

United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued November 10, 2020

Decided March 16, 2021

No. 20-3010

UNITED STATES OF AMERICA,
APPELLEE

v.

SHAN SHI,
APPELLANT

Appeal from the United States District Court
for the District of Columbia
(No. 1:17-cr-00110-1)

Michael Dearington argued the cause for appellant. With him on the briefs were *Peter R. Zeidenberg*, *Taniel E. Anderson*, and *Laura Zell*.

Sonja M. Ralston, Attorney, U.S. Department of Justice, argued the cause for appellee. With her on the brief was *Luke M. Jones*, Assistant U.S. Attorney. *Elizabeth Trosman*, Assistant U.S. Attorney, entered an appearance.

Before: WILKINS and RAO, *Circuit Judges*, and SILBERMAN, *Senior Circuit Judge*.

Opinion for the Court filed by *Circuit Judge* WILKINS.

Concurring opinion by *Circuit Judge* WILKINS.

Concurring opinion by *Senior Circuit Judge* SILBERMAN.

WILKINS, *Circuit Judge*: We can't always get what we want, but, sometimes, we get what we need. Appellant Shan Shi obtained seven documents containing trade secret information his company needed to produce drill riser buoyancy modules, the high-tech equivalent of water wings for the miles of steel pipe that extend from drill ships to the ocean floor and carry oil from natural deposits tens of thousands of feet below the surface. Unfortunately, that information was not publicly available; it came from a competitor. Viewing the evidence in the light most favorable to the government, *United States v. Vega*, 826 F.3d 514, 522 (D.C. Cir. 2016) (citation omitted), we hold that the jury had sufficient evidence to find that Shi joined an agreement to acquire and use trade secret information, and sufficient evidence to find that Shi believed the documents he received contained trade secrets. We therefore affirm his conviction.

I.

A.

Recovering oil from the seabed is expensive business. When a company like ExxonMobil believes it has identified a natural deposit, it floats a drill ship or semi-submersible over the location it hopes to find oil and readies to drill. Drilling involves dropping a “riser” from the ship to a wellhead on the ocean floor. These risers are steel pipes, seventy-five to ninety feet long and about two to four feet in diameter, which bolted together extend ten thousand feet or more to reach the sea floor. Ten thousand feet of steel weighs around four million pounds.

And atmospheric pressure is not constant along the length of the riser: pressure increases the deeper the riser goes, and is extreme at the depths these riser pipes reach. Without help, these pipes would sink like a stone and bring the drill ship down with them.

To neutralize the riser's weight and the crushing pressure of sea water, Exxon needs drill riser buoyancy modules ("DRBMs"). And they need a lot of them: at least three or four DRBMs clamp around each 75-foot section of pipe. At ten thousand feet, that means hundreds of DRBMs to offset the weight of miles of pipe extending to the ocean floor. DRBMs are not cheap: it is not unusual for a DRBM manufacturer to fill a forty- to eighty-million-dollar order. And a failure in the manufacturing process that produces a faulty DRBM is the equivalent of scrapping a Toyota Camry. Catching a failed module early is critical. Should enough sections of DRBM fail while attached to the riser in the water, down goes the riser and down goes the rig. Manufacturing DRBMs, then, is an expensive business in which errors are costly, margins are slim, and minimizing the amount of scrap material is paramount.

DRBMs offset the riser pipes' weight because they are filled with a mixture known as syntactic foam. Syntactic foam consists of hollow spheres, known as macrospheres, suspended in a plastic resin. The surrounding resin is in turn made of even smaller glass microspheres suspended in a baked epoxy. The larger macrospheres, so-called because they run from ten to forty millimeters in diameter, are especially difficult to produce. The product of a long, laborious, and finicky manufacturing process, they are made by dissolving polystyrene balls inside a cement-mixer-like tumbler while applying successive coats of polymer and fiber over a period of three to seven days in order to strengthen the hollow spheres to withstand pressure at a given ocean depth. Recall that ocean

pressure increases the deeper a riser goes; DRBM manufacturers need different macrospheres, designed to withstand greater pressures, depending on the depth at which the DRBM they fill will be used.

Each material that goes into the tumbler is carefully chosen to balance cost and performance. A DRBM manufacturer might choose glass fiber, a milled mineral fiber such as wollastonite, or carbon fiber to coat its macrospheres. And there are various types of each of these fibers, and various thermosets that bond these fibers to the surface of the sphere, to choose from, each with different prices and properties. DRBM manufacturers spend millions of dollars each year on research and development to determine which variants, in which combinations, to use.

These choices are based on trial and error. The fiber used (glass, carbon, or wollastonite), the bonding material that adheres each layer, and the number of coats determine a macrosphere's density and strength, which must be empirically tested. DRBM manufacturers know that theoretical math takes them only so far: equations published in textbooks or scientific papers can tell them the pressure a sphere of a given diameter, with a given number of coats of a given material, might withstand, but those equations are theoretical. Equations assume perfect spheres with perfectly uniform walls; in reality, manufactured macrospheres aren't perfect. A macrosphere might not be perfectly round, its wall might be ten percent thinner in one spot, or its surface might be creased, rather than perfectly smooth. In that case, theoretical calculations are of little use. Apply the same pressure to an imperfect sphere that a perfect sphere would survive, and the imperfect sphere will fail. Thus, before they are mixed into the epoxy resin, finished macrospheres are tested to evaluate their performance in hydrostatic test machines, lab equipment that mimics ocean

pressure and allows the manufacturer to determine whether the finished macrospheres are sufficiently strong to operate at the depths they were designed to withstand. Once satisfied that the empirical results match the theoretical calculations, a manufacturer places the macrospheres into a mold that is injected with the resin containing glass microspheres and cured to produce the syntactic foam and the resulting DRBM.

B.

DRBMs are what Shan Shi sought to make. But in 2012, only four major companies in the world produced DRBMs: Cuming Corporation, Balmoral, Matrix, and Trelleborg AB. None of these companies are Chinese. Seeking to increase its offshore drilling capabilities and explore additional military uses for syntactic foam, the Chinese government sponsored Taizhou CBM-Future New Materials Science and Technology Co., Ltd. (“CBMF”) to develop the technology. CBFM in turn partnered with Shi, a PhD with twenty-five years of engineering experience in offshore structural design, to incorporate Construct Better Materials International (“CBMI”) in Houston as a wholly owned subsidiary of CBFM in March 2014.

