UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

SECURITIES AND EXCHANGE COMMISSION, Plaintiff, v. RIPPLE LABS INC., BRADLEY GARLINGHOUSE, and CHRISTIAN A. LARSEN, Defendants.	Case No. 20-CV-10832 (AT) (SN)

DEFENDANTS' MEMORANDUM OF LAW IN SUPPORT OF THEIR MOTION TO EXCLUDE THE TESTIMONY OF [redacted] PH.D.

TABLE OF CONTENTS

TABLE OF AUTHORITIES

CASES

OTHER AUTHORITIES

INTRODUCTION

The SEC seeks to offer three expert opinions of Dr. [redacted], a computer scientist: (i) that the XRP Ledger (the "XRPL") is not "decentralized" when compared to the Bitcoin and Ethereum blockchains; (ii) that Ripple's "efforts" are needed to support the proper functioning of the XRPL; and (iii) that were Ripple hypothetically to "disappear," the XRPL "might" cease to function.[1] [redacted] testimony should be excluded in full for two principal reasons:

First, the methodologies [redacted] used to reach all three opinions are fundamentally unreliable. With respect to his first opinion, [redacted] has acknowledged the lack of consensus about how to define "decentralization," let alone measure and compare it across blockchain systems. In nevertheless seeking to testify that the XRPL is not decentralized, [redacted] relies on a four-prong test he created for this case. But at his deposition he fatally undercut that test by **conceding that *three of his four* test factors are not necessary for decentralization**. This alone requires exclusion under *Daubert* and Rule 702. So do other serious methodological flaws, including his selective inclusion and exclusion of factors without sound basis, and his biased application of his own test.

[redacted] other two opinions are likewise inadmissible. His second opinion about Ripple's "efforts" relies entirely on the notion that the XRPL cannot work unless Ripple takes a particular action (explained below). But he based that view on facts that are facially insufficient to support it: his *partial* review of *one version* of the XRPL software code that *post-dates* the SEC's allegations in this case. [redacted] conceded his opinion might change if he reviewed the complete XRPL code, and also might change if he reviewed more recent versions of the XRPL code. He testified that he "would need more time" to evaluate the effect on his opinions, but that

[1] *See* Ex. A, Expert Report of Dr. [redacted] (Oct. 4, 2021) ("Rep."). Citations to "Ex. __" refer to exhibits attached to the accompanying Declaration of Christopher S. Ford.

time has come and gone. *See* Ex. B, Dep. Tr. of Dr. [redacted] ("Tr.") 89:16-25; *id*. 72:21, 85:3, 89:24, 150:12, 159:5. [redacted] also performed no tests to validate his hypothesis, collected no real-world data, and has never even personally used the XRP Ledger. Accordingly, [redacted] "efforts" opinion is not the product of reliable scientific methodology applied to sufficient facts or data, and is inadmissible. Finally, his third opinion about what "might" happen to the XRPL if Ripple "disappeared" is based on no methodology at all—it is just [redacted] rank speculation in response to a hypothetical question. *Id*. 348:2-7. It is inadmissible as well.

Second, [redacted] testimony will not help the fact-finder, and any conceivable relevance is substantially outweighed by the risks of confusion and prejudice. The SEC offers this testimony not because it matters to its claims, but to disparage the XRPL and hypothesize Ripple's demise.

ARGUMENT

Rule 702 and *Daubert* require the Court to exclude unreliable expert testimony. *See Daubert v. Merrill Dow Pharms., Inc.*, 509 U.S. 579, 590 (1993); Fed. R. Evid. 702. This Court's gatekeeping function requires "rigorous examination of the facts on which the expert relies, the method by which the expert draws an opinion from those facts, and how the expert applies the facts and methods to the case at hand." *CFTC v. Wilson*, 2016 WL 7229056, at *7 (S.D.N.Y. Sept. 30, 2016) (Torres, J.) (quoting *Amorgianos v. Nat'l R.R. Passenger Corp*., 303 F.3d 256, 267 (2d Cir. 2002)). [redacted] opinions cannot survive that examination.

I. DR. [redacted] DECENTRALIZATION OPINION IS NOT RELIABLE

A. "Decentralization" lacks any settled definition.

The central issue [redacted] addresses is whether the XRPL is more or less "decentralized" than Bitcoin or Ethereum. That term lacks any settled meaning—both under the securities law and in the computer-science field.

