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SJC-09541

HYMAN CARREL vs. NATIONAL CORD & BRAID CORPORATION.

Norfolk. March 7, 2006. - August 15, 2006.

Present: Marshall, C.J., Greaney, Ireland, Spina, Cowin, & Cordy, JJ.

Negligence, Sophisticated user doctrine, Bulk supplier doctrine, Duty to warn. Warranty. Practice, Civil, Instructions to jury. Evidence, Relevancy and materiality.

Civil action commenced in the Superior Court Department on November 4, 1998.

The case was tried before Patrick F. Brady, J.

The Supreme Judicial Court on its own initiative transferred the case from the Appeals Court.

Edward T. Dangel, III, for the plaintiff.
Ralph C. Sullivan (Richard W. Jensen with him) for the defendant.

CORDY, J. In the summer of 1996, Hyman Carrel (Carrel), then sixteen years old, attended Camp Sqaunto (camp). The camp was run under the auspices of the Old Colony Council (Old Colony), which is the northeast regional authority of the Boy Scouts of America, Inc. (Boy Scouts). As part of his camp

experience, Carrel participated in its "zip-line" course.¹ Under the direction of the course supervisor, Carrel stood on the ground below the "zip line" and pulled a bungee cord tied to the course's brake block fifteen feet above him. Unfortunately, the knot by which the bungee cord was attached to the block came undone and the bungee cord recoiled with significant force. The end of the cord that had been tied around the brake block struck Carrel in the eye, causing serious injury.

Carrel filed suit against, inter alia, the Boy Scouts, Project Adventure (the company that supplied the Boy Scouts with the bungee cord), and National Cord & Braid Corporation (National Cord) (the alleged manufacturer of the bungee cord), asserting various theories of negligence and breach of warranty.² After settling his claims against the Boy Scouts and Project Adventure, Carrel proceeded to trial against National Cord solely on the theory that it had breached the implied warranty of merchantability and fitness with respect to the sale of its

¹ Campers using the "zip-line" course ascend to a high platform, are attached by harness to a cable, and travel down the cable (or zip line) to a lower platform.

² The amended complaint brought by Carrel was against the Boy Scouts of America; Old Colony Council, Inc. (the regional authority of the Boy Scouts and owner of Camp Squanto); James R. Corcoran, Jr. (operator of Camp Squanto); Robert C. Brady (Camp Squanto Program director); Jeffrey W. Burton (director of Project COPE at Camp Squanto); Gregory Smith (Boy Scout specialist who was responsible for inspecting the zip-line course); Teddy Bear Limited (an alleged manufacturer of the bungee cord in question); and National Cord & Braid Corporation (another alleged manufacturer of the bungee cord in question).

bungee cord.³ This theory was grounded on Carrel's contentions that the type of bungee cord sold to the Boy Scouts (through Project Adventure), especially when new, had certain latent properties that cause some types of knots tied with the cord, adequate for other purposes, to come undone easily, and that National Cord failed to include with its product an adequate warning about these properties and the resulting danger they posed to foreseeable users.

The jury returned a special verdict in favor of National Cord. Carrel appealed, arguing principally that the judge's instruction to the jury that National Cord's "duty to warn might be lessened or might not exist if the user's experience, expertise and knowledge far exceeds the manufacturer's," misstated the law and was unsupported by the evidence. Carrel also asserted that the judge improperly admitted evidence that National Cord was a small family business that had never previously received a complaint of the type at issue here, while erroneously excluding evidence that National Cord carried liability insurance for injuries arising from its sale of bungee

³ On December 7, 2000, the Superior Court entered an order of dismissal with respect to the claim brought against Teddy Bear Limited. On January 10, 2001, a Superior Court judge allowed a motion for separate and final judgments brought by the defendants associated with the Boy Scouts and assented to by Carrel. Finally, on May 29, 2002, Carrel settled with Project Adventure. On August 12, 2002, Carrel proceeded to trial against National Cord. After the jury returned a special verdict in favor of National Cord on the breach of warranty claim, the parties stipulated to a dismissal of the negligence claim still pending against National Cord.

cord, and testimony that the latent dangers of National Cord's product had been "known" in the industry since the 1970's. We transferred the case to this court on our own motion. As foreshadowed in Hoffman v. Houghton Chem. Corp., 434 Mass. 624 (2001) (Hoffman), we explicitly adopt the "sophisticated user doctrine"⁴ as an affirmative defense in product liability actions. We also conclude that the instruction on that defense was properly given in the circumstances of this case, and that Carrel's other claims of error at trial are without merit.

1. The trial. The jury heard the following evidence at trial. National Cord, which started operating in 1992, is a manufacturer of commercial grade shock cord, commonly known as bungee cord. It is a small "family" business, consisting of six employees -- its president, Armand Pratt; his wife; his two sons; and two part-time employees. Despite its small size, National Cord sells significant quantities of bungee cord (of various lengths and thicknesses) to approximately seventy-five regular customers across the United States. After National Cord produces a length of bungee cord, it wraps the cord around a spool, and places the spool in a box for shipment. National Cord does not place any warning on or inside the boxes, on the spools, or on the cord itself.

