Supreme Court of California.

Terri F. SOULE, Plaintiff and Respondent,
v.
GENERAL MOTORS CORPORATION, Defendant and Appellant.

882 P.2d 298 (1994)

BAXTER, Justice.

Plaintiff's ankles were badly injured when her General Motors (GM) car collided with another vehicle. She sued GM, asserting that defects in her automobile allowed its left front wheel to break free, collapse rearward, and smash the floorboard into her feet. GM denied any defect and claimed that the force of the collision itself was the sole cause of the injuries. Expert witnesses debated the issues at length. Plaintiff prevailed at trial, and the Court of Appeal affirmed the judgment.

We granted review to resolve three questions. First, may a product's design be found defective on grounds that the product's performance fell below the safety expectations of the ordinary consumer if the question of how safely the product should have performed cannot be answered by the common experience of its users? [The other two questions are omitted for purposes of our course.]

We reach the following conclusions: The trial court erred by giving an "ordinary consumer expectations" instruction in this complex case. Moreover, the court should have granted GM's request for a special instruction explaining its correct theory of legal cause. However, neither error warrants reversal unless it caused actual prejudice, and both errors were harmless on this record. We will therefore affirm the Court of Appeal's judgment.

FACTS

On the early afternoon of January 16, 1984, plaintiff was driving her 1982 Camaro in the southbound center lane of Bolsa Chica Road, an arterial street in Westminster. There was a slight drizzle, the roadway was damp, and apparently plaintiff was not wearing her seat belt. A 1972 Datsun, approaching northbound, suddenly skidded into the path of plaintiff's car. The Datsun's left rear quarter struck plaintiff's Camaro in an area near the left front wheel. Estimates of the vehicles' combined closing speeds on impact vary from 30 to 70 miles per hour.

The collision bent the Camaro's frame adjacent to the wheel and tore loose the bracket that attached the wheel assembly (specifically, the lower control arm) to the frame. As a result, the wheel collapsed rearward and inward. The wheel hit the underside of the "toe pan"—the slanted floorboard area beneath the pedals—causing the toe pan to crumple, or "deform," upward into the passenger compartment.

Plaintiff received a fractured rib and relatively minor scalp and knee injuries. Her most severe injuries were fractures of both ankles, and the more serious of these was the compound compression fracture of her left ankle. This injury never healed properly. In order to relieve plaintiff's pain, an orthopedic surgeon fused the joint. As a permanent result, plaintiff cannot flex her left ankle. She walks with considerable difficulty, and her condition is expected to deteriorate.

Plaintiff sued GM for her ankle injuries, asserting a theory of tort liability for a defective product. She claimed the severe trauma to her ankles was not a natural consequence of the accident, but occurred when the collapse of the Camaro's wheel caused the toe pan to crush violently upward against her feet. Plaintiff attributed the wheel collapse to a manufacturing defect, the substandard quality of the weld attaching the lower control arm bracket to the frame. She also claimed that the placement of the bracket, and the configuration of the frame, were defective designs because they did not limit the wheel's rearward travel in the event the bracket should fail.

The available physical and circumstantial

evidence left room for debate about the exact angle and force of the impact and the extent to which the toe pan had actually deformed. The issues of defect and causation were addressed through numerous experts produced by both sides in such areas as biomechanics, metallurgy, orthopedics, design engineering, and crash-test simulation.

Plaintiff submitted the results of crash tests, and also asserted the similarity of another real-world collision involving a 1987 Camaro driven by Dana Carr. According to plaintiff's experts, these examples indicated that Camaro accidents of similar direction and force do not generally produce wheel bracket assembly failure, extensive toe pan deformation, or severe ankle injuries such as those plaintiff had experienced. These experts opined that without the deformation of the toe pan in plaintiff's car, her accident could not have produced enough force to fracture her ankles.

A metallurgist testifying on plaintiff's behalf examined the failed bracket from her car. He concluded that its weld was particularly weak because of excess "porosity" caused by improper welding techniques. Plaintiff's experts also emphasized the alternative frame and bracket design used by the Ford Mustang of comparable model years. They asserted that the Mustang's design, unlike the Camaro's, provided protection against unlimited rearward travel of the wheel should a bracket assembly give way.

GM's metallurgist disputed the claims of excessive weakness or porosity in the bracket weld. Expert witnesses for GM also countered the assertions of defective design. GM asserted that the Camaro's bracket was overdesigned to withstand forces in excess of all expected uses. According to expert testimony adduced by GM, the Mustang's alternative frame and bracket configuration did not fit the Camaro's overall design goals and was not distinctly safer for all collision stresses to which the vehicle might be subjected. Indeed, one witness noted, at least one more recent Ford product had adopted the Camaro's design.

A second major thrust of GM's defense was that the force of the collision, rather than any product defect, was the sole cause of plaintiff's ankle injuries. Using the results of accident reconstruction, computer simulations, and actual crash tests, GM sought to prove that the probable collision force concentrated on the left front wheel of plaintiff's Camaro exceeded the "yield strength" of any feasible weld or design.