The sole sentence of the SEC's 79-page Amended Complaint that mentions decentralization refers to XRPL technology as "decentralized," and the SEC nowhere else refers to the concept in any of the other 440 paragraphs. Am. Comp. (ECF No. 46) ¶ 382. Similarly, a 2014 Government Accountability Office report to Congress (to which the SEC contributed) described both Bitcoin and the XRPL as "decentralized" systems; that report explained in general terms that blockchain-based virtual currencies are "centralized" where a single administering authority maintains a central payment ledger and has the authority to withdraw the currency from circulation, and "decentralized" where no central administering body exists and transactions are completed without a required intermediary.[2]

In any event, "decentralization" is not a term the SEC or the federal securities laws have defined anywhere for any purpose. The term only entered the securities lexicon when, on June 14, 2018, William Hinman, then-Director of the SEC's Division of Corporate Finance, delivered a speech saying that if a blockchain is "*sufficiently decentralized*," then sales of its tokens might not be securities. Hinman did not explain what that term meant. The SEC has not explained it either. On the contrary, the SEC has taken contradictory opinions about the import of Hinman's speech, including throughout this litigation.[3] Without further guidance from Hinman or the SEC, many observers took Hinman's speech to suggest that XRP—which had been in existence since 2012 and was then the third largest virtual currency, after bitcoin and ether—was not a security. *See* Ripple's Answer to Am. Comp. (ECF No. 51) at 98.

---

[2] Ex. C, U.S. Government Accountability Office, *Virtual Currencies: Emerging Regulatory, Law Enforcement, and Consumer Protection Challenges*, GAO-14-496, at 5, 11 (May 2014). The report assigned no securities-law significance to the term "decentralized."

[3] *See* Opinion & Order (ECF No. 465) at 5 (Netburn, J.) ("The SEC's assertion that the Speech was intended to communicate Corporation Finance's approach to regulating digital asset offerings is inconsistent with the SEC's and Hinman's previous position that the Speech was intended to and did reflect his personal views.").

[redacted] has no expertise, and offers no opinion, regarding what the SEC or any SEC official might have meant when they used the terms "decentralized" or "sufficiently decentralized" when communicating with the public. Tr. 225:4-24, 228:17-20. He does not know and cannot say what "sufficiently decentralized" means, *id*. 228:10-15, and his testimony cannot clear up any of the confusion Hinman or the SEC created about whether or how "decentralization" implicates the securities laws.

[redacted] instead is a computer scientist. But that field also has not reached consensus about what "decentralization" of blockchains means or how to measure it.

The difficulty follows from the technical complexity of blockchains: each is differently designed and composed of multiple "layers," including the network on which the blockchain runs, its software, its users, and more. To even begin to assess whether different blockchains are "decentralized" thus requires answers to fundamental points, such as: Must every layer be decentralized to call a blockchain decentralized? Or is it enough if some layers are decentralized, and if so, which?[4]

Computer scientists have *never* offered a settled answer. That was true the day after the Hinman speech, when the director of Massachusetts Institute of Technology's (MIT's) Digital Currency Initiative voiced her concern that "*people from government agencies are throwing around the word 'decentralization' like we know what it means or how to evaluate it.*" Ex. D. And it remains true today: the most comprehensive and recent peer-reviewed scientific analysis of decentralization (published in 2021 and cited in [redacted] Report eight times) acknowledges

[4] For example, the Sai paper, cited extensively by [redacted], concludes that "centralization is not subject to binary classification" because of the number of different layers that must be considered. Ex. E, A.R. Sai et al., *Taxonomy of Centralization in Public Blockchain Systems: A Systematic Literature Review*, 58 Info. Processing & Mgmt. 102584 (Mar. 31, 2021) (hereafter "Sai") (cited in Rep. at 10 n.17).

this lack of scientific consensus, stating that decentralization is challenging to research "in part because of *the multiple definitions and measures* of centralization applicable in blockchain . . . and *the lack of an encompassing framework*," and because the tools and metrics needed to measure aspects of decentralization in blockchains don't yet exist. Sai at 30.[5]

In 2021, in public remarks made shortly after he submitted his Report, [redacted] himself told an audience that he, too, [redacted] Tr. 119:20-120:12.