National Cord's customers are almost exclusively suppliers

⁴ This doctrine is also referred to as the "knowledgeable user" doctrine or the "responsible intermediary" doctrine. See Hoffman v. Houghton Chem. Corp., 434 Mass. 624, 629 n.10 (2001) (Hoffman).

or other manufacturers who purchase the bungee cord for resale to the general public or for inclusion as a component part in some other product. The bungee cord manufactured and sold by National Cord has a considerable number of uses, including use in recreational and sporting activities.⁵

National Cord began selling bungee cord to Project Adventure in 1993. Project Adventure is a nonprofit, educational, training, and consulting organization that specializes in assisting and equipping other organizations wishing to participate in adventure education, such as zip-line courses. National Cord supplies Project Adventure with one-half inch thick braided bungee cord. As National Cord knew, Project Adventure resold the bungee cord, without alteration to, inter alia, summer camps.

According to the testimony of Dr. Carl Abraham, Carrel's expert, the intrinsic properties of the type of bungee cord at issue here (one-half inch braided cord) leads to knots tied in it loosening and coming undone at a higher rate than would similar knots tied in other thinner types of bungee cord or other nonbraided ropes. Specifically, this type of bungee cord has a tendency to narrow when pulled. This narrowing alters the coefficient of friction, which previously kept together the portions of the cord tied around each other in the knot. At a

⁵ National Cord was generally aware of the use of its product for such activities. However, according to the testimony of its president, the company was not aware that its cord was ever used in connection with zip lines.

certain reduced friction point, the altered state of the cord causes the two portions to unwind from each other. Dr. Abraham further explained that the stiffer the cord is, the easier it is for this phenomenon to occur, and that new bungee cords are stiffer than used cords. Dr. Abraham finally noted that knots tied at the ends of bungee cords pose a greater problem than ones tied in the middle because they offer an observer less time to realize the knot is loosening and react to it.

Dr. Abraham's testimony supported Carrel's claim that the intrinsic properties of this type of bungee cord were generally known to experts in the field at the time the cord was manufactured and sold to Project Adventure. National Cord's president, however, testified that National Cord was unaware of these properties, and never performed any testing on its product. Moreover, National Cord had never, prior to this incident, received a complaint regarding knots tied in a bungee cord coming loose.

In 1996, Old Colony, on behalf of the camp, purchased braided one-half inch thick bungee cord from Project Adventure for its zip-line course.⁶ The zip-line course was one component of the Boy Scout's Project COPE (Challenging Outdoor Personal Experience) (COPE), a national program designed to develop team-building skills in youngsters, personal self-esteem, and respect for others through the completion of difficult outdoor

⁶ The Boy Scouts were apparently a regular customer of Project Adventure.

activities. The Boy Scouts established national standards for COPE to ensure safety at their course sites. They also created training programs and manuals to educate COPE directors and other personnel regarding the safe and proper operation of COPE courses. Personnel who successfully completed the training programs were certified by COPE.

The supervisor of the camp's course, Jeffrey Burton, was a certified COPE director. Burton was responsible for the preparation, maintenance, and use of the camp's zip-line course, subject to COPE's national standards. He had recommended the purchase of new bungee cord to replace older cord he had observed while inspecting the zip-line course. He selected the bungee cord from a Project Adventure brochure given to him by the camp's director. There was no warning in the brochure regarding the use of bungee cord in zip-line courses or regarding the tendency of new bungee cord to stretch and, thus, of certain knots tied with the cord coming undone.

On the camp's zip-line course, riders ascended to a platform approximately thirty-five feet above the ground. There they were attached by harness to a zip-line cable. Riders then travelled fifty yards through the air to a second lower platform (fifteen feet above ground), where they were disconnected from the zip line and descended back to the ground. The course employed a braking mechanism, known as a brake block, to slow down riders as they approached the second platform so that they would not be injured by reaching that platform at an unsafe speed. A bungee

cord was attached to the brake block to anchor it. Sometimes, however the braking system caused riders to come to a complete stop before reaching the lower platform. Burton decided, on his own initiative, to use the bungee cord attached to the brake block as a pulley system. He stationed two of the program participants on the ground below the brake block. If the rider stopped before reaching his destination, these two persons pulled the bungee cord toward the rider. This moved the brake block in the same direction. The rider then grabbed the cord (when it was within his reach), and the persons below pulled the rider back toward the destination platform.⁷

According to Burton, when he received the shipment of bungee cord from Project Adventure, there were no instructions or warnings sent with it. He simply received a box containing an invoice, other products he had requested, and a spool of bungee cord. However, according to the deposition testimony of a Project Adventure employee, admitted at trial, Project Adventure sent an instruction sheet with each shipment of this type of bungee cord, warning of the danger of tying knots in new bungee cord.⁸ This instruction sheet focused specifically on attaching

⁷ In the Project COPE manual, an illustration of a proper zip-line course shows the bungee cord tied on one end to the braking block, and on the other end around the base of a tree.