But Shi did not know how to manufacture syntactic foam, so he set out to “[c]ollect information, detailed information,” and “digest/absorb the relevant, critical U.S. technology.” S.A. 34, 64. In December 2013, he and two senior CBFM employees visited Trelleborg Offshore US, Inc.’s (“Trelleborg”) factory in Houston. There they would have seen Trelleborg’s measures to keep its proprietary information confidential, including round-the-clock security guards and video monitoring, visitor logs, and keypad entry on restricted areas, including the research and development lab. They were escorted and instructed not to take pictures.

Shi also considered a joint venture with Cuming Corporation. He was told that since Cuming considered its technology proprietary it would not discuss specific formulas and would keep sole control of the technology it brought to the joint venture by using its own personnel during the manufacturing process. Shi also visited Cuming's factory in Boston and was told that the portion of the factory where Cuming tumbled macrospheres would be off limits. Shi and CBMF declined to partner with Cuming after learning that the venture would cost \$6 million over a period of nine to seventeen months.

Cuming was not alone in protecting its formulas and technology. In fact, Trelleborg's technology was so valuable that the company typically chose to keep its innovations confidential rather than publicly disclose and patent them to earn royalties. And while Trelleborg disclosed some of its manufacturing specifications in marketing and bid materials, its complete specifications remained proprietary. Particularly sensitive was information disclosing the depth at which a macrosphere with a certain density and pressure resistance could survive. This "piece that let[] you fit the use of the sphere into the larger puzzle of how the part could perform" was not voluntarily disclosed because "the combination of density test survivors at a given pressure and depth is one of the proprietary components of the technology because that tells you part of the equation of how the foam is manufactured for a particular application." J.A. 809, 858-59.

Trelleborg witnesses also testified that individuals in technical roles, like Shi, "understand what is freely available in the marketplace, such as the [standard] formulations for making a syntactic foam," and what is not:

Technical competence means that they understand where they can recognize that material is something you can pick up in a textbook, such as how to make syntactic foam, the ratio of resin to hardener, and whether the confidential information is such that -- for instance, whether a formulation has contained specific siloxanes, specific diluents or other materials like that over and above a standard formulation, very specific percentages to make the product that we make.

J.A. 1305–06. That specific information “shouldn’t be shared.” J.A. 1305.

Shi thus needed to find individuals with the expertise to make macrospheres and syntactic foam that could compete with Trelleborg’s and Cuming’s products. His friend Kui Bo, a charged co-conspirator, sent Shi a resume for Sam Ogoe, a former member of Trelleborg’s Innovation and Technology team who had left Trelleborg in 2012. Shi and Bo interviewed Ogoe in November 2014. During his interview, Ogoe told Shi that he would need data to compare newly manufactured spheres against. He also told Shi that he had “some friends at Trelleborg” he could contact to obtain that data. J.A. 1168. Shi hired Ogoe, and Ogoe testified that he was “told to replicate what Trelleborg was making.” J.A. 1200.

Ogoe testified that Shi expected him to provide this non-public information:

Q: And then you did not want Dr. Shi to know where you got that information from. Correct?

A: That’s not true.

Q: Well, isn't it true that you wanted Dr. Shi and Bo to think that you came up with this information yourself?

A: No. That's the reason why they hired me. They hired me to get information from -- because there's nowhere else I can get information. Okay? I told them at the very onset. They knew that. That's why they went after me at LinkedIn. Okay? I didn't apply for this job.

J.A. 1239.

Ogoe was responsible for developing and producing a prototype sphere for a leading industry conference in May 2015. But in late 2014, CBMI had no equipment, no laboratory, and no raw materials to manufacture macrospheres. As promised, Ogoe reached out to two friends at Trelleborg. Ogoe received Trade Secret One, a chart of density and pressure specifications for macrospheres graded to withstand listed depths. He also asked for and received testing data for macrospheres from Trelleborg employee Uka Uche that constituted Trade Secret Two. Uche testified that he knew he was not supposed to share this data. Uche also sent Trade Secret Three, Trelleborg's standard operating procedure for conducting hydrostatic pressure tests.

Ogoe testified that he understood that he "did wrong" by asking his friends for "confidential information" that Trelleborg "wouldn't put . . . outside." J.A. 1200. Ogoe removed the Trelleborg logos from Trade Secrets One and Three because Shi intended to "present it outside" CBMI. J.A. 1209. He sent Shi a condensed version of Trade Secret One,

without a Trelleborg logo, in January 2015, well before CBMI had a lab or machinery with which to produce data linking the density of spheres of a given fiber to the depths at which they would burst under pressure. He also sent a modified version of Trade Secret Two shortly after he received it. And he condensed Trelleborg's hydrostatic testing procedure, Trade Secret Three, into a one-page document and shared it with Shi in March 2015.

Ogoe and Bo worked to build a laboratory, but would not obtain a hydrostatic test machine until at least April 2015. Ogoe also produced a "recipe" containing the specific variants of raw materials and their respective ratios used to make syntactic foam in April 2015, after which Shi told Bo that "[y]ou got to know how much time Sam saved for us, because there [are] all kind[s] of resin and hardeners." J.A. 1051–52. When Shi sent Ogoe to a materials supplier Ogoe previously worked with at Trelleborg, Shi instructed him not to "tell them that we are making beads . . . from Trelleborg" (Ogoe's gloss: "In other words, we are copying"). J.A. 1173.

Bo testified that Shi was a micromanager, and Ogoe confirmed that because Bo was "the one who was there Monday through Friday" he would relate everything he did to Bo "and then Bo w[ould] tell Dr. Shi about it." J.A. 1208. Ogoe testified that he told Bo he got information from Trelleborg, and that "they kn[e]w for sure that information came from [Trelleborg]." J.A. 1217. When Bo was asked at trial whether he had an agreement with Shi or Ogoe to "steal anything from Trelleborg," Bo replied, "[n]o, we don't." J.A. 1151.

Ogoe passed along a reference for Gang Liu, another former Trelleborg employee, and Bo sent Shi Liu's resume in late March 2015. Shi initially dismissed Liu because he was

not a PhD and had worked at Trelleborg for only a year, but suggested “we can consider to use him in the future.” J.A. 1788. Liu was another member of Trelleborg’s Innovation and Technology team who had been laid off in February. Shi later decided to interview Liu, and called Bo “right after” to tell him that “Gang Liu is the guy that we have been looking for.” J.A. 1066. Bo testified that Shi “sound[ed] very excited” and also “mention[ed] Gang Liu kept some technical data from Trelleborg.” *Id.*

In the course of hiring Ogoe and Liu, Shi learned of additional measures Trelleborg took to protect its confidential information. When Shi hired Ogoe, he received the “General Release and Settlement Agreement” Ogoe executed upon his departure from Trelleborg. In it Ogoe agreed not to reveal “any trade secrets or confidential information” he learned through his employment at Trelleborg. J.A. 337. And after Shi received the non-compete and non-disclosure agreement Trelleborg entered with Liu, he directed Bo to draft a standard non-disclosure agreement for CBMI employees. Bo created an agreement similar to Liu’s non-disclosure agreement with Trelleborg. *Compare* J.A. 233–35, *with* J.A. 242–45.

