FOR PUBLICATION

UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

UNITED STATES OF AMERICA, *Plaintiff-Appellee*,	No. 13-10530
v.	D.C. No. 4:13-cr-00213-FRZ-LAB-1
PACIANO LIZARRAGA-TIRADO, AKA Pasiano Lizarraga-Tirado, *Defendant-Appellant*.	OPINION

Appeal from the United States District Court
for the District of Arizona
Frank R. Zapata, Senior District Judge, Presiding

Argued and Submitted
April 14, 2015—San Francisco, California

Filed June 18, 2015

Before: Alex Kozinski and Susan P. Graber, Circuit Judges, and Michael A. Ponsor,* Senior District Judge.

Opinion by Judge Kozinski

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* The Honorable Michael A. Ponsor, Senior District Judge for the U.S. District Court of Massachusetts, sitting by designation.

SUMMARY**

Criminal Law

The panel affirmed the defendant's conviction under 8 U.S.C. § 1326 as a previously removed alien who entered and was found in the United States, in a case in which a Border Patrol agent testified that she contemporaneously recorded the coordinates of the defendant's arrest using a handheld GPS device.

The panel held that because a Google Earth satellite image, like a photograph, makes no assertion, it isn't hearsay. The panel also held that a tack placed on the satellite image by the Google Earth program and automatically labeled with GPS coordinates without any human intervention isn't hearsay.

The panel wrote that machine statements might present evidentiary concerns, including malfunction or tampering, but that such concerns are addressed by rules of authentication, which the defendant didn't raise at trial.

The panel concluded that because the satellite image and tack-coordinates pair weren't hearsay, their admission didn't violate the Confrontation Clause.

The panel rejected the defendant's other claims in a concurrently filed memorandum disposition.

** This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

COUNSEL

Roger H. Sigal (argued), Law Offices Roger H. Sigal, Tucson, Arizona, for Defendant-Appellant.

Ryan J. Ellersick (argued), Assistant United States Attorney, Robert L. Miskell, Assistant United States Attorney, Appellate Chief, John S. Leonardo, United States Attorney, United States Attorney's Office, Tucson, Arizona, for Plaintiff-Appellee.

OPINION

KOZINSKI, Circuit Judge:

Plotting coordinates on a map used to require a sextant, a compass and quite a bit of skill. Today, anyone can do it with a few clicks of the mouse. This appeal raises a question born of that newfound technological prowess: Are a Google Earth satellite image and a digital "tack" labeled with GPS coordinates hearsay?

I

On January 17, 2003, defendant was arrested near the United States-Mexico border. He was charged with illegal reentry under 8 U.S.C. § 1326 as a previously removed alien who "entered and was found in the United States." At trial, defendant disputed that he had entered the United States before his arrest. He testified that he was still on the Mexico side of the border, waiting for instructions from a smuggler when he was arrested. Because he was arrested on a dark night in a remote location, he insisted that the arresting

Border Patrol agents must have accidentally crossed the border before arresting him.

The arresting agents, Garcia and Nunez, testified that they were very familiar with the area where they arrested defendant and were certain they arrested him north of the border. Agent Garcia also testified that she contemporaneously recorded the coordinates of defendant's arrest using a handheld GPS device. To illustrate the location of those coordinates, the government introduced a Google Earth satellite image, attached as Appendix A.

Google Earth is a computer program that allows users to pull up a bird's eye view of any place in the world. It displays satellite images taken from far above the earth's surface with high-resolution cameras. Google Earth superimposes certain markers and labels onto the images, such as names of towns and locations of borders. Relevant here, it also offers two ways for users to add markers of their own. A user can type GPS coordinates into Google Earth, which automatically produces a digital "tack" at the appropriate spot on the map, labeled with the coordinates. A user can also manually add a marker by clicking any spot on the map, which results in a tack that can be labeled by the user.

The satellite image introduced at trial depicts the region where defendant was arrested. It includes a few default labels, such as a nearby highway, a small town and the United States-Mexico border. It also includes a digital tack labeled with a set of GPS coordinates. Agent Garcia testified that the GPS coordinates next to the tack matched the coordinates she recorded the night she arrested defendant. On that basis, she surmised that the tack marked "approximately where [she

was] responding to" on the night of defendant's arrest. Because the tack is clearly north of the border, the exhibit corroborated the agents' testimony that defendant was arrested in the United States. Defendant's lawyer cross-examined Agent Garcia about whether she had recorded the GPS coordinates accurately. But he couldn't cross-examine her about the generation of the satellite image or the tack because Agent Garcia hadn't generated them. Indeed, there was no testimony regarding the origin of the satellite image or the tack, and the record doesn't reflect whether the tack was automatically generated or manually placed and labeled. Defense counsel objected to the satellite image on hearsay grounds. The district court overruled that objection and admitted the image.