⁸ There was evidence that National Cord sometimes "drop shipped" cord for Project Adventure directly to end customers. If that had been done in this case, it might explain the discrepancy in the seemingly conflicting testimony between Burton and the Project Adventure employee. However, there was no evidence that National Cord had drop shipped the package received

bungee cords to brake blocks in courses of the type at issue here. It warned:

"When tying knots in Bungee cord, it is very important to insure the knot will stay tied. When the cord is new, a loosely tied knot can come undone quite easily. . . . A figure 8 loop . . . is the recommended knot for both ends of the Bungee. After tying the figure 8, pull very tightly on all the strands of Bungee that enter the knot. (Placing your foot in the loop and pulling upwards with some force is a good technique). A back-up knot can be used here, but it will only be helpful if it is tied securely right up next to the figure 8 knot. A standard safety knot . . . will work well if properly secured. Many knots will not be appropriate to tie in Bungee cord. The bowline and other knots which are designed not to jam are particularly inappropriate and should not be used. After the knots have been tied, it is important to keep an eye on them to be sure they are not becoming loose. This is particularly important when the cord is new or newly replaced. . . ."⁹

About one week before Carrel's accident, a "specialist" employed by the Boy Scouts, whose job it was to ensure the site met COPE's national standards, visited the camp. When the specialist toured the camp's zip-line course with Burton, the new bungee cord had not yet been incorporated into the course. He was aware, however, that Burton planned to tie the bungee cord to the brake block, and they talked about it. According to the specialist's trial testimony, he understood that Burton intended to tie the bungee cord to the block with a pioneering (timber

by the camp.

⁹ On courses that it set up for customers (not the camp's course), Project Adventure did not use the bungee cord attached to the brake block to pull riders along the zip line. Rather, the other end of the bungee cord was anchored to a stable object, such as a tree. Moreover, an employee of Project Adventure explained that neither a timber hitch knot nor a taut line knot - - one of which was used the day of the incident -- was recommended for use with a brake block.

hitch or taut line) knot, not a COPE knot. The specialist disapproved, and at one point told him to contact Project Adventure regarding the appropriate knot to tie. The specialist also testified that, although he approved of the use of the bungee cord to help stop a zip-line rider at the correct location, he did not know that the director also planned on using the cord to pull the zip-line rider, once stopped, to the lower platform. He explained that he would not have approved of such a use of the cord because "a bungee cord . . . has elasticity to it and I don't think you'd ever want to use a bungee cord for a tow rope." He added that no Boy Scout training materials suggested this use of bungee cord, that he had never known of persons pulling the other end of the cord attached to the brake block in this manner, but that the COPE director has significant discretion to make alterations that he considers safe to the course in order to aid in its efficient and proper use.

On the day of the accident, Burton, as part of his routine inspection of the course, found that the knots tying the bungee cord to the braking system were not secure. He thus retied the cord to the block using either a "locking timber" (timber hitch) or a "taut line" knot.¹⁰ He "tugged on it to make sure it did not slip or move[,] which it did not." This was the same

¹⁰ Neither of these knots was recommended by Project Adventure. See note 9, supra. The instruction sheet, which the jury could have found to have been included in the shipment of cord, recommended a "figure 8" loop, which is a stronger and more permanent knot, and which is a "COPE" knot.

procedure he had followed the week before. Burton then welcomed the participants. He explained information pertinent to the upcoming activity, and assigned participants to various jobs on the zip line. He assigned Carrel and another participant to anchor and pull the bungee cord. He explained to them how this should be done. Before the first zip-line ride, Burton testified that he once again "stress[ed]" the bungee cord "with all [his] weight" to "make sure everything was ok."

Because the first rider did not make it to the destination platform, Carrel and another participant pulled the rope to the rider. After the rider grabbed the rope, Carrel and the other participant began to pull the cord back toward the platform. The rider was instructed by Burton to "hold the cord below the knot when being dragged." Unfortunately, at some point, the rider "adjusted his grip [on the cord and placed it] onto the knot and twisted it just enough as the [persons below] were pulling with stress on the cord." Burton testified that he saw the knot come loose as the two boys' pulled the bungee. He did not have a chance to shout a warning because the incident happened "very quickly." The knot came undone, and the cord recoiled toward Carrel, striking him in the eye.

Carrel's theory of the case at trial was that National Cord, as a manufacturer held to the knowledge of an expert in the field, should have known of the latent properties of its bungee cord and the dangers associated with those properties. As such, National Cord should have affixed a warning of some type to the

cord itself, to the spool around which the cord was wrapped for sale, or at least placed such a warning in the box in which the spool was shipped, to put users on notice of the dangers of the cord.