Shi hired Liu through Offshore Dynamics, Inc., another company he owned that shared office space with CBMI. On his third day of work, Liu sent Shi Trade Secret Four, a chart showing density and depth ratings based on the composition of different coats of various materials, their survival rates based on pressure testing, as well as Trelleborg’s ratio of epoxy to hardener. That same week, a CBMF employee in China asked Shi for information “regarding formula, preparation process and performance of the syntactic materials” in order to “purchase the raw materials in China and give it a try to see whether we can make [syntactic foam] by agitation.” J.A. 354–55. Shi asked Liu to “verify” the recipe for syntactic foam he

had received from Sam Ogoe. J.A. 355–356. Liu sent Trade Secret Five in response, with a slightly updated formulation for the recipe.

Liu also sent Trade Secret Six “as discussed,” a single-tab spreadsheet showing the number of coats Trelleborg applied to various types of spheres at specified depths and the estimated costs to produce them. Trade Secrets Four and Six were Excel sheets sent to Shi with “Reference – Trelleborg” written on their tabs. J.A. 353 (Four), 361 (Six). In June, Liu sent Shi a patent application using standards and data from Trelleborg, but a CBMF employee told Shi it would be inappropriate to list Liu as the inventor because he was still “within the noncompetition period with Trelleb[o]rg.” J.A. 365, 369. Finally, also in June 2015, Liu emailed Trade Secret Seven, listing bulk prices for the raw materials Trelleborg used in its syntactic foam to CBMF in China, bcc’ing Shi and writing in the body of the message: “The attachment provides technical data of the raw materials and prices of part of the raw materials received from Trelleborg for your reference.” J.A. 362–63. The spreadsheet’s tab was also labeled “Reference – Trelleborg.” J.A. 363.

CBMI was so successful in replicating Trelleborg’s macrospheres that it impressed Trelleborg Executive Vice President Mark Angus with its macrosphere models at the Offshore Technology Conference (“OTC”) in May 2015. Shi entered into talks with Trelleborg about potentially selling CBMI’s spheres to Trelleborg in August 2015. Bo testified that Liu told Shi he was worried that Trelleborg would reverse engineer CBMI’s spheres and deduce they were prepared with Trelleborg’s “recipe.” J.A. 1077–78. The companies executed a mutual non-disclosure agreement in October 2015 and Trelleborg sent CBMI density and pressure specifications to guide CBMI’s production of macrosphere samples Trelleborg

would evaluate to determine if they met Trelleborg's standards. These specifications did not include depth information.

Trelleborg eventually decided not to purchase CBMI's macrospheres, though they exceeded performance targets, because they were too expensive. In 2017, at a pitch meeting Shi and Liu made to representatives of a company they believed to be Lockheed Martin, FBI agents arrested both men.

C.

Shi, both companies, and five co-conspirators were charged in a superseding indictment in April 2018. Three co-conspirators pled guilty to one count of conspiracy to commit theft of trade secrets in violation of 18 U.S.C. § 1832, Liu absconded prior to trial, and an employee of CBMF remained in China. CBMF and CBMI never appeared, leaving Shi as the only defendant to stand trial. At the close of the government's case the defense moved for a judgment of acquittal under Federal Rule of Criminal Procedure 29, and the District Court reserved a ruling until the close of evidence. Shi's counsel renewed the motion at the close of evidence and the District Court again reserved a ruling. Over the course of a ten-day jury trial, the jury heard testimony from twenty-one witnesses and reviewed some 250 exhibits.

After three days of deliberations, the jury returned a guilty verdict on Count One, alleging conspiracy to commit theft of trade secrets. The District Court denied Shi's motion for judgment of acquittal on December 17, 2019, entered judgment on February 18, 2020, and Shi filed a timely notice of appeal two days later. The District Court exercised jurisdiction under 18 U.S.C. § 3231 and we have jurisdiction under 28 U.S.C. § 1291. Finding ample evidence to sustain the jury verdict, we affirm.

II.

Overturning a jury verdict on the ground of insufficient evidence “is not a task that we undertake lightly.” *United States v. Long*, 905 F.2d 1572, 1576 (D.C. Cir. 1990). “As an appellate court, we owe tremendous deference to a jury verdict.” *Id.* We review the evidence *de novo*, but consider it in the light most favorable to the government and will affirm a guilty verdict where “any rational trier of fact could have found the essential elements of the crime beyond a reasonable doubt.” *United States v. Smith*, 950 F.3d 893, 894–95 (D.C. Cir. 2020) (emphasis in original) (quoting *United States v. Wahl*, 290 F.3d 370, 375 (D.C. Cir. 2002) (quoting *Jackson v. Virginia*, 443 U.S. 307, 319 (1979))). “In undertaking our deferential review of the jury’s verdict, we draw ‘no distinction between direct and circumstantial evidence’ and give ‘full play to the right of the jury to determine credibility, weigh the evidence and draw justifiable inferences of fact.’” *United States v. Glover*, 681 F.3d 411, 423 (D.C. Cir. 2012) (quoting *United States v. Carson*, 455 F.3d 336, 368–69 (D.C. Cir. 2006)); *see also Vega*, 826 F.3d at 522.

Shi contends the evidence introduced at trial was insufficient to allow a rational juror to find that he knowingly joined an agreement to steal trade secrets, and insufficient to show that Shi and at least one co-conspirator believed the appropriated information contained trade secrets. We dispose of each argument in turn.

A.

To prove Shi guilty of conspiracy beyond a reasonable doubt pursuant to 18 U.S.C. § 1832, the government needed to show that (1) he “enter[ed] into an agreement with at least one other person to commit” theft of trade secrets; (2) he

“knowingly participate[d] in the conspiracy with the intent to commit the offense”; and (3) a member of the conspiracy committed “at least one overt act . . . in furtherance of the conspiracy.”¹ *Smith*, 950 F.3d at 895 (third alternation in original) (quoting *United States v. Gatling*, 96 F.3d 1511, 1518 (D.C. Cir. 1996)). The agreement “need not be shown to have been explicit,” and “can instead be inferred from the facts and circumstances of the case.” *Iannelli v. United States*, 420 U.S. 770, 777 n.10 (1975). In other words, “since a conspiracy is by nature secret, the jury may fairly infer the existence of the agreement through either direct or circumstantial evidence.” *United States v. Morris*, 836 F.2d 1371, 1373 (D.C. Cir. 1988); see also *Smith*, 950 F.3d at 895 (“The government need not prove the agreement by direct evidence.”).