By similar means, GM also sought to show that plaintiff's ankle injuries were not caused by the upward movement of the toe pan, but by the inertial forward and downward motion of plaintiff's unrestrained body and legs against the toe pan at the instant of impact. From plaintiff's other injuries, and from photographs showing the general pattern of damage to the Camaro's interior, GM's experts inferred that plaintiff was not wearing her seat belt and had locked or braced her legs in reaction to the imminent collision.

Hence, they concluded, her rigid ankles had absorbed the full force of her inertial forward movement, which was sufficient to cause the fractures. Based on their test results, GM's witnesses opined that plaintiff's ankles had probably moved forward, struck the toe pan, and broken *before* significant deformation of the toe pan occurred.

The court instructed the jury that a manufacturer is liable for "enhanced" injuries caused by a manufacturing or design defect in its product while the product is being used in a foreseeable way. Over GM's objection, the court gave the standard design defect instruction without modification. This instruction advised that a product is defective in design "if it fails to perform as safely as an ordinary consumer would expect when used in an intended or reasonably foreseeable manner *or* if there is a risk of danger inherent in the design which outweighs the benefit of the design." (Italics added.)

The jury further concluded that although plaintiff was guilty of comparative fault, her conduct was not a legal cause of her enhanced injuries. Plaintiff received an award of $1.65 million.

GM appealed. Among other things, it argued that the trial court erred by instructing on ordinary consumer expectations in a complex design-defect case.

Following one line of authority, the Court of Appeal concluded that a jury may rely on expert assistance to determine what level of safe performance an ordinary consumer would expect under particular circumstances. Hence, the Court of Appeal ruled, there was no error in use of the ordinary consumer expectations standard for design defect in this case.

The Court of Appeal agreed with GM that its specific instruction on causation should not have been refused. However, the court rejected precedent suggesting that an error of this kind is reversible per se. Here, the Court of Appeal ruled, the error was harmless. After dismissing GM's remaining appellate claims, the Court of Appeal affirmed the judgment. We granted review.

DISCUSSION

1. Test for design defect.

A manufacturer, distributor, or retailer is liable in tort if a defect in the manufacture or design of its product causes injury while the product is being used in a reasonably foreseeable way. (Citations omitted.) Because traffic accidents are foreseeable, vehicle manufacturers must consider collision safety when they design and build their products. Thus, whatever the cause of an accident, a vehicle's producer is liable for specific collision injuries that would not have occurred but for a manufacturing or design defect in the vehicle.

[The court reviews some of the lengthy history of products liability law in California. It explained that prior cases had concluded that] a product *is* defective in design if it *does* fail to perform as safely as an ordinary consumer would expect. . . .

The *Barker* decision also concluded, "a product may be found defective in design, even if it satisfies ordinary consumer expectations, if through hindsight the jury determines that the product's design embodies 'excessive preventable danger,' or, in other words, if the jury finds that the risk of danger inherent in the challenged design outweighs the benefits of such design. [Citations.]" *Barker* held that under this latter standard, "a jury may consider, among other relevant factors, the gravity of the danger posed by the challenged design, the likelihood that such danger would occur, the mechanical feasibility of a safer alternative design, the financial cost of an improved design, and the adverse consequences to the product and to the consumer that would result from an alternative design. [Citations.]"

Barker also made clear that when the ultimate issue of design defect calls for a careful assessment of feasibility, practicality, risk, and benefit, the case should not be resolved simply on the basis of ordinary consumer expectations. As *Barker* observed, "past design defect decisions demonstrate that, as a practical matter, in many instances it is simply impossible to eliminate the balancing or weighing of competing considerations in determining whether a product is defectively designed or not...."

An example, *Barker* noted, was the "crashworthiness" issue presented in a prior case. The debate there was whether the explosion of a vehicle's fuel tank in an accident was due to a defect in design. This, in turn, entailed concerns about whether placement of the tank in a position less vulnerable to rear end collisions, even if technically feasible, "would have created a greater risk of injury in other, more common situations." (*Barker, supra,* 20 Cal.3d at p. 433.) Because this complex weighing of risks, benefits, and practical alternatives is "implicit" in so many design-defect determinations, *Barker* concluded, "an instruction which appears to preclude such a weighing process under all circumstances may mislead the jury."

Campbell v. General Motors Corp. (1982) 649 P.2d 224 (*Campbell*) provided additional strong hints about the proper use of the ordinary

consumer expectations prong of *Barker.* Plaintiff Campbell, a bus passenger, was thrown from her seat and injured during a sharp turn. She sued GM, the manufacturer of the bus, alleging that the vehicle was defectively designed because there was no "grab bar" within easy reach of her seat. Campbell presented no expert testimony, but she submitted photographs of the interior of the bus, showing where safety bars and handles were located in relation to the seat she had occupied. At the conclusion of her case in chief, GM moved for nonsuit, arguing that her evidence of design defect and proximate cause was not sufficient. The trial court granted the motion, but we reversed.