II

Defendant claims that both the satellite image on its own and the digitally added tack and coordinates were impermissible hearsay. The rule against hearsay bars admission of out-of-court statements to prove the truth of the matters asserted. Fed. R. Evid. 801(c)(2), 802; *see also United States* v. *Arteaga*, 117 F.3d 388, 395 (9th Cir. 1997). For hearsay purposes, a statement is defined as "a person's oral assertion, written assertion, or nonverbal conduct, if the person intended it as an assertion." Fed. R. Evid. 801(a). In defendant's view, the satellite image is hearsay because it asserts that it "accurately represented the desert area where the agents worked," and the tack and coordinates are hearsay because they assert "where the agents responded and its proximity to the border."

We first consider whether the satellite image, absent any labels or markers, is hearsay. While we've never faced that

precise question, we've held that a photograph isn't hearsay because it makes no "assertion." *See United States* v. *May*, 622 F.2d 1000, 1007 (9th Cir. 1980); *see also United States* v. *Oaxaca*, 569 F.2d 518, 525 (9th Cir. 1978). Rather, a photograph merely depicts a scene as it existed at a particular time. The same is true of a Google Earth satellite image. Such images are produced by high-resolution imaging satellites, and though the cameras are more powerful, the result is the same: a snapshot of the world as it existed when the satellite passed overhead. Because a satellite image, like a photograph, makes no assertion, it isn't hearsay.

The tack and coordinates present a more difficult question. Unlike a satellite image itself, labeled markers added to a satellite image do make clear assertions. Indeed, this is what makes them useful. For example, a dot labeled with the name of a town asserts that there's a town where you see the dot. The label "Starbucks" next to a building asserts that you'll be able to get a Frappuccino there. In short, labeled markers on a satellite image assert that the labeled item exists at the location of the marker.

If the tack is placed manually and then labeled (with a name or GPS coordinates), it's classic hearsay, akin to *Aronson* v. *McDonald*, 248 F.2d 507, 508–09 (9th Cir. 1957), where we held that hand-drawn additions to a map—there, topography lines—were hearsay. Google Earth allows for the functional equivalent of hand-drawn additions, as a user can place a tack manually and then label it however he chooses. This is like drawing an X on a paper map and labeling it "hidden treasure." That would be an assertion by the person drawing the X that treasure can be found at that location. Similarly, a user could place a tack, label it with incorrect

GPS coordinates, and thereby misstate the true location of the tack.

Because there was no evidence at trial as to how the tack and its label were put on the satellite image, we must determine, if we can, whether the tack was computer-generated or placed manually. Fortunately, we can take judicial notice of the fact that the tack was automatically generated by the Google Earth program. By looking to "sources whose accuracy cannot reasonably be questioned"—here, the program—we can "accurately and readily determine[]" that the tack was placed automatically. *See* Fed. R. Evid. 201(b). Specifically, we can access Google Earth and type in the GPS coordinates, and have done so, which results in an identical tack to the one shown on the satellite image admitted at trial.

A tack placed by the Google Earth program and automatically labeled with GPS coordinates isn't hearsay. The hearsay rule applies only to out-of-court *statements*, and it defines a statement as "a *person's* oral assertion, written assertion, or nonverbal conduct." Fed. R. Evid. 801(a) (emphasis added). Here, the relevant assertion isn't made by a person; it's made by the Google Earth program. Though a person types in the GPS coordinates, he has no role in figuring out where the tack will be placed. The real work is done by the computer program itself. The program analyzes the GPS coordinates and, without any human intervention, places a labeled tack on the satellite image. Because the program makes the relevant assertion—that the tack is accurately placed at the labeled GPS coordinates—there's no statement as defined by the hearsay rule. In reaching that conclusion, we join other circuits that have held that machine statements aren't hearsay. *See United States* v. *Lamons*,

532 F.3d 1251, 1263 (11th Cir. 2008); *United States* v. *Moon*, 512 F.3d 359, 362 (7th Cir. 2008); *United States* v. *Washington*, 498 F.3d 225, 230 (4th Cir. 2007); *United States* v. *Hamilton*, 413 F.3d 1138, 1142 (10th Cir. 2005); *United States* v. *Khorozian*, 333 F.3d 498, 506 (3d Cir. 2003).