Shi contends that we have reversed conspiracy convictions where none of the government’s cooperating co-conspirator witnesses testified that the defendant joined in an agreement to commit a crime. Appellant’s Br. at 29. Relying primarily on *United States v. Gaskins*, 690 F.3d 569 (D.C. Cir. 2012), Shi urges that there is “reason to doubt” his involvement in the conspiracy where cooperating witnesses who were motivated to testify against him were unable to point to “conclusive evidence” of his guilt. Appellant’s Br. at 30. Shi argues that reversal is even more compellingly called for here because, unlike in *Gaskins*, a central cooperating co-conspirator “affirmatively denied” Shi’s involvement in an agreement to steal Trelleborg’s trade secrets. Reply Br. at 4. Shi relies heavily on Bo’s testimony given in response to a series of questions asking whether he had an agreement with Shi or any

¹ Since the jury could find an “overt act” in any of the emails containing Trelleborg data (conveyed from Trelleborg employees or between Shi and employees of CBMI), this element is not at issue. See J.A. 1522–28.

other co-conspirator to steal material from Trelleborg. To each Bo replied, “No, we don’t.” J.A. 1151–52.

In *Gaskins*, we reversed Alvin Gaskins’s conviction finding him a member of a twenty-plus person narcotics conspiracy. 690 F.3d at 571. Despite proffering eight cooperating witnesses, more than 14,000 intercepted phone conversations, visual and video surveillance, and evidence seized during multiple searches, the government failed to offer any evidence that placed Gaskins with the drugs or as a participant in conversations about the drugs involved in the conspiracy. *Id.* at 571–72. None of the cooperating witnesses described Gaskins as “having any knowledge of the conspirators’ drug trafficking activities,” *id.* at 572; no surveillance showed Gaskins participating in drug sales, conspiratorial meetings, or in the presence of drugs, and Gaskins’s prints were not found in the apartment where drugs were bagged, *id.* at 574; and a search of Gaskins’s apartment yielded neither drugs, records, nor any evidence of Gaskins’s involvement in the conspiracy, *id.*

The only evidence to support the government’s theory that Gaskins was a “business manager” for the conspiracy was his name on the lease and various utility bills for the apartment where drugs were bagged, but the government did not attempt to prove the signature on the lease was Gaskins’s and another co-conspirator testified that he, not Gaskins, paid the utility bills. *Id.* at 572, 574–75. The government also introduced airline records showing that Gaskins purchased a co-conspirator’s airline tickets and wiretapped conversations in which the conspiracy’s leader asked Gaskins to purchase tickets, though the calls did not mention either drugs or the purpose of the trips. *Id.* at 575. The co-conspirator who took the trips testified that he did not know who made the reservations and that he never spoke with Gaskins about them,

and in a recorded phone conversation, the conspiracy's leader was heard identifying himself to an airline representative as Gaskins. *Id.* at 578–79.

The jury initially returned a verdict that found Gaskins not guilty of various racketeering acts, but “guilty” on the general verdict line for the narcotics conspiracy charge. *Id.* at 576. However, the jury checked “not proven” for each of the four objects of the conspiracy (distribution of various narcotics), and when the district court sent the narcotics conspiracy count back with a new verdict sheet, the jury again returned a general verdict of guilty, but this time checked “proven” for the object of distributing heroin. *Id.* We reversed, finding that “[n]ot one piece of evidence” linked Gaskins to the drugs involved in the conspiracy. *Id.* at 572. So glaring was the absence of evidence that the panel took the extraordinary step of issuing an order reversing Gaskins's conviction and directing the entry of judgment of acquittal immediately after oral argument. *Id.* at 571.

Shi overreads *Gaskins* to stand for the proposition that there was insufficient evidence of an agreement *because* the cooperating co-conspirators provided none, and misses a key distinction between Gaskins's case and his own. In fact, the *Gaskins* panel stressed the overwhelming lack of evidence in its totality; it did not weigh the absence of co-conspirator testimony against countervailing evidence of guilt. *Id.* at 577 (“there was no affirmative evidence that Gaskins knowingly joined the narcotics conspiracy or had the specific intent to further its aims”); *id.* at 581 (“[T]he government correctly notes that we must consider all of the evidence in its totality. We have done so, and nonetheless conclude that it is insufficient to sustain the verdict.”). Reweighing evidence that a defendant joined an agreement against an absence of co-conspirator testimony implicating him in the conspiracy would be

improper. *See Vega*, 826 F.3d at 522 (a reviewing court must give “full play to the right of the jury to determine credibility, weigh the evidence and draw justifiable inferences of fact.” (quoting *United States v. Dykes*, 406 F.3d 717, 721 (D.C. Cir. 2005))).

But even were we to adopt a bright-line rule requiring reversal where none of the government’s cooperating co-conspirator witnesses testified that the defendant joined an agreement to commit a crime, which we do not, Shi would not satisfy his own test. Two co-conspirators testified to Shi’s agreement: Told during his job interview that his objective would be to produce macrospheres in time for OTC in May 2015, Sam Ogoe responded that he had “some friends at Trelleborg” from whom he could obtain the necessary data. J.A. 1168. Shi hired Ogoe. And Bo testified that Gang Liu told Shi during his job interview that he had kept “technical data from Trelleborg.” J.A. 1066. Shi hired Liu as well, through a separate company he owned that shared office space with CBMI, raising the permissible inference that Shi did not want Trelleborg to learn that he’d hired one of its former employees within the period of Liu’s non-compete.

We hold simply that given the testimony above, a rational juror could find that Shi entered into a tacit agreement to manufacture DRBMs using stolen trade secrets. *See Smith*, 950 F.3d at 895. “[S]ince a conspiracy is by nature secret, the jury may fairly infer the existence of the agreement through either direct or circumstantial evidence.” *Morris*, 836 F.2d at 1373. Here we have both: Ogoe also testified that he was “told to replicate what Trelleborg was making,” J.A. 1200, and that Shi “hired me to get information from [Trelleborg] — because there’s nowhere else I can get information.” J.A. 1239. Shi and Bo, Ogoe testified, “kn[e]w for sure that information came from [Trelleborg].” J.A. 1217; *see also* J.A. 1206 (“[T]hey told

me to replicate or produce spheres from Trelleborg, okay? They know — and I told them I have contact there.”). The jury also heard testimony giving rise to an inference that Shi knowingly participated in the conspiracy after hiring Ogoe and Liu. When Shi sent Ogoe to a materials supplier Ogoe had worked with at Trelleborg, Shi instructed him not to “tell them that we are making beads . . . from Trelleborg.” J.A. 1173. And Liu worried to Shi that Trelleborg could reverse engineer CBMI’s spheres and discover they were prepared with Trelleborg’s “recipe.” J.A. 1077–78.

