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# Sargon and the Science of Reliable Experts

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## Sargon and the Science of Reliable Experts

By

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*Eppur si muove*<sup>2</sup>

Some have suggested a sea change in rules governing the admission of expert testimony as a result of the Supreme Court's decision in *Sargon Enterprises, Inc. v. University of Southern California*, 55 Cal.4th 747 (2012). The suggestion is likely animated by the contrast of *Sargon*'s approving invocation of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993)<sup>3</sup> with the Court's earlier polite refusal to adopt *Daubert* in *People v. Leahy*, 8 Cal.4th 587 (1994).<sup>4</sup> There is a visceral thing here, too: it has been commonly accepted deep in lawyers' bones that (as a result of *Daubert*'s impact in federal courts) state courts were more open than federal courts to certain expert testimony.<sup>5</sup> So, with *Sargon*'s emphatic instruction to trial courts that they act as "gatekeepers" (invoking *Daubert*'s iconic term), it has been supposed that state courts will now tend more to restrict expert testimony. Perhaps; I couldn't possibly say. But it is worth stepping back, just a bit, to tease out what *Sargon* did and did not address.

First a short refresher on *Sargon*. Our Supreme Court reversed the Court of Appeal, in effect affirming the wise trial judge who had tossed out speculative expert testimony on lost profits. Plaintiff had asserted that but for the defendant University's failure to conduct a clinical study of a new dental implant, plaintiff would have realized zillions (well, up to over a billion) in profits. The expert had selected putatively comparable firms to generate the profit ratios, without doing much to explain the selection criteria.

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<sup>1</sup> Judge Of The Superior Court, County of San Francisco. This article is designed only to open issues for discussion, and provides no indication on how I or any other judge would rule in a specific case. This article appears in a different format at 22 ABTL REPORT 1 (Spring 2013)

<sup>2</sup> "Still, it moves," Galileo (ever the experimental scientist) reportedly said of the Earth's orbit of the Sun, even as he accepted terms from the Inquisition.

<sup>3</sup> E.g., *Sargon*, 55 Cal.4th at 772.

<sup>4</sup> The federal courts had shifted away (i.e. in *Daubert*) from the 'general acceptance' test after a revision to Federal Rules of Evidence 702 in 1975, because neither the text of the rule nor "the Advisory Committee Notes to Congress, nor the Legislators during floor debates made any mention of *Frye* or the 'general acceptance' test." Leslie Morsek et. al., "Get on Board for the Ride of Your Life! The Ups, the Downs, the Twists, and the Turns of the Applicability of the 'Gatekeeper' Function to Scientific and Non-Scientific Expert Evidence: Kumho's Expansion of *Daubert*," 34 AKRON L. REV. 689, 700-03 (2001)(notes omitted). See also, *People v. Venegas*, 18 Cal.4th 47, 76 n.30 (1998).

<sup>5</sup> E.g., W. Schwarzer, et al., FEDERAL CIVIL PROCEDURE BEFORE TRIAL, Ch. 1-D ¶ 1:1060 (2012).

Much of the language in *Sargon* suggests the ordinary application of extant California law. For example, the Court remarked that experts may not rely on speculative bases; and they cannot rely on facts not in evidence. This does not shock us. The Court repeatedly relied on familiar statutes, such as Evidence Code §§ 801 and 802, including in a clause that invokes the ‘gatekeeper’ role for trial judges. 55 Cal.4<sup>th</sup> at 770 & 771.<sup>6</sup> And *Sargon*’s adverse reaction to the gulf that separated the expert’s conclusion and his bases was a pretty routine application of state law: trial judges have always been required to decide whether or not the expert’s bases actually support his opinion. *Lockheed Litigation Cases*, 115 Cal.App.4<sup>th</sup> 558, 563 (2004)(cited with approval in *Sargon*).

But the Court goes out of its way in a footnote to alert us that on one specific matter, California law has not shifted. This is noteworthy for two complementary reasons. First, of course, it confirms the status quo at least in that area. But secondly, it suggests the Court may be aware that its embrace of *Daubert* may otherwise be seen as a shift. Here’s the note:

In *People v. Leahy* (1994) 8 Cal.4<sup>th</sup> 587, 604 ..., this court held that the “general acceptance” test for admissibility of expert testimony based on new scientific techniques (see *People v. Kelly* (1976) 17 Cal.3d 24 ...) still applies in California courts despite the United States Supreme Court’s rejection, in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993) 509 U.S. 579 ..., of a similar test in federal courts. Nothing we say in this case affects our holding in *Leahy* regarding new scientific techniques.

