in 1998 the claimant filed bankruptcy and

declared under penalty of perjury that he had no money. *$30,670*, 403 F.3d at 465–67. Thus, the claimant could have legally accrued the currency only from 1998 until the seizure in 2000. The government offered the claimant's 1998–2000 tax returns which showed that his expenditures exceeded his income for that time period. *Id.* at 465. The claimant argued that the currency was his life savings from the mid-1990s, which he neglected to mention in his bankruptcy filing, and from gambling winnings, which he had failed to report on his tax returns. *Id.* However, in opposing summary judgment and on appeal, the claimant did not place into the record any of the documents that allegedly supported his claims. *Id.* Nor did he offer affidavit testimony in support of these claims. *Id.* at 466. Consequently, we declined to find that the claimant's argument created a dispute of material fact because a party's arguments in his brief are not evidence, and the claimant failed to provide actual evidence (either through supporting documents or affidavit testimony) in support of his argument. *Id.*

However, in dicta we speculated that summary judgment would still have been appropriate even if the claimant had offered an affidavit testimony unsupported by additional evidence besides the claimant's "say-so." *Id.* Our observation was rooted in a well-known exception to the rule that unsubstantiated, self-serving affidavit testimony can defeat a motion for summary judgment. Specifically, we do not allow litigants to manufacture material fact questions by affidavit testimony that contradicts prior sworn testimony. *Id.* And although the claimant's bankruptcy filing was not prior sworn testimony, we saw no reason why the exception should not extend beyond sworn testimony to documents signed under penalty

of perjury. *Id.* But we certainly did not alter the general rule that unsubstantiated, self-serving affidavits may be used to defeat a motion for summary judgment. Marrocco's affidavit testimony—though uncorroborated and self-serving—does not contradict any prior sworn statement. Therefore, Marrocco may rely upon his affidavit to defeat summary judgment.

The district court also expressed concern that Marrocco's affidavit testimony is imprecise. We agree that the affidavit could contain more details—for example, the dates and hours he worked in his various positions, the names of *all* of his employers, and his pay.[7] Nevertheless, Marrocco's affidavit testimony is sufficient to create a dispute of material fact. Marrocco does much more than merely parrot the applicable legal standard (for example, by testifying simply that the Funds were legally obtained). *See Good Shepherd Manor Found., Inc. v. City of Momence*, 323 F.3d 557, 564 (7th Cir. 2003) (affirming district court's exclusion of proffered testimony that was "made up solely of legal conclusions"). If believed, Marrocco's affidavit testimony provides the trier of fact with a basis for finding that Marrocco legally accrued (or, at least, *could have* legally accrued) the Funds.[8] *Cf. Kellar v. Summit Seating Inc.*, 664

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[7] Although, at his deposition, Marrocco did specify that his annual pay at the pizza restaurant—the position he held for the longest period of time—was about $40,000 plus a bonus.

[8] Marrocco's affidavit testimony certainly is not incredible as a matter of law. *See United States v. Dunigan*, 884 F.2d 1010, 1013 (7th Cir. 1989) ("To be incredible as a matter of law, a witness' testimony must be unbelievable on its face. In other words, it must have been either physically impossible for

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F.3d 169, 175 (7th Cir. 2011) (finding district court erred in disregarding as conclusory affidavit testimony that contained "a fair amount of detail").

Perhaps the government's evidence—composed, as it is, of official tax documents—seemed weightier than Marrocco's affidavit testimony. But, as stated above, such determinations are properly left to the trier of fact. Moreover, the government's evidence concerning Marrocco's expenses and income from 1999–2003 does not directly contradict Marrocco's affidavit testimony about his income prior to 1999. There is nothing inherently contradictory about the idea that a person may have a positive net income during one part of his life, and then a negative net income during another part. Indeed, Marrocco's affidavit testimony explicitly provides a reason for the change from a positive net income to a negative net income—namely, that he no longer lived with his parents rent-free and almost expense-free. Marrocco's affidavit testimony and the government's evidence could both be true. Therefore, the district court erred in finding as a matter of law that Marrocco could not have acquired the Funds legally.

B. Deny's Alert

Marrocco also challenges the district court's reliance on Deny's alert to the briefcase and argues that Deny's alert does not establish that the Funds recently had been in contact with illegal drugs because (1) drug-dog alerts to currency are

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[8] (...continued)
the witness to observe that which he or she claims occurred, or impossible under the laws of nature for the occurrence to have taken place at all.").

generally unreliable, (2) Deny's training was inadequate, and (3) Deny's sniff was conducted in an unsound manner.