This is a far cry from *Gaskins*, where “[n]ot one piece of evidence” linked Gaskins to the object of the conspiracy. 690 F.3d at 572. And Bo’s testimony that he “didn’t have an agreement with Dr. Shi to steal anything from Trelleborg” does not wipe the slate clean nor require us to turn a blind eye to Ogoe’s testimony, nor to Bo’s testimony regarding Liu’s statements. J.A. 1151. Ogoe’s testimony that Shi hired him to “replicate” Trelleborg spheres after he explicitly told Shi there was “nowhere else” he could obtain the information he needed allowed the jury to infer that Shi understood Ogoe would acquire and use confidential Trelleborg data. The jury’s choice to credit Ogoe’s testimony and reject Bo’s was not unreasonable in light of the evidence that Shi continued to use his employees’ data after he was told, repeatedly, where it came from and could not have plausibly believed that it was produced in-house when the company he micromanaged had no working lab. We will not substitute our view for the jury’s careful weighing of the witnesses’ credibility. *See Glover*, 681 F.3d at 423.²

² As stated in Judge Silberman’s concurrence, some language in our early opinions suggests endorsement of the so-called equipoise rule, in which a judgment for the defendant must be entered “where all the substantial evidence is as consistent with innocence as with guilt.” *Curley v. United States*, 160 F.2d 229, 232 (D.C. Cir. 1947) (quoting

We find *United States v. Treadwell* more instructive than *Gaskins*. 760 F.2d 327, 329 (D.C. Cir. 1985). There we held the evidence sufficient to support a jury verdict finding the CEO of a nonprofit real estate ownership and management firm guilty of conspiracy to defraud the United States for her actions in mismanaging Clifton Terrace, a low-income housing project in Northwest D.C. *Id.* at 329, 335. The evidence showed that Mary Treadwell did not supervise the daily operations of the management firm, and that her sister and another co-conspirator misused and misappropriated government funds.

Hammond v. United States, 127 F.2d 752, 753 (D.C. Cir. 1942)). However, “[t]he true rule . . . is that a trial judge . . . [who] concludes that either of the two results, a reasonable doubt or no reasonable doubt, is fairly possible, [] must let the jury decide the matter.” *Id.* at 232–33. “In *Curley* we specifically disapproved the implications of *Hammond* that . . . if a reasonable mind might fairly conclude either innocence or guilt, a verdict of guilty must be reversed on appeal.” *Allison v. United States*, 409 F.2d 445, 450 n.16 (D.C. Cir. 1969) (per curiam) (citation omitted). See also *United States v. Collins*, 56 F.3d 1416, 1420 (D.C. Cir. 1995); *United States v. Weisz*, 718 F.2d 413, 438 (D.C. Cir. 1983); *United States v. Carter*, 522 F.2d 666, 680–82 (D.C. Cir. 1975). We need not decide this issue here, because this case is not on the knife’s edge between innocence and guilt. Even though Bo testified that he had no agreement with Shi to steal trade secrets, the government introduced Bo’s guilty plea, J.A. 1032–34, solicited testimony that he pleaded guilty to conspiracy to commit theft of trade secrets, J.A. 1033, and introduced evidence that two of Shi’s co-conspirators told Shi in their job interviews that they either had or could get technical data from Trelleborg, and that these employees sent Shi empirical data even though they had no lab with which to produce it. Thus, the jury was entitled to disbelieve Bo’s testimony that he did not join a conspiracy to steal trade secrets despite his plea to the same crime, and his exculpatory testimony was outweighed by the evidence of Shi’s knowing participation in CBMI’s appropriation and use of Trelleborg’s trade secrets.

Id. at 329–32. Treadwell claimed she “knew nothing about any of the improper expenditures” made by her sister and the other co-conspirator. *Id.* at 334.

While this Court found the verdict “troubling because the government’s evidence against Treadwell was almost entirely circumstantial, and the majority of her actions were susceptible to logical and innocent explanations,” *id.* at 333, it nonetheless found sufficient evidence to support the verdict where the “jury knew . . . that appellant had a close personal relationship with her sister . . . and was closely associated with [the other co-conspirator] in this as well as other businesses,” and where “[i]t heard testimony that she held regular meetings with [her sister and co-conspirator] in order to supervise their management of the project.” *Id.* at 334. The same may be said of Shi: Bo testified that Shi was a micromanager, and Ogoe confirmed that because Bo was “the one who was there Monday through Friday” he would relate everything he did to Bo “and then Bo w[ould] tell Dr. Shi about it.” J.A. 1208.

And while Shi’s words and deeds may be similarly susceptible to innocent explanations, the “evidence need not exclude every reasonable hypothesis of innocence or be wholly inconsistent with every conclusion except that of guilt.” *See United States v. Bostick*, 791 F.3d 127, 137 (D.C. Cir. 2015) (quoting *United States v. Kwong–Wah*, 924 F.2d 298, 302 (D.C. Cir. 1991)). Here, as there, “[i]n determining whether the government has met its burden of proof . . . no legal distinction may be drawn between direct and circumstantial evidence.” *Treadwell*, 760 F.2d at 333. We hold that the jury had sufficient evidence to find that Shi entered into an agreement to acquire Trelleborg’s trade secrets and was a knowing participant in the conspiracy for which he was convicted.

B.

Shi next argues the evidence was insufficient to show that he and at least one co-conspirator believed the appropriated information contained trade secrets.³ We find that the government introduced sufficient evidence to allow a rational juror to conclude that Shi and Ogoe believed both that Trelleborg took reasonable measures to keep their proprietary

³ Trade secrets are statutorily defined to include:

all forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, plans, compilations, program devices, formulas, designs, prototypes, methods, techniques, processes, procedures, programs, or codes, whether tangible or intangible, and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing if—

(A) the owner thereof has taken reasonable measures to keep such information secret; and

(B) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by, another person who can obtain economic value from the disclosure or use of the information.

information secret and that the information derived value from secrecy. *See* 18 U.S.C. § 1839(3).

