No. 20-604

In the Supreme Court of the United States

INFOBIONIC, INC.,
Petitioner,
v.
CARDIONET, LLC, BRAEMAR MANUFACTURING, LLC,
Respondents.

ON PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

REPLY BRIEF FOR PETITIONER

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RULE 29.6 STATEMENT

Pursuant to this Court's Rule 29.6, petitioner InfoBionic, Inc. states that it has no parent corporation and that no publicly held company owns 10% or more of its stock.

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Because CardioNet focuses its efforts on recasting the decision below in an effort to evade this Court's review, we begin by summarizing what this case is actually about. The supposed "innovation" that makes CardioNet's '207 patent claims eligible under 35 U.S.C. § 101 is the following concept: certain cardiac conditions ("AF") can be more accurately identified by "taking into account" abnormal ventricular heartbeats. Pet. App. 15a; *see id.* at 17a; Opp. 4, 6. That's it—an abstract medical concept that doctors can undisputedly perform mentally. To be sure, the claims are dressed up with a handful of conventional medical data-gathering and computer-processing components. But those "bells and whistles" do nothing more than *automate* that abstract idea—which this Court has made clear cannot transform a patent ineligible abstract concept into a patentable eligible monopoly. *See* Pet. 28-29; *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 221-27 (2014).

The Federal Circuit panel nonetheless refused to hold the claims ineligible because there was purportedly no evidence that doctors or medical devices previously used that idea. *Infra* at 3-4. That ruling is directly contrary to *Gottschalk v. Benson*, 409 U.S. 63 (1972), *Parker v. Flook*, 437 U.S. 584 (1978), and *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012)—all of which found claims ineligible *even though* the underlying concepts were admittedly new. CardioNet's lead argument is to deny all this—arguing that the Federal Circuit's decision does not turn on the lack of a longstanding practice. It plainly

does—expressly and repeatedly—and thereby artificially restricts the abstract idea exception to § 101. Thus read, CardioNet itself does not deny that the decision creates a direct conflict.

CardioNet also does not, and cannot, deny that the Federal Circuit's § 101 doctrine is in shambles. CardioNet contends only that the decision below does not implicate that confusion. But here again, it is just denying reality. A different Federal Circuit panel in another case between these same parties, applying the principles of *Benson* and *Flook*, found similar CardioNet patent claims ineligible. Pet. 22. In contrast, the panel here, ignoring *Benson* and *Flook*, refused to do so. Pet. 20-23. That is the very definition of unpredictable jurisprudence. And that confusion imperils innovation, particularly as to claims, such as the ones here, that recite software automation of basic medical concepts.

It is true that granting review in this case may not solve *every* wrong turn in the Federal Circuit's convoluted § 101 jurisprudence. But this Court needs to start somewhere. And reminding the Federal Circuit that the Court meant what it said in prior cases like *Benson, Flook,* and *Mayo* is an excellent way to start. This Court's review is needed.

I. THE FEDERAL CIRCUIT'S DECISION DIRECTLY CONFLICTS WITH *BENSON*, *FLOOK*, AND *MAYO*

1. CardioNet does not dispute that *Benson* and *Flook* "stand for the proposition that 'automating mentally performable steps is abstract, even if the steps are new.'" Opp. 15-16 (quoting Pet. 20). CardioNet argues there is no conflict only because, according to CardioNet, the Federal Circuit's decision

does not require proof that the mentally performable steps were "longstanding" in order to find the asserted patent claims abstract and ineligible. Opp. 16. But that is demonstrably incorrect.

There was (and is) no dispute that collecting heartbeat data and identifying certain abnormal (AF) heart conditions—functions recited in the claims—are basic medical activities that doctors and prior devices have long performed. Pet. 6. The claimed device's only purported distinction is to identify AF by "taking into account" ventricular beats. Pet. App. 15a; *see id*. at 17a (identifying AF "'in light of'" ventricular beats (citation omitted)). But there also was (and is) no dispute that doctors "are capable of" mentally identifying AF taking into account ventricular beats. Pet. 6. The panel's sole basis for nonetheless rejecting the district court's holding that the claims were directed to an abstract, mental process was that doctors and devices had not previously used that technique. *E.g.*, Pet. App. 18a-19a.