B. Dr. [redacted] flawed 'methodology' for his decentralization opinion

[redacted] described his methodology for comparing the extent of the XRPL's decentralization to that of Bitcoin and Ethereum as follows:

First, after first being contacted by the SEC in July 2021, [redacted] (in his own words) went "searching" in the scientific literature for a basic definition of decentralization until he found one he "liked," the Troncoso definition. Tr. 110:14-20; 121:12-14. That definition,[6] so named for the author of the underlying 2017 paper, defines a decentralized system as "a subset of distributed systems where multiple authorities (parties) control different system components and no authority is fully trusted by all." Rep. at 5. [redacted] was not aware of the Troncoso definition until after his engagement in this case in mid-2021. Tr. 110:9-13. Although multiple other proposed definitions of decentralization exist in the scientific literature, as discussed throughout the Sai paper, Vukolić's Report neither discussed those alternatives nor provided any support for his choice of the Troncoso definition over others.

---

[5] *See* Sai at Table 2 (emphasis added). Sai identifies 13 centralization factors that exist across six layers, but notes that there is no technique to measure three factors, and debate about how to measure four others.

[6] *See* Ex. F, Carmela Troncoso et al., *Systematizing Decentralization and Privacy: Lessons from 15 Years of Research and Deployments*, 4 Proc. Priv. Enhancing Tech. 404 (2017).

Surely recognizing that he could not produce a reliable methodology by plucking a single sentence from a single paper, [redacted] then "refine[d]" the Troncoso definition by creating a four-factor test to compare what his Report calls the "four main aspects of decentralization: Resilience, Inclusiveness, In-Protocol Incentives, and Governance." Rep. at 5. [redacted] claimed to have formulated his four factors "with the support" of the scientific literature, *id.*, but acknowledged that in fact Inclusiveness is a "new property" of his own creation, Tr. 185:21-24, and that there are other factors discussed in the literature that he did not include in his test, Tr. 199:5-10.

During his deposition, [redacted] substantially abandoned three of his four factors, explaining that they actually do not tell you whether a blockchain is decentralized or not:

- Resilience (defined by [redacted] as "safety," meaning bad things do not happen; and "liveness," meaning good things eventually happen; Rep. at 9):

  Q. How does the safety of a system bear on whether it is decentralized? A. **It does not**. Tr. 261:13-15.

  Q. So how does measuring liveness tell you whether a system is . . . decentralized? . . . A. **It doesn't. I didn't say it does. It doesn't.** *Id*. 265:4-8 (emphasis added).

- Inclusiveness (defined by [redacted] as the ability of a system to welcome new participants, Rep. at 9):

  Q. So just to rephrase, so do I understand you to be saying that **inclusiveness is not a necessary requirement to decentralization**; rather, a decentralized system can be inclusive or not inclusive? A. **You got it right**. Tr. 187:22-188:3 (emphasis added).

- In-Protocol Incentives (defined by [redacted] as whether the system has rewards paid out within the protocol, Rep. at 10):

  Q. So in your view, **in-protocol incentives are not necessary to whether a blockchain is decentralized**, but a blockchain system with in-protocol incentives may be more decentralized than others? A. I think **that fairly summarizes my standpoint**, yes. Tr. 381:12-18 (emphasis added).

[redacted] methodology for bundling and defining whatever is left of his four-factor test following these qualifications has been cited in only one published paper—[redacted]

[redacted][7] [redacted][8]

[redacted] Tr. 48:17-19.

C. Dr. [redacted] four-factor test is not reliable.

Particularly given the lack of scientific consensus for evaluating decentralization, this Court "must…take a hard look" at the methodology [redacted] proposes. *In re Mirena Ius Levonorgestrel-Related Prods. Liab. Litig. (No. II)*, 341 F. Supp. 3d 213, 240 (S.D.N.Y. 2018) (Engelmayer, J.). Further, when basing opinions on a multi-criteria methodology, it is "imperative" that the expert's selection of factors to include or exclude be rigorously explained and based on sound principles, because "otherwise such methodologies are virtually standardless and their applications to a particular problem can prove unacceptably manipulable" and "vehicles to support a desired conclusion." *Id.* at 247-48. Here, [redacted] methodology is rife with problems. His selection of so-called decentralization factors was not based on sound principles: he included factors he concedes do not bear on decentralization; he excluded a factor he testified

[7] Ex. G, [redacted] It is unclear whether [redacted] Paper was scientifically peer-reviewed. It was published as a [redacted]. [redacted] testified it was reviewed by the column editor and one other editor, but the [redacted] does not hold out its columns as having been peer-reviewed. Tr. 176:9-179:9. The column editor introduced [redacted] piece as [redacted] and arguing views that were [redacted] Ex. G.