As an initial matter, we have not had the opportunity to decide whether, in proving a conspiracy to steal trade secrets, the government need establish only that the defendant conspired to obtain information he *believed* to contain trade secrets, rather than prove he conspired to obtain *actual* trade secrets. Shi does not challenge the jury instruction below, which charged the jury to find that Shi and at least one other co-conspirator “reasonably believed” that any one of the alleged trade secrets were actually secret, protected by reasonable measures, and independently economically valuable as a result of being secret. Appellant’s Br. at 38–39; J.A. 1534–35. Our sister circuits are in accord. *See, e.g., United States v. Nosal*, 844 F.3d 1024, 1044–45 (9th Cir. 2016) (approving a jury instruction stating, “the government need not prove the existence of actual trade secrets and that Defendant knew that the information in question was a trade secret,” but instead “must prove that Defendant firmly believed that certain information constituted trade secrets”); *United States v. Liu*, 716 F.3d 159, 170 (5th Cir. 2013) (“the relevant inquiry in a conspiracy case . . . is whether the defendant entered into an agreement to steal, copy, or receive information that he *believed* to be a trade secret—that is, did the defendant believe that the information he conspired to obtain was proprietary and was being taken for the economic benefit of someone other than the owner?”) (emphasis in original); *see also United States v. Yang*, 281 F.3d 534, 544 (6th Cir. 2002); *United States v. Martin*, 228 F.3d 1, 13 (1st Cir. 2000); *United States v. Hsu*, 155 F.3d 189, 203–04 (3d Cir. 1998).

Because Shi has not raised the issue, we assume without deciding that the defendant’s belief, not the actual status of targeted information, is the correct standard. This

understanding best comports with our precedent holding that impossibility is not a defense to an inchoate crime, as well as the intent behind 18 U.S.C. § 1832, the statute defining the crime of conspiracy to commit theft of trade secrets. *See United States v. Lieu*, 963 F.3d 122, 126 (D.C. Cir. 2020) (describing “the settled principle that impossibility is not a defense to an inchoate crime, so long as the defendant had the requisite state of mind to commit the underlying offense”).

We easily dispose of Shi’s argument that the evidence was insufficient to find that at least one co-conspirator reasonably believed Trelleborg kept its trade secrets secret and took reasonable measures to keep them so: Ogoe testified that he understood that he “did wrong” by asking his friends for “confidential information” that Trelleborg “wouldn’t put . . . outside.” J.A. 1200. Similarly unavailing is Shi’s argument that, because the government failed to introduce testimony that anyone told him the documents he received were trade secrets, the jury could not conclude that he believed Trelleborg took reasonable measures to keep them secret.

To the contrary, we find at least three independent bases the jury could draw upon to conclude that Shi believed the data he received contained trade secret information that Trelleborg took reasonable measures to protect. First, the jury heard testimony that Shi visited multiple competitors’ factories, including Trelleborg’s. On those tours he experienced measures including escorts, restrictions on photography, round-the-clock security and video monitoring, visitor logs, and keypad entry on restricted areas. The jury could conclude from this testimony that Shi was aware of the reasonable measures industry players took to keep non-employees from gleaning information about their DRBM manufacturing capabilities.

Second, the government offered multiple witnesses whose testimony allowed the jury to conclude that Shi would understand that DRBM manufacturers considered their manufacturing data to be proprietary. *See, e.g.*, J.A. 493 (Cuming’s former president testifying that he told Shi that in any potential joint venture, “Cuming would not be turning over [its technology or specifics of formulations] and would keep control of [its technology], even during the manufacturing process”); J.A. 858 (Trelleborg’s Technology Transfer Manager testifying that Trelleborg deliberately withheld depth information when providing specifications to CBMF in discussions to purchase CBMI’s macrospheres because “the combination of density test survivors at a given pressure and depth is one of the proprietary components of the technology because that tells you part of the equation of how the foam is manufactured for a particular application”); J.A. 1305 (Trelleborg’s president, explaining that individuals in technical roles, like Shi, “understand what is freely available in the marketplace, such as the [standard] formulations for making a syntactic foam,” and what is not).

Third, Shi directed Kui Bo to draft CBMI’s own non-disclosure agreement based off Trelleborg’s non-disclosure and non-compete. Shi saw Ogoe’s and Liu’s confidentiality agreements with Trelleborg—instructing them to keep “any trade secrets or confidential information” learned through their employment at Trelleborg confidential—and copied them for CBMI’s use. J.A. 337. Shi’s decision to adopt the same measures allowed the jury to conclude that he believed Trelleborg’s use of non-disclosure agreements was a reasonable means to ensure secrecy. Most tellingly, when in discussions with Trelleborg in 2015, Shi required Trelleborg to sign a non-disclosure agreement before he allowed them to test CBMI’s spheres and expressed some “reluctance to share any details about CBM[I]’s macrosphere creation process.” J.A.

857. Trelleborg's measures were good enough for Shi then, and they are sufficient now to show that Shi believed Trelleborg took reasonable measures to keep its proprietary information secret.

Finally, we hold that the government introduced ample evidence to allow the jury to find that Shi believed Trelleborg's proprietary data derived value from remaining secret. He knew that DRBM manufacturers did not let former employees take this information with them and that they executed non-compete and non-disclosure agreements to ensure proprietary manufacturing information would not fall into the hands of competitors. The jury could also infer that Shi believed this information was not public because it was valuable where Cuming and Trelleborg declined to share their complete manufacturing specifications even when considering a business relationship with Shi and CBMF. Or it could conclude that Shi believed this information to be valuable where he appreciated "how much time Sam saved" CBMI, given that "there [are] all kind[s] of resin and hardeners." J.A. 1051–52. To hold otherwise would require us to ignore our "tremendous deference" to the jury verdict, *Long*, 905 F.2d at 1576, and our obligation to draw all inferences in the government's favor. *See Burks v. United States*, 437 U.S. 1, 16–17 (1978). We do not find these inferences impermissible, and we affirm Shi's conviction.

So ordered.

WILKINS, *Circuit Judge*, concurring: I write in response to my concurring colleague's claim that the government's brief in this appeal contained misrepresentations of the record and improper argument.