1. The Currency Contamination Theory

To counter the government's claim that Deny's alert to the briefcase demonstrates that the Funds recently were in contact with illegal drugs, Marrocco first invokes the so-called "currency contamination" theory. That theory postulates that drug-dog alerts to currency are not probative of a connection between the currency and illegal drug activity because significant amounts of United States currency are innocently contaminated with trace quantities of drugs, usually cocaine (chemically, benzoyl-methyl-ecgonine).

We have previously relied upon the currency contamination theory to hold "that the probative value of dog sniffs is, at most, minimal." *United States v. $506,231 in U.S. Currency*, 125 F.3d 442, 453 (7th Cir. 1997). More recently, however, we held "that dog alerts to currency should be entitled to probative weight." *$30,670*, 403 F.3d at 460. In *$30,670*, "the critical question [was] not whether most currency in general circulation is tainted with cocaine, but whether the cocaine itself is what triggers dog alerts to currency." *Id.* at 455. In that case, the government cited research by Dr. Furton and others that concluded that drug dogs do not sniff cocaine *per se*, but rather methyl benzoate (a byproduct of cocaine undergoing hydrolysis due to the presence of moisture in the air). *Id.* at 457–60 (citing Kenneth G. Furton et al., *Odor Signature of Cocaine Analyzed by GC/MS and Threshold Levels of Detection for Drug Detection Canines*, 14 Current Topics in Forensic Sci. 329, 329 (1997)). Dr. Furton stated that methyl benzoate evaporates

quickly from the surface of currency, and consequently that currency exposed to cocaine could only be detected by a drug dog shortly after exposure. *Id.* at 457–58. Thus, Dr. Furton concluded that drug-dog alerts to currency are generally probative evidence that the currency recently was in contact with cocaine. *Id.* at 459. In response, the claimant invoked the currency contamination theory and offered studies tending to establish that most circulated, paper currency in major United States cities is contaminated with trace quantities of cocaine. *Id.* at 456–57. But those studies did not rebut (or even address) Dr. Furton's finding that drug dogs do not sniff cocaine *per se*, but rather methyl benzoate, which dissipates quickly. Consequently, the claimant failed to offer evidence tending to rebut Dr. Furton's conclusion that drug-dog alerts to currency are probative of illegal drug activity. Without such evidence, the claimant failed to create a genuine dispute of material fact regarding whether drug-dog alerts to currency in general demonstrate that the currency recently was in contact with cocaine.

The district court reasoned that *$30,670* foreclosed Marrocco's attack on the probative value of drug-dog alerts to currency in general. The problem with this reasoning is that our holding in *$30,670* was based upon "the empirical information provided in this case." *Id.* at 460. Nothing in *$30,670* precludes Marrocco from offering expert evidence attacking Dr. Furton's research and challenging the conclusion that drug-dog alerts to currency are probative of whether "the most

recent holder of the currency was involved with illegal narcotics activity." *Id.* at 456.[9]

That is what Marrocco did in this case. Specifically, he offered the affidavit testimony of Sanford A. Angelos, a forensic chemist, as well as various studies referenced in and attached to Angelos's affidavit. Angelos challenges Dr. Furton's premise that drug dogs only sniff methyl benzoate when alerting to currency tainted with cocaine. According to Angelos, another study found that drug dogs can alert to illicit cocaine samples that contained methyl benzoate concentrations that were below drug dogs' detection thresholds. *See* L. Paul Waggoner et al., *Canine olfactory sensitivity to cocaine hydrochloride and methyl benzoate*, 2937 Proceedings of SPIE 216, 224 (February 1997). If this is correct, it undermines Dr. Furton's conclusion that drug dogs only alert to quickly dissipating methyl benzoate (rather than cocaine itself or some other potentially longer lasting byproduct).