*Sargon*, 55 Cal.4<sup>th</sup> at 772 n.6 (citations abbreviated).

The distinction is between new scientific techniques and other expert testimony. The *Kelly* test had been developed deliberately to make courts laggard in the adoption of new science; courts were not to be the test-bed for new techniques. Not unless a technique was “generally accepted” would the courts even consider its use at trial. But much expert testimony—such as that in *Sargon*—never involves such new techniques, and so is never subject to the *Kelly* test. *People v Bui*, 86 Cal.App.4<sup>th</sup> 1187, 1195 (2001).

So if *Sargon* leaves in peace the law on novel scientific techniques, what might it have in mind for the rest of expert testimony? Maybe nothing but a reminder that judges must always keep speculation away from the jury; and that is one reasonable reading of the case. After all, the strict holding of the case can likely be explained just with that reasoning.

But it is also possible that *Sargon* has more to say; perhaps also a new angle on what speculation entails.

Let’s try a hypo. An expert has this opinion: defendant Danny’s car could have stopped before it hit the now injured Peter plaintiff. Two branches feed this opinion: facts and theory. The facts are these: Danny saw Peter ten seconds before impact; it takes a second to process and another second to hit the brakes; given Danny’s speed and the braking power of the brakes, the car would have come to a complete stop in five seconds—which is enough to avoid the accident. The theories are these: force = mass \* acceleration; human action is a function of nerve impulses,

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<sup>6</sup> See also 55 Cal.4<sup>th</sup> at 769 (“Under California law, trial courts have a substantial “gatekeeping” responsibility”).

and they travel at a certain speed; brakes work in a certain way; and so on. The opinion is obviously unreliable if either the facts or theories are unsupported.

Setting aside the facts, let us turn to the theories:<sup>7</sup> How do we know if these are reliable? Does force really equal mass times acceleration? Is human action the product of nerve impulses or demonic inspiration? In state courts, we have typically looked to see if the theories (e.g., thermodynamics and neurology) were ‘generally accepted’ in the relevant scientific community. The impetus under *Kelly* was to look to the expert community and leave the matter there. *Leahy*, 8 Cal.4<sup>th</sup> at 602-03. But what we had forgotten—perhaps until *Sargon*—was that the rule was meant to *block* putative ‘science’ as to which there was no consensus; it is something else entirely to *accept* in the courtroom a theory just because there is some consensus.

Justice Breyer, in a case cited with approval by *Sargon*, put it this way:

It might not be surprising in a particular case, for example, that a claim made by a scientific witness has never been the subject of peer review, for the particular application at issue may never previously have interested any scientist. Nor, on the other hand, does the presence of *Daubert's* general acceptance factor help show that an expert's testimony is reliable where the discipline itself lacks reliability, as, for example, do theories grounded in any so-called generally accepted principles of astrology or necromancy.<sup>8</sup>

Specialization, and so the contrivance of expertise, is endemic. It is not therefore evil: we really do know more than we did, there are more areas of legitimate expertise, and it is increasingly difficult for any person to master the entirety of a traditional area (such as ‘medicine’ or ‘law’ or ‘physics’). But we are now sufficiently numerous and balkanized that any theory will collect adherents: and they are free to conduct their discipline as they wish, complete with conferences, magazines, web pages, and on. Doctrine ‘generally accepted’ by one of these cults will not just for that reason be admissible.

But neither can we wait for a methodology to be *universally* accepted; it won’t happen, universal consensus is impossible to prove, and anyway the rules of evidence contemplate conflicting expert views.

So what sort of consensus is enough?

*Sargon's* emphasis on reliability is helpful. Previously, some state courts might have stopped their review of expertise after what I think of as a *horizontal* look: whether the methods are generally accepted, which often meant the identification of peers of the proffered expert. *Sargon*, like *Kumho Tire*, backs us up one level, and may invite a *vertical* bird’s eye review of the methodology.