National Cord defended the case on grounds that Carrel could not prove that National Cord was the manufacturer of the bungee cord used at the time of the accident, and, alternatively, that the need for a warning was obviated either by the obvious characteristics and dangers of the bungee cord, or because Project Adventure and the Boy Scouts knew more about the specific use that would be made of the bungee cord, the dangers associated with that use, and the way to counteract those dangers, than was known or should have been known by National Cord.

After closing arguments, the judge instructed the jury on the manufacturer's duty to warn under the implied warranty of merchantability and fitness. In relevant part, the instruction was as follows:

"Let me now explain the manufacturer's duty to warn. The manufacturer of a product owes to a person who reasonably will come in contact with the product a duty to warn of foreseeable danger in the use of the product if the manufacturer has some reason to believe that a warning is needed. The duty is to give adequate warnings . . . regarding the nature and extent of dangers which will or may arise from the use or foreseeable misuse of the product about which the manufacturer knows or should know and about which the user is unlikely to be aware. . . . Even if a product is properly designed, it is unreasonably dangerous and therefore not fit for the purpose for which such products are used if foreseeable users are not adequately warned of the dangers associated with its use.

"In some circumstances, however, a warning may be superfluous and it may not reduce the likelihood of injury. Where the danger presented by the use of the product is obvious or whether the user understands the danger substantially to the same extent that a warning would have communicated and the warning would not reduce the likelihood of injury, the manufacturer has no duty to warn of such a danger. . . .

"[T]here is no duty to give additional warnings of potential dangers to someone who already knows of the hazards which may arise from the use of the product.

"A manufacturer has an obligation to warn and provide instructions about risks that were reasonably foreseeable at the time of the sale or that could have been discovered by reasonable testing prior to marketing the product. The manufacturers have the standard of knowledge of an expert in the appropriate field. . . .

"When considering the extent and nature of the manufacturer's duty to warn, the jury should take into account knowledge that the manufacturer had or could be expected to have, regarding the use of the product as compared to the knowledge and skills of the user. Ordinarily, the manufacturer is in a superior position to recognize and warn about risks in the use of its products as compared to users. However, the duty to warn might be lessened or might not exist if the user's experience, expertise, and knowledge far exceeds the manufacturer's. . . . If you determine that warnings and/or instructions should have been given, the plaintiff is entitled to a presumption that, if an adequate warning had been given it would have been heeded." (Emphasis added.)

The jury were given a special verdict form. The first question asked whether the "defendant breach[ed] the implied warranty of merchantability by selling a product without an adequate warning/instruction." The jury answered this question in the negative, and thus did not reach questions regarding causation and damages.

2. Discussion. a. Sophisticated user doctrine. The

sophisticated user doctrine relieves a manufacturer of liability for failing to warn of a product's latent characteristics or dangers when "the end user knows or reasonably should know of a product's dangers." Hoffman, supra at 630. It is a separate and "conceptually discrete affirmative defense[]" from the "bulk supplier" affirmative defense that we adopted in Hoffman,¹¹ but both "seek to advance the goal of products liability law to prevent accidents." Id. at 629, 630. They are also both "derived from the Restatement (Second) of Torts § 388 [1965]." Gray v. Badger Mining Corp., 676 N.W.2d 268, 275 (Minn. 2004).

The sophisticated user defense is an application of the established principle that a manufacturer may avoid liability "for failing to warn someone of a risk or hazard which he appreciated to the same extent as a warning would have provided." Knowlton v. Deseret Med., Inc., 930 F.2d 116, 120 (1st Cir. 1991), quoting Slate v. Bethlehem Steel Corp., 400 Mass. 378, 382 (1987). See Hall v. Ashland Oil Co., 625 F. Supp. 1515, 1520 (D. Conn. 1986) (one with duty to warn not liable for failing to warn party of facts party already knew). It "applies where a warning will have little deterrent effect," and it "allows the fact finder to determine that no such duty [to warn] was owed." Hoffman, supra at 630. It is a corollary of the "open and obvious" doctrine, Koken v. Black & Veatch Constr., Inc., 426

¹¹ The "bulk supplier doctrine" allows a manufacturer-supplier of bulk products in certain circumstances, "to discharge its duty to warn end users of a product's hazards by reasonable reliance on an intermediary." Hoffman, supra at 629.