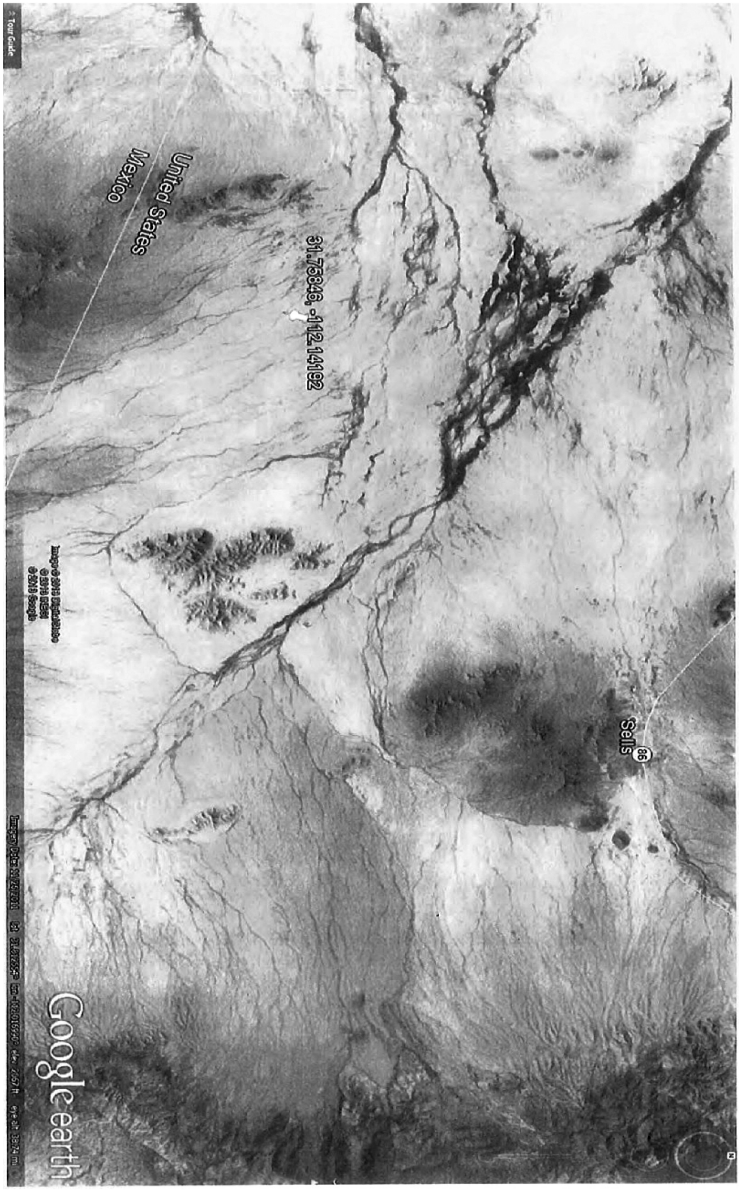
That's not to say machine statements don't present evidentiary concerns. A machine might malfunction, produce inconsistent results or have been tampered with. But such concerns are addressed by the rules of authentication, not hearsay. Authentication requires the proponent of evidence to show that the evidence "is what the proponent claims it is." Fed. R. Evid. 901(a). A proponent must show that a machine is reliable and correctly calibrated, and that the data put into the machine (here, the GPS coordinates) is accurate. *See Washington*, 498 F.3d at 231. A specific subsection of the authentication rule allows for authentication of "a process or system" with evidence "describing [the] process or system and showing that it produces an accurate result." Fed. R. Evid. 901(b)(9); *see also United States* v. *Espinal-Almeida*, 699 F.3d 588, 612 (1st Cir. 2012) (evaluating whether "marked-up maps generated by Google Earth" were properly authenticated). So when faced with an authentication objection, the proponent of Google-Earth-generated evidence would have to establish Google Earth's reliability and accuracy. That burden could be met, for example, with testimony from a Google Earth programmer or a witness who frequently works with and relies on the program. *See* Charles Alan Wright & Victor James Gold, *Federal Practice & Procedure* § 7114 (2000). It could also be met through judicial notice of the program's reliability, as the Advisory Committee Notes specifically contemplate. *See id.*; Fed. R. Evid. 901 n.9.

But defendant didn't raise an authentication objection at trial, nor does he raise one on appeal. He raised only a hearsay objection, and that objection was properly overruled. Because the satellite image and tack-coordinates pair weren't hearsay, their admission also didn't violate the Confrontation Clause. *See Washington*, 498 F.3d at 231; *United States* v. *Mitchell*, 502 F.3d 931, 966 (9th Cir. 2007) ("The Confrontation Clause does not apply to non-hearsay . . . .").

Defendant also claims that the prosecutor committed misconduct and that the district court erred by admitting evidence of multiple prior removals. We reject those claims for reasons we explain in a memorandum disposition we file concurrently with this opinion.

AFFIRMED.

APPENDIX A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