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<sup>7</sup> The distinction I use between case-specific ‘fact’ and general ‘theory’ is probably equivalent to the distinction between the “minor premise” and the “major premise” in a key article relied on in *Sargon*, Edward J. Imwinkelried & David L. Faigman, “Evidence Code Section 802: The Neglected Key to Rationalizing the California Law of Expert Testimony,” 42 LOY. L.A. L. REV. 427, 434 (2009)( hereinafter IMWINKELRIED).

<sup>8</sup> *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 151 (1999).

How then to describe that vertical perch used to evaluate whether a discipline, methodology or practice is reliable, whether or not embraced by experts in the pertinent discipline? In other words, how do we distinguish astronomy from astrology? *Sargon's* invocation of *Daubert* gives the clue: The discipline and materials relied on must be *scientific*. Astronomy is a science; astrology isn't. *Daubert* assumes "that trial judges would undertake their own assessment drawing upon the features of 'good science' and 'the scientific method.'"<sup>9</sup> One of the important *Daubert* factors was acceptance in the relevant community, to be sure, but it was the relevant *scientific* community.

I doubt *Daubert* could be more clear on what it thought of as the scientific approach, for it expressly relies on Karl Popper's work in defining a scientific proposition as one which can be refuted.<sup>10</sup> We must be able to at least conceive of empirical tests which can disprove or falsify a position; else the proposition is not science.

We tell ourselves stories all the time, and have faith concerning all sorts of phenomena. We have ghosts, gods and atoms, Illuminati conspiracies, price-fixing conspiracies, beliefs on why blood congeals and wings fly, and how light behaves in space. All of these are conjectures about things we cannot see, all helpful narratives with which we sooth ourselves. Popper's point is that some of these conjectures are testable; and if we succeed in falsifying the theory, "we see very clearly that there was a reality—something with which it could clash."<sup>11</sup> Only with scientific propositions do we have a lucid notion of what it means to be wrong; only scientific propositions deal with the relevant notion of reality. It is in this light that we can understand the elements traditionally associated with *Daubert*—they evoke this sense of science:

While there is no definitive "checklist or test," the following factors may be relevant in evaluating the reliability of expert opinion testimony:

- whether the methodology used can be (and has been) tested;
- whether the methodology has been subjected to peer review;
- whether there is a known potential rate of error;
- whether there are standards controlling the technique used;

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<sup>9</sup> Gary Edmond & David Mercer, "Conjectures and Exhumations: Citations of History, Philosophy and Sociology of Science in US Federal Courts," 14 LAW & LITERATURE 309, 310 (2002). See also "Admitting Doubt: A New Standard for Scientific Evidence," 123 HARV. L. REV. 2021, 2023 (2010)(objecting that "*Daubert* tasks judges with separating good science from bad").

<sup>10</sup> *Daubert*, 509 U.S. at 593. See generally, Karl R. Popper, CONJECTURES AND REFUTATIONS: THE GROWTH OF SCIENTIFIC KNOWLEDGE (1963)(hereinafter POPPER).

<sup>11</sup> POPPER, *supra* note 10 at 116. Theories, which start with stories and myths, *id.* at 50, can never be confirmed because tests are never exhaustive, *id.* at 105, but they can be disproved, *id.* at 114-15. This makes them scientific statements. *Ibid.* But Popper did believe in the notion of growth, or closer approximation to the truth over time, even if one can never know that a given theory is correct. This much is evident from the name of one of his essays, "Truth, Rationality, And The Growth Of Scientific Knowledge," POPPER, *supra* note 10 at 215 *et seq.*; see also *id.* at ix (Preface to Second Edition).

- whether a known technique is generally accepted in the relevant scientific or technical community.<sup>12</sup>

Scientific theories try to explain the visible world through the use of an invisible one,<sup>13</sup> whether it be by the use of the four humours, luminiferous aether, or quantum mechanics. The doctrine of luminiferous aether, for example, despite its ancient (and pleasing) sound, *was* scientific: it was not only testable, but tested and disproved in 1887.<sup>14</sup> Scientific theories are not necessarily right, but experts who tell you they are right can probably tell you how the theory could be disproved.