F.3d 39, 45-46 (1st Cir. 2005), a doctrine that has been long recognized in the Commonwealth as a defense in products liability cases grounded on a claim of failure to warn. See, e.g., Carey v. Lynn Ladder & Scaffolding Co., 427 Mass. 1003, 1004 (1998) ("duty to warn . . . does not attach where the danger presented is obvious); Bavuso v. Caterpillar Indus., Inc., 408 Mass. 694, 701-702 (1990) (no duty to warn where plaintiff appreciated danger substantially to same extent as warning would have provided). "[T]he relevant inquiry turns on the end user's level of sophistication." Hoffman, supra at 630. We now explicitly adopt the sophisticated user doctrine -- as described in Hoffman -- as a defense to claims of both negligent failure to warn and of failure to warn under breach of warranty.¹²

b. The sophistication of the end user in this case. Carrel contends on appeal that, even if the sophisticated user doctrine is applicable to a claim of breach of implied warranty for failure to warn, an instruction on the subject should not have been given in this case. Carrel argues that he was the relevant end user, and there was no evidence that he was a sophisticated user of the product. See Donahue v. Phillips Petroleum Co., 866

¹² In the Hoffman case, we made explicit the implicit position we had taken in Vassallo v. Baxter Healthcare Corp., 428 Mass. 1, 23 (1998), "that negligent failure to warn and failure to warn under breach of warranty are to be judged by the same standard," Hoffman, supra at 637, and concluded that "an instruction on the bulk supplier doctrine may apply to both a claim of negligent failure to warn and a claim of breach of warranty failure to warn in products liability actions." Id. at 637-638. We reach a similar conclusion with respect to an instruction on the sophisticated user doctrine.

F.2d 1008, 1012 (8th Cir. 1989) (consumer of product was relevant user). Alternatively, he argues that even if the Boy Scouts or Project Adventure was the relevant end user, there was insufficient evidence that either was a sophisticated user for purposes of the doctrine. We reject these arguments for several reasons.

First, none of these arguments was made to the judge, either at the charging conference or at the conclusion of the charge and before the jury retired to consider their verdict. See Mass. R. Civ. P. 51 (b), 365 Mass. 816 (1974) ("No party may assign as error the giving or the failure to give an instruction unless he objects thereto before the jury retires to consider its verdict, stating distinctly the matter to which he objects and the grounds of his objection" [emphasis added]). Although Carrel's counsel did object to the proposed instruction on the sophisticated user defense (and the judge modified it to a certain extent), the objections were based on entirely different grounds, i.e., that the instruction (and the defense) applied to negligence, not breach of warranty cases, that it permitted the jury to find that it was permissible for a manufacturer to be "an ostrich in the sand" regarding the dangers of its products, that it failed to hold the manufacturer to the standard of an expert in the field, and that it was generally confusing. Considering the charge in its entirety, as we must, the judge properly rejected the objections actually made. Those not made below are properly rejected on appeal. See Trinity Church in the City of Boston v.

John Hancock Mut. Life Ins. Co., 399 Mass. 43, 51 (1987), S.C., 405 Mass. 682 (1989); Squires v. Fraska, 301 Mass. 474, 477-478 (1938), Cooke v. Walter Kidde & Co., 8 Mass. App. Ct. 902, 904 (1979).

Second, the case was tried by Carrel on the theory that the Boy Scouts and, to a lesser extent, Project Adventure, were the end users that National Cord had failed to warn, thereby breaching the implied warranty that its products were merchantable and fit. See Boston Hous. Auth. v. Bruno, 58 Mass. App. Ct. 486, 491 (2003) ("A party may not present one theory of proof at trial and then desert that theory for a different one on appeal"). See also Commonwealth v. Williams, 378 Mass. 217, 236-238 (1979) (judge's failure to instruct on elements of armed robbery where that felony underlay felony-murder charge not improper when defense theory at trial did not question that armed robbery took place). Carrel's own expert testified that "[t]he users were the people who purchased the product from the manufacturer," and that "[t]he people that should have been placed on notice [were] the Boy Scouts and Project Adventure," not Carrel. This was because they had the power to determine how to set up the course and what precautions to take, and to provide any necessary protection (e.g., protective glasses). Carrel was simply directed by the course director to hold and pull the cord. Cf. Marques v. Bellofram Corp., 28 Mass. App. Ct. 277, 278-280 (1990) (where employee injured using die casting machine, employer corporation considered to be user of the product for

purposes of comparing skill, knowledge, and experience level of user with that of the supplier of machine); Morgan v. Brush Wellman, Inc., 165 F. Supp. 2d 704, 718 (E.D. Tenn. 2001) (where employees of government contractors at nuclear armament injured by exposure to beryllium oxide, United States government considered to be the user of beryllium oxide for purposes of sophisticated user doctrine); Goodbar v. Whitehead Bros., 591 F. Supp. 552, 566 (W.D. Va. 1984), aff'd sub nom. Beale v. Hardy, 769 F.2d 213 (4th Cir. 1985) (where employee contracted silicosis from on-the-job work with products containing silica, employer foundry's sophistication analyzed to determine supplier's duty to warn; employer in best and often only position adequately to warn and provide safety for employees). In response, National Cord produced extensive evidence regarding the sophistication of the Boy Scouts in running zip-line courses containing bungee cord components, including evidence of Boy Scout in-house safety regulation of such courses.