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[9] The parties agree that the Funds are not available for laboratory testing to measure the quantity of drugs, if any, contained on the Funds. Presumably the government deposited the Funds into a bank account. Of course, Deny's alert would be unnecessary if the government had used laboratory testing to determine whether the Funds contained amounts of cocaine in excess of the amounts reported in general-circulation currency. By failing to perform such testing (and failing to preserve the Funds until the conclusion of this proceeding), the government eliminated laboratory testing as a source of evidence. *See United States v. One 1987 Mercedes Benz Roadster 560 Sec, VIN WDBBA48D3HA064462*, No. 89C3084, 1991 WL 33650, at *1, *3 (N.D. Ill. Mar. 8, 1991) (granting the government's motion for summary judgment in a civil forfeiture proceeding in part based on "[l]aboratory tests conducted by the Drug Enforcement Administration [that] found cocaine residue on" currency).

Additionally, Angelos challenges Dr. Furton's assertion that methyl benzoate generated by cocaine residue present on currency quickly drops below detectable levels because it evaporates quickly. According to Angelos, this assertion ignores the fact that, so long as cocaine is present on the currency, the cocaine will continue to generate methyl benzoate and thereby replenish the methyl benzoate lost to evaporation. Relatedly, Angelos avers that cocaine residue can become trapped in currency and that a number of studies demonstrated that innocently tainted, general-circulation currency contained significantly greater amounts of cocaine residue than assumed by Dr. Furton in a 1997 study.[10] *See* Kenneth G. Furton et al., *Novel sample preparation methods and field testing procedures used to determine the chemical basis of cocaine detection by canines*, 2941 Proceedings of SPIE 56, 57 (February 1997). If true, this statement undermines the claim that drug dogs will only alert to currency recently in contact with cocaine because of methyl benzoate's quick evaporation rate.[11]

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[10] The 1997 Furton study relied upon a study finding that circulated Canadian currency contained no more than 10 nanograms of cocaine. *See* J.C. Hudson, *Analysis of Currency for Cocaine Contamination*, 22 Can. Soc. Forensic Sci. J. 203–18 (1989). However, Angelos avers that other studies have found that significant amounts of circulated United States currency contain from 1 microgram (100 times as much cocaine as the Hudson study found) to over 1000 micrograms (100,000 times as much cocaine as the Hudson study found). (Angelos explained that 1 gram equals 1000 milligrams, 1 milligram equals 1000 micrograms; and 1 microgram equals 1000 nanograms.)

[11] One of the studies upon which Angelos relies indicates that the amount

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Furthermore, Angelos attacks Dr. Furton's research as inconsistent regarding the threshold level of methyl benzoate needed for a drug dog to be able to detect cocaine on currency. Specifically, the 1997 Furton study posited a threshold of 10 micrograms of methyl benzoate, whereas one of Dr. Furton's studies performed two years later posited only a threshold of 1 to 10 micrograms. *See* Kenneth G. Furton et al., *Field and laboratory comparison of the sensitivity and reliability of cocaine detection on currency using chemical sensors, humans, K-9s, and SPME/GC/MS/MS analysis*, 3576 Proceedings of SPIE 41, 41 (February 1999). More importantly, Angelos avers that the 1999 Furton study stated that it takes 500 milligrams (that is, 500,000 micrograms) of cocaine to emit 1 to 10 micrograms of methyl benzoate, the threshold level necessary to trigger a drug-dog alert. According to Angelos, such a large quantity of cocaine on a banknote would be visible to the naked eye. And the govern-

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[11] (...continued)
of methyl benzoate produced will decrease over time. *See* Lindy E. Dejarme, et al., *Formation of methyl benzoate from cocaine hydrochloride under different temperatures and humidities*, 2937 Proceedings of SPIE 19, 21 (February 1997). Although we lack the advantage of expert testimony explaining this part of the study, it appears that the study found that "pure" cocaine only continues to produce methyl benzoate for about 2880 minutes (that is, 48 hours) depending on the temperature and humidity conditions. If so, it is difficult to see how the Funds, which Marrocco claims to have saved from years earlier, could still be producing methyl benzoate based on cocaine that allegedly tainted the Funds before Marrocco acquired them. Further, this seems to conflict with Angelos's claim that cocaine remaining on currency for extended periods of time "will slowly break down and release methyl benzoate." Regardless, the proper interpretation of this study and the import of its findings can best be developed through expert testimony—perhaps at a *Daubert* hearing.

ment does not contend that only drug alerts to currency visibly containing cocaine are probative of illegal drug activity.[12]