That was explicit throughout the panel's decision. The panel found that "[a]t the heart of the district court's erroneous step one analysis is the incorrect assumption that the claims are directed to automating *known* techniques." Pet. App. 19a (emphasis added). The panel determined that "nothing in the record supports the district court's fact finding … that doctors *long used* the claimed diagnostic processes"—"[n]othing in the record … suggests that the claims merely computerize *pre-existing* techniques for diagnosing [AF]." *Id*. at 19a, 18a (emphases added). For example, the panel stated that there is "no suggestion in the '207 patent's written description that doctors were '*previously*

employing' the techniques performed on the claimed device." *Id.* at 18a (emphasis added). The panel further acknowledged that "evidence … that doctors have *long used* the claimed techniques" could show they were abstract—and that courts sometimes "take judicial notice of a *longstanding* practice." *Id.* at 25a (emphases added).

The panel, therefore, scarcely could have been more clear: the purported lack of evidence showing a "longstanding" practice of identifying AF in light of ventricular beats was dispositive. Put differently, if doctors "long used" the technique, the panel would have found it was a mental abstraction. Pet. App. 19a, 18a. Accordingly, on its face, the decision limits the abstract idea category by excluding mental concepts that are not longstanding. CardioNet's assertion that "[l]ongstanding or new had nothing to do with it" is not credible. Opp. 23.

CardioNet attempts to recast the panel's rationale by arguing that the panel made two discrete holdings: (1) determining that the claims were directed to an improved medical device (as opposed to a mental concept) and then separately (2) finding no evidence of a longstanding medical practice. *See* Opp. 13-15. That makes no sense. The panel found that the claimed technique (taking ventricular beats into account in identifying AF) improved medical technological precisely, and only, *because* the court found no evidence that the technique had long been used. *See* Pet. App. 18a-19a; *supra* at 3-4. Thus understood, there is no dispute that the decision is directly contrary to *Benson* and *Flook*. Pet. 17-21.

CardioNet also misleadingly represents that the Federal Circuit could not "'fathom'" how doctors could perform the claimed steps. Opp. 23 (quoting Pet. App.

19a). The court said no such thing. Rather, it was uncontested that doctors could mentally identify AF while taking into account ventricular beats. The court was discussing a single limitation in dependent claim 10—using "'a non-linear function'" to determine the relevance of the heartbeats—a limitation not appearing independent claim 1. Pet. App. 19a (citation omitted); *see id.* at 76a-77a (cls. 1, 10). And that highlights how the panel went astray. Under *Benson* and *Flook*, "mathematical formula[s]," such as non-linear functions, are *per se* ineligible mental concepts even if never previously performed by humans. *Benson*, 409 U.S. at 71-72; *Flook*, 437 U.S. at 590. Indeed, a non-linear function—*i.e.*, any formula in which "the relationship between variables [is] something other than a linear function," Pet. App. 73a (5:43-44)—is far more generic than the ineligible binary-conversion algorithm in *Benson* and alarm-updating formula in *Flook*. The panel's citation of that feature to bolster its eligibility ruling confirms the conflict with *Benson* and *Flook*.

2. CardioNet makes no serious attempt to reconcile the panel's decision with *Mayo*. Opp. 16-17.

CardioNet argues that there is no conflict because, in this case, the Federal Circuit found the claims "*are not* drawn to patent ineligible subject matter" and "did not reach *Alice* step two." Opp. 17 (citation omitted). But that is precisely what happened in *Mayo*: the Federal Circuit found the "claims [we]re drawn *not* to a law of nature" but to a patent-eligible advance. *Prometheus Labs., Inc. v. Mayo Collaborative Servs.*, 628 F.3d 1347, 1355 (Fed. Cir. 2010), *rev'd*, 566 U.S. 66 (2012).

CardioNet does not deny that the purported medical innovation in this case (identifying AF in

light of ventricular beats) is far less specific than the purported innovation in *Mayo* (identifying toxicity or efficacy of thiopurine drugs based on whether the patient's metabolite level is above or below certain specific thresholds). Pet. 23-25. Nor does CardioNet deny that the ineligible claims in *Mayo* could be readily redrafted—engrafting conventional medical devices and automation using result-oriented "determination logic" to determine whether the measured metabolite levels are "relevant" to toxicity or efficacy—in a way that would pass muster under the Federal Circuit panel's analysis in the present case. Pet. 25-26. With the ineligible medical concepts cloaked in an automated device, the panel in this case would incorrectly find them directed to an improvement in medical technology—not to ineligible concepts. That is a paradigmatic example of eligibility "'depend[ing] simply on the draftsman's art,'" contrary to *Mayo*. 566 U.S. at 72 (quoting *Flook*, 437 U.S. at 593); *see Alice*, 573 U.S. at 221-27; Pet. 26-27.