We emphasized that in order to establish a design defect under *Barker's* ordinary consumer expectations test, it was enough for Campbell to show "the objective conditions of the product" so that the jurors could employ "[their] own sense of whether the product meets ordinary expectations as to its safety under the circumstances presented by the evidence. Since public transportation is a matter of common experience, no expert testimony was required to enable the jury to reach a decision on this part of the *Barker* inquiry."

"Indeed, it is difficult to conceive what testimony an 'expert' could provide. The thrust of the first *Barker* test is that the product must meet the safety expectations of the general public as represented by the ordinary consumer, not the industry or a government agency. '[O]ne can hardly imagine what credentials a witness must possess before he can be certified as an expert on the issue of *ordinary* consumer expectations.'

In *Barker,* we offered two alternative ways to prove a design defect, each appropriate to its own circumstances. The purposes, behaviors, and dangers of certain products are commonly understood by those who ordinarily use them. By the same token, the ordinary users or consumers of a product may have reasonable, widely accepted minimum expectations about the circumstances under which it should perform safely. Consumers govern their own conduct by these expectations, and products on the market should conform to them.

In some cases, therefore, "ordinary knowledge ... as to ... [the product's] characteristics" may permit an inference that the product did not perform as safely as it should. *If* the facts permit such a conclusion, and *if* the failure resulted from the product's design, a finding of defect is warranted without any further proof. The manufacturer may not defend a claim that a product's design failed to perform as safely as its ordinary consumers would expect by presenting expert evidence of the design's relative risks and benefits.[FN3]

> FN3. For example, the ordinary consumers of modern automobiles may and do expect that such vehicles will be designed so as not to explode while idling at stoplights, experience sudden steering or brake failure as they leave the dealership, or roll over and catch fire in two-mile-per-hour collisions. If the plaintiff in a product liability action proved that a vehicle's design produced such a result, the jury could find forthwith that the car failed to perform as safely as its ordinary consumers would expect, and was therefore defective.

However, as we noted in *Barker,* a complex product, even when it is being used as intended, may often cause injury in a way that does not engage its ordinary consumers' reasonable minimum assumptions about safe performance. For example, the ordinary consumer of an automobile simply has "no idea" how it should perform in all foreseeable situations, or how safe it should be made against all foreseeable hazards.

An injured person is not foreclosed from proving a defect in the product's design simply because he cannot show that the reasonable minimum safety expectations of its ordinary consumers were violated. Under *Barker* 's alternative test, a product is still defective if its design embodies "excessive preventable danger" that is, unless "the benefits of the ... design outweigh the risk of danger inherent in such design." But this determination involves technical issues of

feasibility, cost, practicality, risk, and benefit which are "impossible" to avoid. In such cases, the jury *must* consider the manufacturer's evidence of competing design considerations and the issue of design defect cannot fairly be resolved by standardless reference to the "expectations" of an "ordinary consumer."

As we have seen, the consumer expectations test is reserved for cases in which the *everyday experience* of the product's users permits a conclusion that the product's design violated *minimum* safety assumptions, and is thus defective *regardless of expert opinion about the merits of the design.* It follows that where the minimum safety of a product is within the common knowledge of lay jurors, expert witnesses may not be used to demonstrate what an ordinary consumer would or should expect. Use of expert testimony for that purpose would invade the jury's function and would invite circumvention of the rule that the risks and benefits of a challenged design must be carefully balanced whenever the issue of design defect goes beyond the common experience of the product's users.

By the same token, the jury may not be left free to find a violation of ordinary consumer expectations whenever it chooses. Unless the facts actually permit an inference that the product's performance did not meet the minimum safety expectations of its ordinary users, the jury must engage in the balancing of risks and benefits required by the second prong of *Barker.*

Accordingly, as *Barker* indicated, instructions are misleading and incorrect if they allow a jury to avoid this risk-benefit analysis in a case where it is required. Instructions based on the ordinary consumer expectations prong of *Barker* are not appropriate where, as a matter of law, the evidence would not support a jury verdict on that theory. Whenever that is so, the jury must be instructed solely on the alternative risk-benefit theory of design defect announced in

Applying our conclusions to the facts of this case, however, we agree that the instant jury should not have been instructed on ordinary consumer expectations. Plaintiff's theory of design defect was one of technical and mechanical detail. It sought to examine the precise behavior of several obscure components of her car under the complex circumstances of a particular accident. The collision's exact speed, angle, and point of impact were disputed. It seems settled, however, that plaintiff's Camaro received a substantial oblique blow near the left front wheel, and that the adjacent frame members and bracket assembly absorbed considerable inertial force.

An ordinary consumer of automobiles cannot reasonably expect that a car's frame, suspension, or interior will be designed to remain intact in any and all accidents. Nor would ordinary experience and understanding inform such a consumer how safely an automobile's design should perform under the esoteric circumstances of the collision at issue here. Indeed, both parties assumed that quite complicated design considerations were at issue, and that expert testimony was necessary to illuminate these matters. Therefore, injection of ordinary consumer expectations into the design defect equation was improper.

We are equally persuaded, however, that the error was harmless, because it is not reasonably probable defendant would have obtained a more favorable result in its absence. [The Court reviews the record and explains why the instructional error did not prejudice the defendant's case.]