Carrel's theory and National Cord's response were further reflected in the opening statements and closing arguments of the parties. In this context, it is apparent why the judge fashioned his instruction, as he did. Neither Carrel nor the jury could have misunderstood the instruction to mean anything other than that it was the sophistication level of the Boy Scouts that was to be examined.¹³ If Carrel had an objection to this, he was

¹³ The judge did not specify whether it was the sophistication of Project Adventure or the Boy Scouts that the

required to raise it at the time.

Third, the evidence admitted at trial was sufficient to meet the minimal threshold necessary to warrant an instruction on the sophisticated user. See Bonds v. Cummings, 357 Mass. 763, 764 (1970) (instruction to jury on sudden emergency defense proper where "there was evidence tending to show that the collision occurred because the defendant was confronted with a sudden emergency" even though there was "also evidence that there was no such emergency"); Gardner v. Copley-Plaza Operating Co., 220 Mass. 372, 375-376 (1915) ("There was no error in submitting to the jury the question of the negligence of [the head bell-man]. . . . There was evidence to this effect"). See also J.R. Nolan & B. Henry, *Civil Practice* § 37.16, at 19 (3d ed. 2004) ("an instruction should not be given where there is no evidence in the case to which it is applicable. . . . On the other hand, it is plainly within the power of the trial judge to state the principles of law applicable to the evidence" [emphasis added]). There was evidence that the Boy Scouts ran COPE programs (with zip lines) across the country, they conducted training courses, had national safety standards, and employed specialists to inspect and ensure compliance with those standards. There was

jury should consider. While it would have been preferable for the judge to have provided guidance on the issue, the focus of the evidence in the case was primarily on the Boy Scouts. To the extent evidence concerning Project Adventure's sophistication or knowledge was introduced, it appeared mainly as support for the inference that Project Adventure passed its knowledge on to the Boy Scouts.

evidence that Burton was trained and certified as a COPE director, that he paid particular attention to the knots used on the bungee cord, and that the Boy Scout specialist, who inspected the course, told him not to use a particular knot when attaching bungee cord to the brake block. There was also evidence that Burton had ordered the bungee cord from Project Adventure and that Project Adventure included in each shipment a warning sheet that informed customers of the danger of tying knots in new bungee cord, and the way to counteract that danger. This evidence was sufficient to support a jury finding that the Boy Scouts were users that knew or reasonably should have known of the product's dangers, see Hoffman, supra at 630, or, in accord with the judge's instruction, were users whose "experience, expertise, and knowledge far exceed[ed] the manufacturer's." An instruction on the sophisticated user defense was therefore appropriately given.

c. Confusion. Carrel also contends that the judge's instruction of the sophisticated user defense may have caused the jury to confuse the Boy Scout's skill and experience in tying knots or using bungee cord, of which he concedes there was evidence, with their knowledge of the latent properties (and thus dangers) of bungee cord, of which he claims there was no evidence. We do not agree.

In the context of the entire instruction, the reference to the user's "experience, expertise, and knowledge" in the use of the product clearly applied to the dangers posed by the product's

latent properties, and the ability to counteract them. The instruction was, in this regard, consonant with our understanding of the sophisticated user doctrine. It is not necessary that the user know the exact characteristics of the product that make it dangerous. It is enough that the user knew or reasonably should have known of the particular danger to be guarded against, in which case an additional warning would have been superfluous.

d. Carrel's other claims. Carrel asserts error in several evidentiary rulings made by the judge. Specifically, he claims that the judge erred in admitting evidence regarding the small size of National Cord and that National Cord had not previously received complaints of defects of the type at issue here; and in excluding evidence that National Cord carried liability insurance for injuries caused by its product; and that the latent dangers of bungee cord had been widely known in the field since the 1970's. Carrel suggests that the cumulative effect of these errors was to admit evidence highly prejudicial to his case, while excluding evidence that might have served to counter its prejudicial effect, thereby allowing the jury to decide the case on improper grounds.

"Whether evidence is relevant is a question 'addressed to the sound discretion of the trial judge.'" Anthony's Pier Four, Inc. v. HBC Assocs., 411 Mass. 451, 477 (1991), quoting Commonwealth v. Booker, 386 Mass. 466, 469 (1982). It is similarly "within the judge's discretion to decide whether the probative value of the evidence outweighs the possibility that it

would mislead or prejudice the jury." Kobico, Inc. v. Pipe, 44 Mass. App. Ct. 103, 109 (1997), citing Tosti v. Ayik, 394 Mass. 482, 489-490 (1985), S.C., 400 Mass. 224, cert. denied sub nom. United Auto Workers, Local 422 v. Tosti, 484 U.S. 964 (1987); and McEvoy Travel Bur., Inc. v. Norton Co., 408 Mass. 704, 714-715 (1990). We will not reverse such decisions unless there is palpable error. See, e.g., Commonwealth v. Filos, 420 Mass. 348, 356 (1995), and cases cited.