So, is *Sargon*'s emphasis on *Daubert* a shift in the law? Well, it calls out the need for scientific justification of the disciplines subject of expert testimony, and I like to think even state judges have always had this at least implicitly in mind: I see no recent reported cases on the use of astrology or phrenology, although I am aware of complaints from various parts of the bar that some admitted testimony is no better. Let us settle at least on this for now: *Sargon* gives us a renewed emphasis on logic, 55 Cal.4<sup>th</sup> at 772, a mandate to test the basic premises of a discipline for signs of science.<sup>15</sup> *Sargon* may, in its approving invocation of Imwinkelried's article and its analysis of Evidence Code § 802, countenance the trial judge's hard look "into the reliability of an expert's major premise,"<sup>16</sup> that is,

trial judges may, and must, determine whether, as a matter of logic, the studies and other information cited by experts adequately support the conclusion that the expert's general theory or technique is valid.<sup>17</sup>

Deciding whether or not an "expert's general theory or technique" is valid may be a bit more than state trial judges are used to outside the *Kelly* "novel technique" context.<sup>18</sup>

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<sup>12</sup> William Wegner, et al., CALIFORNIA PRACTICE GUIDE: FEDERAL CIVIL TRIALS & EVIDENCE Ch. 8F-C. Whenever we are faced with a series of factors, results from different cases are likely to be a matter of degree, i.e., methods may be more or less 'scientific' in this *Daubert* sense. Scientific validity generally is probably a matter of degree. Frederick Schauer, "Can Bad Science Be Good Evidence? Neuroscience, Lie Detection, and Beyond," 95 CORNELL L. REV. 1191, 1207 (2010).

<sup>13</sup> POPPER, *supra* note 10 at 89.

<sup>14</sup> This was the Michelson-Morley experiment which ultimately led to Albert Einstein's establishment of the constant (and limiting) speed of light, among other things.

<sup>15</sup> Whether my suppositions are accurate or not (perhaps future experiments—which we call cases—will tell!) I must note that Sir Karl's notion of 'science' does not define the scope of expert testimony controlled even by *Daubert*. As *Kumho Tire* says, the same rules apply whether the area of expertise is scientific or not, for they apply to all technical and other areas of expertise. 526 U.S. at 147–148; *United States v. Mitchell*, 365 F.3d 215, 244 (3rd Cir. 2004). Experts might opine on how to mix cement or lawyers' duties, neither of which is 'scientific'. So the terms 'science' and 'scientific' are used in two different ways in this context: as what I have termed a vertical method of determining if any discipline can support expert testimony at all; and as one of the many substantive disciplines arguably the subject of expert testimony.

<sup>16</sup> IMWINKELRIED, *supra* note 7 at 446.

<sup>17</sup> IMWINKELRIED, *supra* note 7 at 449.

A final practical note: a conundrum outside the trial context. Judges often have a pretrial hearing to determine whether an expert may opine. The patient judge in *Sargon* had an 8 day hearing. Having this much time at trial is remarkable enough in our overburdened courts, but we have no similar procedures for other contexts in which judges are asked to rely on expert testimony, such as summary judgment and class action certification motions. Before trial, the parties have had the chance to conduct expert discovery, find a supplemental expert when the other side surprises, and to research proposed expert testimony. At a pretrial hearing, the judge's and parties' questions flesh out the reliability issues.

There is nothing like this in motion practice. Motions are often filed long before the expert disclosure deadlines, parties have a short period to respond and usually none to examine the other side's witness. Yet judges must rule on the admissibility of expert declarations; and these rulings are frequently case determinative.

There may be no good answer here. Expert declarations will have to carry their own water, and burdens of proof will continue to have a decisive impact. Judges may have some flexibility to entertain live witnesses in certain types of hearings, and they can generally postpone hearings to allow for some discovery, but with our present underfunded and understaffed courts, these options will not be readily embraced.<sup>19</sup> Counsel are invited to propose—some experiments.

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<sup>18</sup> Recall that *Sargon*, Evidence Code § 802, and the Imwinkelried article may all apply whether or not *Kelly* is implicated.

<sup>19</sup> After this note was completed the Court of Appeal decided *Garrett v. Howmedica Osteonics Corp.*, \_\_\_ Cal.App.4<sup>th</sup>\_\_\_ (2d App.Dist., No. B234368a filed 3/6/2013), in which these very contrasts between trial and motion practice were noted. *Garrett* suggests that because of the liberal construction due to papers filed in opposition to summary judgment motions (including expert declarations), *Sargon*'s gate keeping function is not to be as strictly applied to those papers.