First, I note that the government set out the proper standard of review to guide our consideration of this appeal. “[C]onsidering the evidence in the light most favorable to the government and determining whether, so read, it is sufficient to permit a rational trier of fact to find all of the essential elements of the crime beyond a reasonable doubt,” we give “full play to the jury’s prerogative to determine credibility, weigh the evidence and draw justifiable inferences of fact.” Appellee Br. at 16–17 (quoting *United States v. Laureys*, 653 F.3d 27, 31 (D.C. Cir. 2011) (per curiam) and *United States v. Torres*, 894 F.3d 305, 311 (D.C. Cir. 2018)). Generally speaking, one does not expect the writer in a sufficiency of the evidence case to restate this standard each time it summarizes or characterizes the evidence. See, e.g., *United States v. Bostick*, 791 F.3d 127, 135 (D.C. Cir. 2015) (“We first provide the factual and procedural background. Because we are reviewing a jury verdict of guilt, we recount the evidence in the light most favorable to the Government.”). To the extent that the concurring opinion suggests that the government’s failure of reiteration was an attempt to mislead, e.g., Concurring Op. at 3–6, I respectfully disagree.

The concurrence also criticizes the government for pointing to Shi’s co-conspirators’ plea agreements in its brief, see Appellee Br. at 22–23, claiming that including them was improper because it was meant to suggest that those plea agreements could be used as substantive evidence of Shi’s guilt. Concurring Op. at 2–3. But this criticism, too, appears unfounded. On my reading, the government mentioned the guilty pleas to emphasize that Shi was the boss of admitted conspirators rather than their gofer, distinguishing this case from *United States v. Gaskins*, 690 F.3d 569 (D.C. Cir. 2012),

and to explain why the jury could have rationally convicted Shi, notwithstanding Bo's testimony that he and Shi and Ogoe and Liu never agreed to steal trade secrets, *see United States v. Pardo*, 636 F.2d 535, 545–46 (D.C. Cir. 1980) (guilty plea may be used for impeachment). As the government argued in its brief, "[e]ven if Bo did not believe they had agreed to *steal* Trelleborg's information, . . . that belief is not inconsistent with Bo's admissions that they agreed to commit the charged offense." Appellee Br. at 23. The government's argument is essentially the same as the District Court's reasoning to which it cites (and to which my concurring colleague takes no exception):

Because Bo himself never took anything from Trelleborg, it may well be true that he did not agree (with Shi or anyone else) to personally "steal" Trelleborg secrets. That does not mean, however, that he did not agree to "convey" or "receive" or "possess" Trelleborg's trade secrets, each of which could support a conviction on Count 1 and each of which a rational juror could have found that he did. Finally, the Government introduced Bo's plea agreement, in which he admitted to conspiring to steal trade secrets. Gov. Ex. 220. While the defense accurately points out that the jury was instructed not to infer *Dr. Shi's* guilt from Bo's decision to plead guilty, Jury Inst. No. 15, nothing prevented the jury from considering the plea in assessing *Bo's* trial testimony. Having done so, a rational juror could have concluded from the plea that Bo was part of the charged conspiracy, as he confirmed on direct examination, notwithstanding his testimony on

cross and without drawing any impermissible inferences about Dr. Shi.

J.A. 90.

Finally, to the extent the concurring opinion finds mischaracterizations of the evidence, I find none. Criticisms such as whether the government should have characterized formulas appearing in textbooks as “purely theoretical” rather than simply “theoretical” or a pay raise as “more” rather than “substantially more” are rather tenuous grounds for claims of misrepresentation when viewed in context. Concurring Op. at 3–4. The concurrence also complains that the record proves the “exact opposite” of the government’s contention that Shi could not use reverse engineering to learn how to build macrospheres, because Trelleborg’s Dr. Carlisle admitted that with “special tools,” J.A. 759, it was possible to determine the chemical composition of spheres using that method. Concurring Op. at 3. But Dr. Carlisle also explained that to successfully manufacture these macrospheres, one needs to know the wall thicknesses of the various chemical layers comprising the sphere, J.A. 758–59, and there was no evidence that reverse engineering could produce that information. There was also no evidence that Shi had the “special tools” necessary for the limited reverse engineering that was even feasible, all of which supports the government’s contention (and is far from proving the “exact opposite”). And I disagree with my concurring colleague that there was no record evidence that Ogoe sent empirical results from hydrostatic pressure tests to Shi. Concurring Op. at 3–4. Ogoe sent Shi a portion of Trelleborg’s production standards, including target densities and burst PSI at specific depths, on January 28, 2015, long before CBMI had a hydrostatic pressure test machine. J.A. 2017–20; *see also* J.A. 2004–16. Per Dr. Carlisle’s testimony, this chart told a manufacturer the target density for a sphere

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made of a certain material, J.A. 799, and that sphere's burst PSI, "the pressure at which one of these spheres with a target density as given *would have been tested* to reassure ourselves that the batch was fit for purpose." J.A. 800–01 (emphasis added).

* * * *

I agree, of course, that the government must not overreach in the course of criminal prosecutions. That said, the concerns raised by my concurring colleague are a thin reed upon which to base such a claim, and they certainly do not merit his rebuke in the Federal Reporter. Such strong medicine should be reserved for instances where one does not have to strain to find a malady.

SILBERMAN, *Senior Circuit Judge*, concurring: Although this case is close, I am persuaded by the Court's opinion with one exception: its footnote 2. I think our precedent, particularly *Curley*, properly understood, establishes the rule of equipoise. *Curley v. United States*, 160 F.2d 229, 232–33 (D.C. Cir. 1947). The rule resolves the tension between two doctrines of criminal law. On the one hand, convictions must be established beyond reasonable doubt, on the other hand we must defer to reasonable jury factual determinations. In *Curley*, we explained that reconciliation in a two-step analysis. First, we give a jury the benefit of all reasonable factual inferences supporting a verdict of guilt, then we balance the evidence (without inferences on behalf of the defendant) for and against the defendant's guilt. If the balance is approximately equal we must reverse the conviction because a reasonable juror must necessarily have reasonable doubt. Thus, courts now summarize the rule:

If the evidence viewed in the light most favorable to the verdict gives equal or nearly equal circumstantial support to a theory of guilt and a theory of innocence of the crime charged, [a] court must reverse the conviction, because in such a case a reasonable jury must necessarily entertain a reasonable doubt.

United States v. López-Díaz, 794 F.3d 106, 111 (1st Cir. 2015) (cleaned up). Of course, both the Court's and my views are dicta because we agree that in this case the evidence is not in balance. It reasonably permits the finding of guilt.

But I am quite troubled by the Government's brief; it almost caused me to dissent. When one turns to its argument section, one encounters a number of misrepresentations. At best, some of them are inferences (although characterized as

facts) that *might* be drawn from the record.¹ There are also out and out misstatements of fact—not at all legitimate inferences—and at least one illegitimate argument.