[8] Ex. H, [redacted]

is important to decentralization; he crafted his test to purposely exclude consideration of relevant facts that favor the XRPL or *dis*favor Bitcoin; and he applied his test in a biased way. These flaws were transparently geared to vindicate his predetermined view that Bitcoin is decentralized and the XRPL is not. His opinion is thus inadmissible.

First, [redacted] substantial renouncement of his test during his deposition alone requires exclusion. As set forth above (*supra* Section I.B), [redacted] walked away from any suggestion that three of the four factors in the test *that he made up for this case* are necessary to determine whether a system is decentralized. Had [redacted] renounced or doubted the applicability of even *one* of his test factors, that would necessitate excluding his testimony because "it is critical that an expert's analysis be reliable at *every step*," and "*any* step that renders the analysis unreliable under the *Daubert* factors renders the expert's testimony inadmissible." *Amorgianos*, 303 F.3d 256, 267 (2d Cir. 2002) (emphasis added). His renouncing three out of four factors is beyond fatal to any admissibility. *See Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 156 (1999) (expert properly excluded where his deposition "cast considerable doubt" on theory and he "seemed to deny the sufficiency" of his methodology); *Cooper v. Meritor, Inc.*, 2019 WL 545187, at *35 (N.D. Miss. Feb. 11, 2019) (abandoned opinion excluded as, "of course, unreliable"); *Monje v. Spin Master Inc.*, 2015 WL 11117070, at *1 (D. Ariz. May 6, 2015) (similar).

Second, [redacted] ignored factors that would undermine his preordained opinion. To take one example, [redacted] test omits consideration of the "network layer" of a blockchain. The network layer is the system used by the servers running the blockchain's software to communicate with each other. The network layer for the Bitcoin, Ethereum, and XRPL blockchains is the public Internet. Other blockchains operate over permissioned networks.

Operating over the public Internet is evidence that a blockchain is decentralized, for the obvious reason that a blockchain that runs on a network controlled by one central actor is relatively more dependent on that actor.

[redacted] agrees that decentralization at the network layer "is important" for evaluating whether a blockchain system is decentralized; he also admits that the scientific literature regards it as important. Tr. 198:14-199:10; *see also* Rep. at 11; Sai at Fig. 2. Yet he declined to consider it in his test. His reason for excluding this factor was that because Bitcoin, Ethereum, and the XRPL are *all* decentralized at the network level, asserting it would not have aided his comparison. Tr. 207:2-5 ("I'm adopting the viewpoint that [for all three] there is decentralization at the network layer . . . hence, let's look at the layers where there is not."). In other words, in making up his test for measuring decentralization (a term which has no consensus definition), he excluded a concededly important factor and admits that he did so *because* it points to the XRPL's decentralization and would not have supported his conclusion that Bitcoin is more decentralized than XRP.

No jury should hear such plainly outcome-driven analysis. That is a sufficient basis to exclude his opinion. *See Amorgianos*, 303 F.3d at 268-69 (excluding an expert's opinion where the methodology did not consider variables that expert testified a "proper" assessment would consider); *Reed Const. Data Inc. v. McGraw-Hill Cos., Inc.*, 49 F. Supp. 3d 385, 407 (S.D.N.Y. 2016) (Oetken, J.) (excluding expert whose choice of end date for observations had "an outcome-determinative effect"); *SEC v. Mudd*, 2016 WL 2593980, at *5 (S.D.N.Y. May 4, 2016) (Crotty, J.) (excluding testimony where expert provided no "objective basis" for what he chose to identify as potentially relevant).