Through its reliance upon *$30,670*, the government depends upon Dr. Furton's research to carry its burden of proving that drug-dog alerts to currency are probative of a substantial connection between the currency and illegal drug activity. Angelos's affidavit, if admissible, raises questions about the scientific validity of Dr. Furton's finding that drug dogs only alert to methyl benzoate, and that methyl benzoate generated by cocaine present on currency quickly drops below levels detectable by drug dogs. Through this expert evidence, Marrocco has created a dispute of material fact regarding whether the government has proved by a preponderance of the evidence that drug-dog alerts to currency are in general (and, *a fortiori*, Deny's alert in particular) reliable evidence that the currency recently has been in contact with illegal drugs.[13]

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[12] Perhaps the 1999 Furton study envisions a large number of bills upon which the 500 milligrams of cocaine is spread so as not to be visible. But this possible explanation is not expressed anywhere in the record.

[13] The district court rejected Marrocco's *Daubert* and Rule 702 challenge to any evidence from the government that drug-dog alerts to currency demonstrate that the currency recently has been in contact with illegal drugs. Later, the government challenged Marrocco's expert evidence—including Angelos's attacks on Dr. Furton's research—under *Daubert* and Rule 702. As noted, the district court did not resolve these challenges. Perhaps the district court thought it unnecessary to resolve whether Angelos's affidavit was admissible under *Daubert* and Rule 702 because the court thought *$30,670* precluded Marrocco from offering expert evidence attacking the reliability of drug-dog alerts to currency in general.

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2. Deny's Training and Performance

Marrocco's second attack on Deny's alert focuses on Deny's training. Initially, Marrocco points out that although King states that Deny received 500 hours of pre-certification training and was certified by the Chicago Police Department Training Division as a Police Utility Dog in July 1998, he also admits that this training covered a wide range of matters, not simply drug-detection training. Marrocco also emphasizes that the vast majority of Deny's alerts in pre-certification training involved actual drugs rather than drug-tainted currency. And one of Marrocco's experts, Dr. Lawrence J. Myers (who holds degrees in zoology, ethology, neurophysiology, and veterinary medicine), avers that there is no scientific evidence demonstrating that a drug dog's ability to detect cocaine translates into the ability to detect cocaine residue on currency.

Further, another one of Marrocco's experts, David Kroyer (a certified drug dog training and behavior consultant), states that the government's evidence regarding Deny's training indicates that Deny was not trained to distinguish between the

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[13] (...continued)
But we conclude that *$30,670* does not preclude such an argument, and that Angelos's affidavit, if admissible, creates a dispute of maerial fact regarding Dr. Furton's findings. Because the district court did not address the admissibility of the expert evidence under *Daubert* and Rule 702, we will not do so in the first instance on appeal. Rather, on remand the district court can resolve whether Marrocco's expert evidence and the government's expert evidence (that is, Dr. Furton's research) are admissible under *Daubert* and Rule 702. *See Lewis v. CITGO Petroleum Corp.*, 561 F.3d 698, 704 (7th Cir. 2009) (noting that "the district court may consider the admissibility of expert testimony *sua sponte*").

odor of illicit cocaine and odors such as baking soda, vitamin B-12, and other agents used in creating or "cutting" the cocaine. Consequently, according to Kroyer, Deny's training likely (if mistakenly) instilled in him the tendency to alert not only to the odor of cocaine but also to odors of agents which are used in creating illegal cocaine (but which are not necessarily connected to illegal drugs). Relatedly, Dr. Myers avers that United States currency generates odors that can be detected by drug dogs (for example, the odor of the inks used). And both he and Kroyer state that it is industry standard to "proof" a drug dog off of uncontaminated currency—that is, to ensure that the drug dog does not alert to uncontaminated currency. But, according to both Dr. Myers and Kroyer, the evidence from King indicates that Deny was not proofed off of uncontaminated currency. In fact, Kroyer read the evidence from King to indicate that Deny once alerted to uncontaminated currency.

Dr. Myers and Kroyer further aver that the government's evidence regarding Deny's training contains no discussion of the standards used by the Chicago Police Department when training and certifying drug dogs. And Kroyer adds that it is industry standard to certify drug dogs through an outside agency, but that Deny was only certified by the Chicago Police Department Training Division. Dr. Myers also states that there was no evidence that Deny's training was performed under double-blind testing conditions.[14] Dr. Myers explains that

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[14] Dr. Myers explains that single-blind testing occurs where the participant (the handler) does not know of conditions that could skew the result (for

(continued...)

failing to use blind testing can result in "cueing"—that is, unconsciously signaling the drug dog to alert or not alert based on the handler's knowledge that the target of the sniff contains or does not contain drugs. Finally, Marrocco points to King's admission that, while he tried to get post-certification training for Deny once a month, Deny actually received significantly less post-certification training.