(1) Evidence of National Cord's size. Before trial, Carrel made a motion in limine to exclude evidence of National Cord's size and profitability. The judge replied that he did not "see any problem" with the defendant's explaining "the nature of [the National Cord] corporation, including . . . how many people they have and the fact that it is a family institution," just as he would of course allow a plaintiff to "acquaint[] the jury with the plaintiff and his background." The judge explained that "the jurors need to know who . . . the legal people before them [are]." He added that "to the extent that the jury has sympathy one way or the other [because of this evidence], there are some things we can't control," and are, "just by the nature of the parties suing each other." He also noted that National Cord could introduce the contested evidence to "explain why no testing [occurred] because . . . you're going to bring out they didn't even test."

The judge took steps to guard against unnecessary prejudice. First, he required that National Cord make a proffer of the "size

and nature" evidence that counsel intended to elicit. This proffer was to include a pledge by counsel that he understood "the concern about [a witness] saying . . . 'we don't make any money doing this,' or it isn't very profitable" and an assurance from counsel that "that's not where we intend to go with this. We just want to set the scale of the business" The judge also made clear that National Cord could not say or imply that its "existence is threatened by this lawsuit." He also explained that if counsel "were to make some sort of an emotional or sympathetic appeal," it would be improper and require corrective action. The judge added that he would "instruct the jury . . . that sympathy, emotion, sentiment, none of that shall have any bearing." Finally, the judge told counsel that he would instruct the jury that a "manufacturer is held [to] the standards of an expert in terms of foreseeing what possible uses might be made of this product and whether . . . warnings are required." We see no error in the judge's thoughtful balancing of the probative and prejudicial value of this evidence.

The jury are entitled to know the identity and nature of the parties appearing before it. 1 McCormick, Evidence § 185, at 729 (6th ed. 2006) (courts permit considerable leeway in admitting facts that "fill in the background of the narrative and give it interest, color, and lifelikeness"). The evidence admitted at trial showed that the company had been in business since 1992, had six employees (four of whom were related), owned eighty cord-producing machines, occupied 10,000 square feet of commercial

space, and had a significant number of customers. There was no mention of the corporation's income or ability to pay. The potential prejudice, particularly in light of the judge's instruction that the jury not be swayed by sympathy, does not approach the level that would require reversal.

(2) Absence of complaints of similar incidents. Near the end of the trial, counsel for National Cord recalled its president to the witness stand, who, over Carrel's objections, testified that National Cord had never received an oral or written complaint that anyone was injured in an incident involving a bungee cord made by his company. The judge did not, however, allow the witness to testify regarding the absence of prior liability claims or lawsuits against National Cord for injuries associated with the use of its bungee cord and the inability of its cord to hold knots well. The evidence admitted was relevant to questions raised by Carrel as to why National Cord had not conducted product testing. Cf. Borrelli v. Top Value Enters., Inc., 356 Mass. 110, 113 (1969) (where manufacturer sued for negligent design of vacuum cleaner that electrically shocked user, exception to judge's admission of evidence of lack of previous similar complaints overruled because evidence "was material . . . as tending to show that [manufacturer] was using reasonable testing procedures"). There was no error.

(3) Exclusion of liability insurance. Before trial, Carrel made the judge aware that he might introduce evidence that

Project Adventure required National Cord to demonstrate at the beginning of every year that it had liability insurance for the bungee cord purchased from it. The judge explained that he did not think any of "the reasons [put forth by Carrel] would support introductions of the fact that the defendant may in some way make sure it's covered by product liability insurance" as relevant to any of the issues in the case. Nonetheless, the judge told Carrel that if there was a point in the trial where Carrel wanted to use this evidence, he should let him know.

After the president of National Cord testified that he was not aware of the specific use of its cord in zip-line courses or of the specific dangers at issue here (and that his company had never received a complaint of injury), Carrel attempted to introduce the liability insurance evidence. He argued to the judge, and now on appeal, that this evidence was relevant to show that, contrary to the president's testimony, National Cord was aware of the risks associated with the bungee cord it manufactured and sold to Project Adventure. The judge refused to allow the introduction of this evidence.

The judge's ruling was correct. That National Cord carried liability insurance (voluntarily or because customers required it to) is not relevant to the question of what risks and dangers it foresaw or should have foreseen. Goldstein v. Gontarz, 364 Mass. 800, 808 (1974) ("plaintiff ordinarily may not show that the defendant is insured against liability"). Cf. McDaniel v. Pickens, 45 Mass. App. Ct. 63, 66 (1998), citing Jamison v. A.M.