Third, even as to the factors he does consider, [redacted] defined and applied his factors in a way that allows him to blind himself to information that would undermine his conclusion. That, too, requires exclusion. *See United States v. Percoco*, 2018 WL 879499, at *4 (S.D.N.Y. Feb. 13, 2018) (Caproni, J.) (excluding opinions based on "arbitrary, inappropriate, and unreasonable comparisons" where expert "failed – entirely – to account for" differences between comparators). One example is how [redacted] designed his "In-Protocol Incentives" test factor. That factor is [redacted] attempt to account for the fact that different blockchains provide different incentives for people to operate them and "join the system." Rep. at 10. In the case of the XRPL, incentives include that it is faster, cheaper, and far more environmentally friendly than other blockchains.[9] But it does not pay rewards directly to operators. In a proof-of-work blockchain, like Bitcoin, "miners" receive rewards paid in the blockchain's token for their work to validate (that is, record and approve) transactions. Those are known as "in-protocol" incentives.

[redacted] test is transparently designed to ignore the incentives to operate the XRPL, because he narrows his "Incentives" factor by limiting it to "In-Protocol" *monetary* incentives. Such incentives have never been part of the XRPL's design, but do exist for proof-of-work blockchain designs like Bitcoin and Ethereum. In other words, [redacted] artificially limited the "incentives" he considers to those found in Bitcoin and Ethereum—while ***knowing*** this was "not an apples-to-apples comparison" and "not necessarily fair."[10] Rep. at 16, 18-19, 23-24; Tr. 279:25-282:12, 283:23-284:24. His treatment of incentives is thus built to support a predetermined conclusion, further rendering his opinion inadmissible.

---

[9] *See* Ripple's Answer to Am. Comp. (ECF No. 51) at 4-5.

[10] This limitation is not supported by [redacted] citations, such as to Troncoso, who noted that monetary incentives can be "central points of failure" and that decentralized systems may also offer non-monetary incentives like "reputation" or "reciprocity." Ex. E, Troncoso, at 313.

[redacted] similarly blinded himself from information *dis*favoring Bitcoin. Thus, for his Inclusiveness test factor, he simply assumed a global "free market" for computing power in order to conclude that Bitcoin is "inclusive." Tr. 382:2-383:6; Rep. at 15-16. But he admits he doesn't know if that assumption is accurate, Tr. 383:25-384:15, and the very scientific literature he cites *counters* that assumption. *See* Sai at 21 (concluding that unaffordable computer hardware makes Bitcoin mining less inclusive in practice, and is a "significant barrier").

[redacted] similarly put a thumb on the scale to favor Bitcoin and Ethereum over the XRPL in applying his "Governance" prong. He analyzed ownership control of ether only *after* the extensive distributions during Ethereum's initial coin offering (ICO); had he examined the period before or during the ICO, ether would have been clearly more centralized under his test. In the case of the XRPL (which never involved an ICO), [redacted] examined owner control of XRP *before* any distributions by the XRPL's founders; had he treated the XRPL the same way as Ethereum, the XRPL would have been more decentralized under his test. Other examples of his selective, outcome-guided approach abound.[11]

[redacted] own application of the test illustrates why it would in no way aid a fact-finder in this case: it leaves so much of its application to discretion that it readily invites manipulation. That arbitrariness independently mandates exclusion. *See* Fed. R. Evid. 702(d) (requiring that expert "has reliably applied" principles and methods); *In re Mirena*, 341 F. Supp. 3d at 251

[11] To name five more examples: (1) He considered a hypothetical single-actor attack on the XRPL but not on Bitcoin and Ethereum, despite public reporting that a single-actor attack against the Bitcoin blockchain has in fact been possible. Rep. at 22; Tr. 302:9-303:5. (2) He critiqued "partition tolerance" for the XRPL, but did not analyze it for Bitcoin or Ethereum. Rep. at 22, 33-37; Tr. 251:10-252:18. (3) He considered how Bitcoin and Ethereum solve the "double-spend problem" and prevent censorship, but not how the XRPL does. Rep. at 12, 15, 21. (4) He analyzed the "operational decentralization" of Bitcoin and Ethereum, but not the XRPL. *Id*. at 16, 18. (5) He considered how Bitcoin and Ethereum are open-source software, but not that the XRPL is too. *Id*. at 16, 18-19, 24.

(expert's "unidirectional misapplication" of the factors was a "red flag," because "[r]ather than suggesting a scholar's considered neutral engagement with the [issue] at hand, it suggests motivated, results-driven, reasoning.").