Relying upon Deny's training and performance logs and King's affidavit, the district court held as a matter of law that Deny's training and field performance prove by a preponderance of the evidence that he was a reliable drug dog. The district court's conclusion rested upon our decision in *United States v. Limares*, 269 F.3d 794, 798 (7th Cir. 2001), which the district court interpreted as holding that a drug dog's reliability should be determined based solely on his field performance. Thus, while the district court recognized that Marrocco offered expert evidence raising concerns about Deny's training, the court thought this evidence ultimately to be irrelevant because it suggests "that proof of Deny's reliability requires something more than evidence of his performance in the field."[15] For example, the district court held that Kroyer's

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[14] (...continued)
example, whether the item to be searched contains narcotics). Double-blind testing occurs where neither the participant nor the person administering the test knows of such conditions.

[15] This statement is somewhat puzzling because the district court concluded that Deny was reliable based in part upon Deny's alerts in post-certification training, not solely upon Deny's performance in the field. (continued...)

statements about Deny's certification and training program did not discredit Deny's "actual performance in training and in the field." And, as the district court noted, we stated in *Limares* that the government "need not describe training methods or give the dogs' scores on their final exams." 269 F.3d at 798. The district court also rejected Kroyer's interpretation of Deny's training log because Kroyer had no personal knowledge of the log's creation. Similarly, the district court rejected Dr. Myers's affidavit because it suggests that Deny's reliability turns on something more than the evidence of his field performance, imposes a proofing requirement that conflicted with *Limares*, and is based on the currency contamination theory.

The district court erred in holding that, where the government offers evidence of a drug dog's performance in the field to establish that drug dog's reliability, a party cannot create a dispute of fact regarding the drug dog's reliability by offering evidence that the drug dog was inadequately trained. In *Limares*, we considered a challenge to a warrant that was issued, in part, based upon a drug-dog alert and evidence of the drug dog's field performance. We held that "[a]n affidavit for a search warrant thus need not describe training methods or give the dogs' scores on their final exams. It is enough if a dog is reliable in the field." 269 F.3d at 798. But *Limares* is procedurally very different from this case because an application for a warrant is an *ex parte* proceeding. As such, *Limares* was concerned only with what (necessarily unrebutted)

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[15] (...continued)
Indeed, the district court even entertained the possibility that Deny's alerts to currency in the field were all false positives.

evidence was *sufficient* to allow a court to rely upon a drug-dog alert in determining whether there was probable cause to believe that a crime had been committed. As precedent, *Limares* does not address whether, in an adversarial proceeding, a party may point to evidence of a drug dog's inadequate training to create a dispute of fact regarding the dog's reliability.

However, *Limares* does suggest that a drug dog's reliability is based "on how dogs perform in practice, not, as [the defendant] believes, how they were trained and 'proofed off' currency." *Id.* at 798. This language supports the district court's conclusion that evidence of faulty training cannot be used to rebut evidence of a drug dog's field performance. But the Supreme Court recently rejected the notion that courts should treat "a dog's field performance as the gold standard in evidence." *Florida v. Harris*, 133 S. Ct. 1050, 1056–57 (2013).[16] Observing that a drug dog's field performance has "relatively limited import," the Supreme Court stated that "evidence of a dog's satisfactory performance in a certification or training program" is the more probative evidence. *Id.* Most importantly, the Supreme Court held that the opposing party "must have an opportunity to challenge [the] evidence of a dog's reliability, whether by cross-examining the testifying officer or by introducing his own fact or expert witnesses." *Id.* The Supreme Court specifically envisioned attacks on the drug dog's training. *Id.* ("The [party], for example, may contest the adequacy of a certification or training program, perhaps

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[16] The Supreme Court issued *Harris* after the district court ruled on the government's third summary judgment motion.