Byers Co., 330 F.2d 657, 661-662 (3d Cir), cert. denied, 379 U.S. 839 (1964) ("evidence of liability insurance . . . firmly barred when offered in medical malpractice cases to prove that a defendant physician did or did not act negligently: this is because of the weakness of the inferential connection"). See also Proposed Mass. R. Evid. 411 ("Evidence that a person was or was not insured against liability is not admissible upon the issue whether he acted negligently or otherwise wrongfully . . .").¹⁴

(4) Industry knowledge of latent dangers of bungee cord. Carrel repeatedly attempted, through his expert, to introduce evidence that the knotting propensities of new bungee cord had been known since the 1970's. The judge sustained objections to questions that asked the witness, in essence, to explain what has "been known since the seventies." Carrel argues that the judge excluded the evidence because of an erroneous view that scientific evidence was irrelevant to the question what a manufacturer should be expected to know. Rather, according to Carrel, the judge believed that only what was known to manufacturers was relevant. Carrel contended that the judge's rulings prevented him from presenting a full "state of the art" case.

¹⁴ Evidence of insurance may be admitted for other purposes, such as to show "proof of agency ownership, or control, or bias or prejudice of a witness." Proposed Mass. R. Evid. 411. Here, however, it would have been introduced to show essentially that National Cord acted wrongfully by not providing a product warning despite its awareness of risk.

Contrary to these assertions, the judge excluded the testimony by the expert as to what "had been known" since the 1970's because he concluded that Carrel had not established (or made an offer of proof that might establish) that the expert had personal knowledge of "the state of mind" of an "unknown number of" manufacturers or had some other way of deducing the state of the art in the 1970's. When Carrel explained to the judge that the expert would know the state of the art in the 1970's from "what's been published in the field," the judge explained that Carrel had not "made any offer of proof of something published in the field that would . . . make me clear on that." It is far from clear that the judge's ruling was incorrect. See Sacco v. Roupenian, 409 Mass. 25, 28-29 (1990), quoting LaClair v. Silberline Mfg. Co., 379 Mass. 21, 32 (1979) ("Expert opinion, particularly when addressed to a jury, must be based on either the expert's direct personal knowledge, on evidence already in the record or which the parties represent will be presented during the course of the trial, or on a combination of these sources"). See also Palandjian v. Foster, 446 Mass. 100, 104 (2006) ("decision to exclude expert testimony rests in the broad discretion of the judge and will not be disturbed unless the exercise of that discretion constitutes an abuse of discretion or other error of law").

Even assuming the judge's ruling was incorrect, in light of the evidentiary record taken as a whole, the exclusions were not sufficiently prejudicial to require a new trial . See Cohen v.

Liberty Mut. Ins. Co., 41 Mass. App. Ct. 748, 752 (1996) ("trial judge's erroneous exclusion of evidence does not necessitate reversal . . . unless it 'injuriously affect[s] the substantial rights' of a party"). "Establishing prejudicial error in the exclusion of evidence requires the proponent of the excluded evidence to make 'a plausible showing that the trier of fact might have reached a different result if the evidence had been before it. Thus the erroneous exclusion of relevant evidence is reversible error unless, on the record, the appellate court can say with substantial confidence that the error would not have made a material difference.'" Id., quoting DeJesus v. Yogel, 404 Mass. 44, 48-49 (1989). Here, we are confident the excluded evidence would not have made a difference.

At trial, the judge allowed Carrel's expert to testify as follows:

The plaintiff's counsel: "Sir, in terms of the principles that you've described, coefficient of friction, narrowing and stretching, have you known about these principles for some period of time?"

Dr. Abraham: "Yes."

The plaintiff's counsel: "How did you learn about them?"

Dr. Abraham: "I worked with bungee cord in the 1970's when they first started to become popular."

The plaintiff's counsel: "When you did that, did you read any materials concerning the characteristics of bungee cords?"

Dr. Abraham: "There wasn't too much published at that time. We had to actually work with the product itself in the laboratory."

The plaintiff's counsel: "Subsequent to that, have you seen articles relating to these properties that we've described in bungee cords?"

Dr. Abraham: "Over a thousand articles."

The plaintiff's counsel: "When are the earliest articles that you can think of?"

Dr. Abraham: "In the late seventies."

The plaintiff's counsel: "And have those continued to be published up to today?"

Dr. Abraham: "Yes."

The plaintiff's counsel: "Are those in journals and magazines and other sources available to people who work in the field?"

Dr. Abraham: "Yes."

This was sufficient to apprise the jury that the latent characteristics and defects of bungee cord underlying Carrel's claim were known to experts in the field at and before the time National Cord manufactured the bungee cord in question. Given the judge's instruction that a manufacturer is held to "the standard of knowledge of an expert in the appropriate field," the evidence admitted at trial provided a more than adequate basis on which the jury could conclude that National Cord must be considered as having known of the latent properties of its bungee cord. See Commonwealth v. Gomes, 443 Mass. 502, 508 (2005) (jury "presumed to follow the judge's instructions"). The general testimony excluded -- that these characteristics had "been known" since the 1970's -- would have added little to the case.

Judgment affirmed.