II. DR. [redacted] OPINION ABOUT RIPPLE'S "EFFORTS" IS NOT RELIABLE

[redacted] also seeks to opine that the XRPL would not function absent Ripple's efforts, on the grounds that the XRPL cannot function without a "UNL" ("unique node list") that Ripple publishes.[12] [redacted] performed no tests to validate his "efforts" opinion: indeed, he has never even personally used the XRPL. *See* Rep. at 24-25; Tr. 63:18-24. He instead bases this opinion on a review of a single version of the XRPL's software (version 1.7.3) from the year 2021 (so, neither the current version nor a version in place at the time of any of the SEC's allegations). Rep. at 25. That review is fatally flawed in at least two respects, and accordingly does not constitute a reliable methodology applied to sufficient facts or data, as Rule 702 requires.[13]

First, [redacted] reviewed only part of the XRPL's underlying code, and his failure to review all of it resulted in a key error. [redacted] asserted that XRPL validators *only* obtained updates to Ripple's UNL from Ripple's website. That is wrong. As [redacted] admitted when confronted with a portion of the software he had *not* reviewed in forming his opinions, validators also obtain UNLs using a technique called "peer-to-peer sharing" without ever going to Ripple's website. Tr. 164:23-165:6; 159:14-160:10 ("I don't recall evaluating these particular lines of

---

[12] The XRPL's protocol for validating transactions involves validators achieving consensus. For that purpose, each validator maintains a list of other trusted validators, which is that validator's UNL. Ripple publishes a UNL that validators can choose to use—but they are not required to use any particular UNL and can freely modify any UNL they do use. [redacted] admitted this, despite its inconsistency with his Report. Tr. 237:5-14.

[13] To be clear, the errors do not stop there. For example, [redacted] misquoted a Ripple employee as stating that he/Ripple "personally restarted several validators" following an incident, when in fact the employee wrote "I personally started several ***of Ripple's*** validators, and ***other validator operators restarted theirs***." *Compare* Rep. at 25 *with* Ex. I at 5 (emphasis added). [redacted] acknowledged this error too. Tr. 340:9-344:24.

code."). When pressed on whether his opinion that the XRPL could not function if Ripple stopped publishing its UNL could survive that discovery, [redacted] could say only that "[t]here is always [the] possibility that it would. There is [the] possibility that it wouldn't." *Id*. 169:7-8.

Second, [redacted] opinion is premised on Ripple being the sole publisher of a UNL listed in the XRPL's code. But the XRP Ledger Foundation (a non-profit organization independent of Ripple) also publishes a UNL, and that second UNL is reflected in versions of the XRPL software more recent than the one [redacted] reviewed. When confronted with that newer code, [redacted] contradicted himself about how this impacted his opinion: first, he admitted the code change did affect his opinion, parts of which would "obviously need to be amended." *Id*. 70:6-15, 70:16-73:25. Then he tried walking that back, *id*. 86:11-89:25, but his uncertainty led him to say that, although he was "pretty sure," he "would need more time to give you a 100 percent answer" to questions about how Ripple's UNL currently operates, *id*. 89:16-25.

The "possibility that" [redacted] opinions might stay the same if he analyzed all of the available data, or his being "pretty sure" that his conclusions would be unchanged had he done so, does not satisfy *Daubert*. *See Lippe v. Bairnco Corp.*, 288 B.R. 678, 692-93 (S.D.N.Y. 2003) (Chin, J.) (excluding expert who "engaged in a purely theoretical exercise" without "any facts or data" to validate assumption underlying the expert's conclusion); *In re General Motors LLC Ignition Switch Litig.*, 2017 WL 6729295, at *7 (S.D.N.Y. Dec. 28, 2017) (Furman, J.) (excluding expert who performed no independent analysis to verify theoretical assumptions; testimony was "at most, scientifically-grounded speculation: an untested and potentially untestable hypothesis," which does not qualify under Rule 702) (quoting *Golod v. Hoffman La Roche*, 964 F. Supp. 841, 860-61 (S.D.N.Y. 1997)). Because [redacted] opinion that the XRPL

would not function absent Ripple's efforts reduces to speculation based on an insufficient and incomplete review of (part of) one version of the XRPL source code, it is inadmissible.