asserting that its standards are too lax or its methods faulty. So too, the [party] may examine how the dog (or handler) performed in the assessments made in those settings."). Although *Harris* was decided in the context of a motion to suppress (like *Limares*), the underlying questions about the reliability of drug dogs are similar. (Although, of course, the burden of proof is greater on the government in a civil forfeiture proceeding than when it is only seeking a warrant.) Therefore, we hold that a claimant like Marrocco may offer evidence of a drug dog's inadequate training to challenge evidence of the drug dog's field or training performance and thereby create a dispute of fact regarding the drug dog's reliability.[17]

In light of *Harris*, we must reverse the district court's grant of summary judgment because Marrocco has come forward with some evidence that, if true, calls into question the adequacy of Deny's training. For example, Dr. Myers and Kroyer both state that a drug dog must be tested against untainted currency to ensure that he is not merely reacting to the odors associated with the currency itself. Here, there *is* evidence that Deny was proofed off of untainted currency. Specifically, King avers that in three separate training exercises (two of which occurred during pre-certification training) Deny was ordered to sniff locations containing both contaminated and uncontaminated currency, and that Deny only alerted to the contaminated currency (and not to the uncontaminated currency).

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[17] *Harris* did recognize that "evidence of the dog's (or handler's) history in the field, although susceptible to the kind of misinterpretation we have discussed, may sometimes be relevant." 133 S. Ct. at 1057.

However, Kroyer states that he reviewed Deny's training log and he interpreted it to say that one of the times Deny was tested against untainted currency he alerted to the untainted currency. The entry in question contains the mark "pos" (which King states meant that Deny had alerted to the object of the search under the "Result" column), and the words "numerous unscented money locations" and "cocaine scented money" in the "Location of Search and Indications" column.

The district court rejected Kroyer's assertions on the grounds that he lacked personal knowledge of the training log (which we take to mean the events described in the log or the creation of the log). However, Marrocco rightly points out that expert witnesses often lack personal knowledge of the events described in materials they review. *See* Fed. R. Evid. 703. And Kroyer's interpretation of the training log entry creates a factual dispute regarding whether Deny alerted to untainted currency.[18] If Deny *did* alert to untainted currency during one of the three times he was tested, then that fact (along with the others discussed below) could cause a trier of fact to doubt Deny's reliability.

Similarly, Kroyer avers that a drug dog trained on illicit street cocaine rather than pure pseudo-cocaine must be proofed off of the odors of the agents used in creating or "cutting" cocaine (for example, baking soda or vitamin B-12)

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[18] The government cites authority for the proposition that we should ignore expert testimony that contradicts the underlying evidence upon which it is based. But taking the training log entry in the light most favorable to Marrocco, we think it is sufficiently ambiguous to allow for Kroyer's interpretation.

to ensure that the dog can distinguish cocaine from these other odors. King states that Deny was trained with currency tainted by illegal drugs. And the training log indicates that Deny was not proofed off of the odors of the agents commonly used in "cutting" cocaine (but which are common household products) because the log contains all of Deny's pre-certification training searches and none of the entries involve testing Deny against any of the agents used in "cutting" the cocaine. Thus, Kroyer's averments on this issue provide an additional reason to think that Deny's training was inadequate.

Finally, Kroyer states that it is an industry standard to certify drug dogs through an outside agency. But Deny was only certified by the Chicago Police Department Training Division. Additionally, King concedes that Deny received significantly less continuing training than he should have. Although likely insufficient on its own to dispute the government's evidence of Deny's reliability, this evidence provides additional reasons to doubt the adequacy of Deny's training.

We do not mean to suggest that all of Marrocco's arguments are meritorious. For example, the district court was correct to reject those arguments that rely upon mere speculation and conjecture. However, there is evidence that, when taken in the light most favorable to Marrocco, creates a dispute of material fact regarding whether Deny's training was adequate.

3. The Search of the Briefcase

Marrocco's final attack on Deny's alert concerns whether the search of the briefcase was conducted in a sound manner.

Assuming Deny was an otherwise reliable drug dog, Marrocco argues that Deny's alert nevertheless does not prove that the currency in the briefcase was connected to illegal drug activity because Deny may have been cued to alert to the briefcase or the briefcase may have become contaminated at the train station.