In short, the Federal Circuit's decision in this case sharply conflicts with *Benson, Flook,* and *Mayo.*

II. THE ADMITTED TURMOIL IN FEDERAL CIRCUIT DOCTRINE IS REFLECTED IN THE PANEL'S DECISION BELOW

CardioNet does not contest that the Federal Circuit's § 101 doctrine is in turmoil. For good reason. The Federal Circuit judges themselves and the Solicitor General have repeatedly acknowledged as much and called for this Court's intervention. Pet. 9-16; *see*, *e.g.*, *American Axle & Mfg., Inc. v. Neapco Holdings LLC*, 977 F.3d 1379, 1382 (Fed. Cir. 2020) (Moore, J., concurring in denying stay of mandate)

(judges "unanimous in [an] unprecedented plea for guidance"). Instead, CardioNet contends that the panel decision here was immune to that unpredictability. Again, CardioNet is wrong.

Benson and *Flook* are key guideposts for the § 101 inquiry, delineating boundaries on patenting abstract ideas involving mental processes. Whether, or when, mental processes are patent eligible is critical to the scope of the abstract-idea exception. The confusion and need for guidance over the scope of the abstract idea exception is especially acute in cases involving software-related or mental process claims, like the ones here. *See* Pet. 10-13 (cataloguing litany of conflicting decisions on software claims, most of which CardioNet ignores). This case squarely implicates the scope of the abstract idea exception, as the Federal Circuit unduly constricted it to exclude mental processes that were purportedly not longstanding, contrary to *Benson* and *Flook*. The panel's failure to address that precedent, let alone properly apply it, underscores the need for guidance.

Indeed, underscoring the turmoil in the Federal Circuit, a different panel that found similar CardioNet patents ineligible in two contemporaneous cases. Opp. 18-19 & n.6. For example, in *CardioNet, LLC v. InfoBionic, Inc.*, 816 F. App'x 471, 475-77 (Fed. Cir. 2020), the claims recited a "monitoring system[]" that collects heart rate data, automatically identifies "atrial fibrillation" (AF) events, and calculated a purportedly "new" metric ("atrial fibrillation burden"), and presented it in a certain format (on "a common time scale"). The panel correctly found those claims ineligible because they merely implemented abstract concepts of "collecting, analyzing, and displaying data" using "implantable medical devices"

and conventional computing systems. *Id.* at 475-76; *see also Braemar Manufacturing, LLC v. ScottCare Corp.*, 816 F. App'x 465, 469-70 (Fed. Cir. 2020) (CardioNet claims ineligible despite automated systems using "new algorithm" to analyze heartbeats). The CardioNet claims here are equally—if not more—abstract. They, too, recite a medical device that collects heart rate data, automatically identifies AF events, and uses a purportedly new technique (i.e., taking account of ventricular beats). Yet the panel here refused to find the claims ineligible—viewing them instead as a potential technological improvement—based on the absence of longstanding use. That paints in stark relief this panel's divergence from *Benson* and *Flook*—and the clear need for this Court's review.

According to CardioNet, the discussion in *CardioNet* and *Braemar* "of mental processes had nothing to do with whether the claims were drawn to an abstract idea." Opp. 17. Not so. In both cases, the Federal Circuit held that a "new" mathematical computation or algorithm is still an "abstract idea[]"—it could "otherwise be 'performed by a human, mentally or with pen and paper'"—and therefore automating it does not confer eligibility. *CardioNet*, 816 F. App'x at 476-77 (citation omitted); *see Braemar*, 816 F. App'x at 470 ("new algorithm" is "mental process, capable of performance in the human mind or with pen and paper," and thus is "itself an abstract idea"). And, in those cases, the panel relied on its precedent applying that principle from *Benson* and *Flook*. Pet. 22-23. It is irrelevant that the discussion occurred within the *Alice* step two analysis. *Cf.* Opp. 17-18. Under *Benson* and *Flook*, mentally-performable steps are abstract *even if new*

and automating them cannot confer patent eligibility at *either* step of the *Alice* analysis—as the Federal Circuit held in *CardioNet* and *Braemar*. That is the governing principle established by this Court's cases—and the panel here just disregarded it.

CardioNet is correct that some judges characterize the "exception to § 101" as "'narrow'" and "lament[]" its supposed "'dramatic expansion.'" Opp. 20 (citations omitted). But that is precisely the point. The Federal Circuit has no coherent or predictable view on the scope of the § 101 exception. Some judges and panels take a "narrow" approach, whereas others (like this Court) do not. The panel here took the former approach. Section 101 cases have become a game of roulette, where the luck of the draw rather than the rule of law dictates outcomes. As the Solicitor General himself has recognized, this Court's intervention is urgently needed.