III. DR. [redacted] "DISAPPEARANCE" OPINION IS NOT RELIABLE

[redacted] also offers a third opinion: that "if Ripple would disappear, serious risks to the correct operation of the XRP Ledger network *may* arise." Rep. at 25 (emphasis added). This opinion is pure speculation; it is not supported by any data, any citation to scientific literature, or any reliable methodology. Instead, [redacted] simply hypothesizes about how validator operators "might" behave based on different economic incentives (an opinion he is not qualified to offer), and does not even end up offering an opinion, choosing instead to hedge. Tr. 354:12-363:22 (discussing "assumptions"); 354:22-25 ("I am not sure even that I am an expert to . . . quantify that risk"); 359:4-6 ("I'm not saying it will happen, I'm saying it might happen.").

By its terms, this opinion addresses a behavioral science question: how would businesses, universities, or others behave toward the XRPL if Ripple disappeared? Even assuming a properly credentialed behavioral scientist could offer a valid opinion on that question, [redacted] is not one. He is a computer scientist with no training or experience in economics, and he cites no authority or data for his behavioral analysis. Rep. at 27; Tr. 93:7-96:2, 108:9-109:3, 348:2-7, 354:12-356:10, 356:24-357:4, 358:10-360:10; *see In re Mirena*, 341 F. Supp. 3d at 251 (excluding expert who was neither educated nor experienced "in the relevant disciplines"); *In re Rezulin Prods. Liab. Litig.*, 309 F. Supp. 2d 531, 547 (S.D.N.Y. 2004) (Kaplan, J.) ("Inferences about the intent or motive of parties or others lie outside the bounds of expert testimony"). This is a separate reason that [redacted] third opinion must be struck—he is unqualified to offer it.

Beyond his lack of qualifications, [redacted] also admitted that he did not speak to *any* validator operators—let alone those he discusses in his Report—about their incentives to run validators or any other independent reasons they might support the XRPL. Tr. 356:24-357:17,

358:10-360:10. His third opinion is thus wholly speculative. *In re General Motors*, 2017 WL 6729295, at *7-9; *Percoco*, 2018 WL 879499, at *3-7 (expert opinion about what someone "might do" was "pure conjecture"). The Court should exclude it.

IV. DR. [redacted] OPINIONS SHOULD BE EXCLUDED UNDER RULE 403

Any conceivable relevance of [redacted] opinions is substantially outweighed by the risks of confusion and prejudice to Defendants, justifying exclusion under Rule 403. Fed. R. Evid. 403. The risks of confusion and prejudice are not just likely but assured given that [redacted] has been asked to opine on Ripple's "efforts" (an improperly loaded legal term); on a version of XRPL software not in use during the period of the SEC's allegations or currently; and on the potential consequences of Ripple's "disappearance," thereby leading the jury to hypothesize a world in which Ripple no longer exists. Moreover, the SEC itself has disclaimed the contents of the Hinman speech as not reflecting SEC policy,[14] and [redacted] offers no opinion whatsoever regarding the meaning of "sufficiently decentralized." *See* Tr. 228:10-20; *In re Rezulin*, 309 F. Supp. 2d at 545 (excluding testimony under Rule 403 that would "likely" confuse the jury "by introducing the 'experts'' opinions and rhetoric" as "alternative and improper grounds for decision on bases other than the pertinent legal standard.").

CONCLUSION

The Court should exclude Dr. [redacted] testimony in its entirety.

Dated: New York, New York
July 12, 2022

DEBEVOISE & PLIMPTON LLP

By: /s/ Lisa Zornberg
Lisa Zornberg
Christopher S. Ford

[14] *See* SEC Letter Motion to Quash (ECF No. 255) at 5 (SEC asserting (whether correctly or not) that "the SEC has never taken any action to adopt the Speech").

919 Third Avenue
New York, NY 10022
(212) 909-6000
lzornberg@debevoise.com
csford@debevoise.com

KELLOGG, HANSEN, TODD, FIGEL, & FREDERICK PLLC

Counsel for Defendant Ripple Labs, Inc.

CLEARY GOTTLIEB STEEN & HAMILTON LLP

Counsel for Defendant Bradley Garlinghouse

PAUL, WEISS, WHARTON, RIFKIND & GARRISON LLP

Counsel for Defendant Christian A. Larsen