The district court rightly rejected Marrocco's argument that the briefcase could have been contaminated at the train station. Marrocco relies upon affidavit testimony from Angelos that the briefcase could have become contaminated by leftover drug particles either in the air where Romano opened the briefcase prior to the sniff or, given that the roll-call room was regularly used for drug sniffs, in the location where the briefcase was placed by Romano for the sniff. However, Marrocco points to no evidence that the part of the roll-call room where the briefcase was located (or the air surrounding the briefcase when Romano initially opened it) was actually contaminated with a sufficient quantity of cocaine to trigger a drug-dog alert. Speculation or conjecture about the mere possibility of cross-contamination cannot defeat summary judgment. *See McCoy v. Harrison*, 341 F.3d 600, 604 (7th Cir. 2003); *$30,670*, 403 F.3d at 464 ("[T]he mere possibility of cross-contamination does not deprive [the dog's] alert of probative weight.").

Marrocco's cueing argument presents a closer question. Dr. Myers avers that, based on the evidence that King knew that the briefcase was the object of the search and apparently could see the briefcase during the search, there is a significant probability (85% according to the one study) that King unintentionally cued Deny to alert to the briefcase even if Deny did not detect drugs. *See* Lisa Lit et al., *Handler beliefs affect scent*

detection dog outcomes, 14 Animal Cognition 387 (May 2011).[19] The district court rejected this evidence because Romano testified that he hid the briefcase out of the presence of King.

However, although Romano testified that he hid the briefcase behind a closed cabinet door, King testified that, after a short search, Deny began biting and pulling at the briefcase.[20] King testified further that Deny pulled the briefcase from its "hiding place." When asked whether the briefcase was "in a cabinet" when Deny bit at it, King responded "No, I don't believe it was. I think it was in an accessible area." Marrocco argues that this testimony suggests that the briefcase was visible to King during the search (which, coupled with Dr. Myers's affidavit testimony regarding cueing, provides a basis to mistrust Deny's alert). We think Marrocco's argument rather thin. King's deposition testimony states that the briefcase was secreted away in a "hiding place." And in his affidavit, King explicitly states that he did not know where the currency had been placed in the roll-call room. Furthermore, King's statement that the briefcase was accessible was made in response to

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[19] Dr. Myers's affidavit and the Lit study are also the kind of scientific evidence subject to review at a *Daubert* hearing.

[20] The government contends that we should ignore this part of King's testimony because Marrocco did not include it in his opposition to summary judgment. In support of its argument, the government relies upon *Henn v. Nat'l Geographic Soc.*, 819 F.2d 824 (7th Cir. 1987). *Henn*, however, only stands for the proposition that a party cannot cite materials that were not furnished to the district court. *Id.* at 831 (citing Fed. R. App. Proc. 10 and Circuit R. 10). Here, King's testimony was offered during a hearing before the district court and thus necessarily was before the court.

a question about Deny biting and pulling at the briefcase. But that the briefcase was accessible to Deny does not mean that the briefcase was visible to King. In light of King's testimony that the briefcase was hidden, we doubt that a trier of fact could reasonably infer that the briefcase was visible to King during the search. Still, because we reverse anyway, the question of whether King could see the briefcase during the sniff can be explored more thoroughly on remand.

C. Suppression of the Funds

Finally, Marrocco renews his argument that the Funds should be suppressed because the agents unconstitutionally searched and seized the briefcase. Marrocco concedes that we already rejected this argument in the government's prior appeal, and he identifies no extraordinary circumstances that would serve as a basis for us to reconsider our earlier ruling. *See Galvan v. Norberg*, 678 F.3d 581, 587 (7th Cir. 2012) (noting that courts generally "refrain from reopening issues decided in earlier stages of the case absent extraordinary circumstances"). Rather, Marrocco states that he merely wishes to preserve his claim of error in the event he decides to seek review by the Supreme Court. Our remand on the grounds stated above likely obviates Marrocco's concern about preserving this issue for the Supreme Court. Regardless, we decline to reconsider our earlier decision.

III. Conclusion

Marrocco's affidavit testimony recounting his employment history and relatively expense-free living arrangements for much of the 1990s creates a dispute of material fact regarding whether the Funds could have been Marrocco's legally

acquired life savings. Additionally, Marrocco's expert evidence—which we accept as true because the district court did not resolve the government's challenges under *Daubert* and Federal Rule of Evidence 702—also creates disputes of material fact impacting the question of whether Deny's alert demonstrates that the Funds recently were in contact with illegal drugs. Therefore, we REVERSE the judgment of the district court, and REMAND this case for further proceedings consistent with this opinion.