III. THIS CASE PRESENTS AN IDEAL VEHICLE

This case is an ideal vehicle because it presents a discrete but recurring legal issue regarding the scope of the abstract idea exception and has none of the procedural wrinkles that counseled against review in cases such as *Berkheimer*. Pet. 27; *cf.* Opp. 21 (incorrectly stating that "InfoBionic offers no reason" why review is warranted here despite denial in *Berkheimer*). CardioNet's attempts to manufacture a vehicle problem and remaining arguments fall flat.

First, CardioNet argues that review is unwarranted because the Federal Circuit remanded for additional proceedings. But that was true in both *Mayo*, 566 U.S. at 76-77, and *Association for Molecular Pathology v. Myriad Genetics, Inc.*, 569

U.S. 576, 586-87 (2013). This Court nonetheless took up those cases to provide much needed guidance on the contours of the § 101 exceptions. The same is true here. Indeed, if anything, the ongoing proceedings underscore the need for review. Under the Federal Circuit's decision, InfoBionic is forced to engage in costly discovery and motions practice to demonstrate that the claimed techniques are, in fact, longstanding—an entirely unnecessary inquiry invented by the Federal Circuit's improper restriction on abstract ideas. Pet. 8 n.3, 21 n.7. Meantime, as this litigation unnecessarily drags on, CardioNet continues to wield its illegitimate patent claims, threatening its competitors (including InfoBionic) and stifling innovation. Pet. 29-31. The proper resolution of the question presented—the ineligibility of a patent that automates a purportedly new medical diagnostic techniques—would end this case and eliminate the burdens on innovation imposed by the decision below.[1]

Second, CardioNet argues that before reaching the substantive eligibility standard, the Court "would have to contend with arguments about the proper characterization of the patent claims at issue." Opp. 22. But that is incorrect. This Court may take this case on the same terms as the Federal Circuit below. Moreover, CardioNet identifies no material disputes over the "characterization" of the claims. To date, CardioNet proposed to construe exactly one term for

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[1] CardioNet's attempt to evade review based on the remand is also disingenuous. In district court, CardioNet contends that the Federal Circuit's decision resolves eligibility as a matter of law and precludes any remand proceedings on that issue. That only further highlights the pressing need for this Court's review.

purposes of eligibility—a construction that was undisputed, adopted by the district court, and irrelevant. Pet. 6 n.1. The district court asked CardioNet at least eight times to provide any other relevant constructions—to, for example, provide some content to the otherwise purely functional "determination logic" terms. Appx528-34.[2] CardioNet declined and instead emphasized that the claim elements are not "limited to the specific methodologies that are disclosed in the specification." Appx533 (26:15-17). CardioNet cannot now, well past the eleventh hour, conjure a dispute over claim scope to stave off this Court's intervention.

Third, CardioNet contends that the decision below will not harm innovation. Opp. 23-24. But, in CardioNet's closing paragraph, it lets the mask slip, revealing how broadly it is asserting its vacuous patent claims—and there is nothing "laughable" about it. Opp. 24. CardioNet admits that it is seeking to preclude InfoBionic—and *everyone*—from creating *any* device that "detect[s] AF by taking into account the variability in beat-to-beat timing caused by ventricular beats." *Id*. That, however, is a basic, potentially lifesaving concept that is freely available for all to use and build upon. CardioNet's claims have no specific or technologically innovative details about how to program the software or improve the hardware to achieve their goal, just an aspiration to "identify" the "relevance" of a patient's heartbeat in light of irregular ventricular beats. *See* Pet. 5-6; Pet. App. 76a (cl. 1). That is precisely the type of dangerous monopoly on "'the basic tools of scientific and technological work'" that inhibits, rather than

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2 "Appx" refers to the appendix filed in the Federal Circuit.

encourages, innovation—the type that this Court prohibits, especially in the medical and software fields. *Mayo*, 566 U.S. at 86 (quoting *Benson*, 409 U.S. at 67); *see Alice*, 573 U.S. at 216; *Flook*, 437 U.S. at 587-88 (noting the "debilitating effect" that such claims would have "on the … computer 'software' industry").

Eliminating unnecessary burdens on innovation is precisely why this Court's § 101 jurisprudence is so important. Yet, those protections are at best a crapshoot in the Federal Circuit today. This Court's intervention is needed, and this case provides an ideal opportunity to get the Federal Circuit back on track.

CONCLUSION

The petition should be granted.

Respectfully submitted,

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