Starting with the last point, it was all too easy for the jury to conclude that given the small size of CBMI and the guilty conspiracy pleas of Bo and Ogoe, that Shi (the boss) must have been a conspirator as well. The district judge, mindful of this problem, carefully instructed the jury that it was not to consider the pleas of Bo and Ogoe as evidence against Shi.

Before us, however, the Government—perhaps thinking we were entitled to draw inferences forbidden to laymen—stated that “Shi was the ‘micromanaging’ boss of a very small company *in which two other* members pleaded guilty to the charged conspiracy.” Appellee Br. at 22 (emphasis added). And “the jury also saw Bo’s plea agreement wherein he admitted he joined a ‘conspiracy to Commit theft of Trade Secrets’ *the same charge leveled against Shi.*” Appellee Br. at 23 (emphasis added). In other words, we should credit the jury drawing an inference directly contrary to the court’s instruction. As pointed out in the Majority opinion, it was perfectly appropriate that Bo’s plea agreement be used to discredit Bo’s testimony, which was that neither he nor Shi had

¹ The distinction between what the record says and what can be *inferred* from the record is essential given our standard of review. We consider reasonable inferences that a jury could draw in support of its verdict. But where necessary inferences are unreasonable, or where one cannot reasonably ignore contrary facts, we may be required to reverse. See *Curley v. United States*, 160 F.2d 229, 232–33 (D.C. Cir. 1947).

The Government’s statement of facts was not inaccurate as was the treatment of facts in its argument.

entered into an agreement to steal trade secrets. But it was quite illegitimate to imply Bo's plea agreement was evidence against Shi.

Now to the Government's misrepresentations.

1. The Government asserts, "Because of the way drill riser buoyancy modules are made, *it was obvious* that trying to extract the spheres would damage them beyond the point of useful reverse engineering, prohibiting that technique as a source of information." Appellee Br. at 20 (emphasis added). But the record says the exact opposite. Dr. Carlisle testified that some reverse engineering of the spheres *is possible*, and that with the right tools, one could determine, *inter alia*, the sphere's chemical composition.

2. The Government astonishingly claimed that Dr. Shi paid Ogoe "substantially more" than he was paid at previous jobs. Appellee Br. at 19. But the record indicates only that Ogoe was paid "more"—it could have been a trivial amount (and probably was since otherwise the prosecutor would have elicited the amount).

3. The Government tells us that "Ogoe and Liu both told [Shi] during their interviews that they would *need* Trelleborg data to do what Shi wanted them to do." Appellee Br. at 19 (emphasis added). But there is nothing in the record supporting such a statement in Liu's interview. Bo did testify that Shi told him that Liu *had* some technical data from Trelleborg. But there was no evidence Liu told Shi that Liu *needed* the data. That's another improper exaggeration stated as fact.

4. The Government asserts, "Ogoe was sending Shi testing *data* on spheres when CBM International had neither any manufacturing capacity to make spheres nor a pressure test machine to generate the results." Appellee Br. at 20 (emphasis

added). But this claim—which would be highly persuasive if true—is unsupported. The cited record merely shows that Ogoe testified that he received “information about a hydrostatic test” from Uche when CBMI did not have hydrostatic testing equipment. Nowhere in the record is there evidence that Uche ever sent Ogoe empirical test results from hydrostatic tests or that Ogoe sent such results to Shi. The only hydrostatic test information that Ogoe received from Uche and sent to Shi is a 1-page outline of the *procedure* for a hydrostatic test—which is so simple that it plainly would not require having a pressure test machine to develop. To the extent the record shows Uche sent Ogoe any empirical information, Ogoe testified that he actually deleted all confidential data and entered his own test results into the formatted excel table, which he then sent to Shi. That is exculpatory vis-à-vis Shi.

5. The Government claims that “what was publicly available in, for example, textbooks, was *theoretical*, which is of limited use in manufacturing because the theory presumes the spheres are perfectly round when in reality, they never are—and are correspondingly weaker.” Appellee Br. at 26 (emphasis added). However, its brief refers only to Dr. Carlisle’s testimony that theoretical formulas about the strength of spheres is of limited use in manufacturing because the spheres have imperfections. Nothing in the record shows that textbooks—much less all publicly available information—is purely theoretical.² Again, this is an impermissible exaggeration.

6. The Government asserts that Dr. Shi hired both Ogoe and Liu “knowing they would use Trelleborg’s secrets to do their work for him.” Appellee Br. at 19. The Government does

² Below, the Government opposed the admission of such textbooks into evidence.

not cite the record in support of the claim because no such citations are available. The Government presents this as a statement of fact whereas it is at most a legitimate inference, which the Majority recognizes.

7. The Government argues, “The evidence established that Shi’s *plan* for growing a drill riser buoyancy modules company was to misappropriate others’ technology.” Appellee Br. at 24 (emphasis added). This is false. There is no evidence that Dr. Shi’s initial plan involved anything other than ordinary legal business practices. The Government cites to translations of Dr. Shi’s handwritten notes stating, “Recruit talents [from other companies] – hire part time, high level personnel, status not sensitive, competitors are more willing to provide detailed information, enter the stage of experiment and testing.” Shi’s notes went on to say that he wanted to “Collect information, detailed information, digest and absorb.” But the notes make no mention of misappropriation or theft.

Further seeking support for this statement, the Government points to Shi’s application to China’s Thousand Talents Program, where Dr. Shi stated that his goal for CBM-Future was to: “Carry on . . . the structural design, material design and process design of the buoyance materials for drilling riser, and introduce and digest/absorb the relevant, critical U.S. technology and build China’s first deepsea drilling buoyance material production line to satisfy the needs of our country’s marine engineering development.” There is no indication that Shi had a plan to misappropriate the technology rather than purchase it, scour it from public sources, and hire subject-matter experts who can accelerate legitimate research and development aims. To be sure, a jury might conclude that seeking to acquire technology and doing so through recruiting talents from other companies raises a possible—although rather weak—inference of an intent to misappropriate

technology. But the Government's flat factual assertion is unjustified.

As an alumnus of the Department of Justice, I regard the Government's brief as particularly disheartening. That the case was close is no excuse for distorting the facts. "[T]he Government should turn square corners in dealing with the people." *St. Regis Paper Co. v. United States*, 368 U.S. 208, 229 (1961) (Black, J., dissenting). This is particularly true in criminal cases and perhaps even more so when dealing with a politically unpopular defendant. Still, it may be thought that my criticism of the Government's brief is too demanding, and therefore I welcome Judge Wilkins's defense of Government counsel.