**The Measure of Malpractice**

A Rebuttal to The “Threshold Approach” to Evaluating Errors in Design

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by John R. Heisse

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**Introduction**

As construction costs escalate while budgets shrink, there is continuing pressure throughout the construction industry to “do more, faster, with less.” With increasing frequency, the initial design is dissected by the contractor’s team in an effort to find less expensive means to accomplish the same result—a process known as “value engineering.” If done properly, and with adequate input from the design team, value engineering should result in a win-win—the designer’s vision is fully realized while the owner’s budget constraints are satisfied.

However, these financial pressures affect design as well as construction budgets, and design firms can find themselves sacrificing the “luxury” of many of the back checks and peer reviews that were typically performed in decades past. At the same time, designers are utilizing new materials and are pushing the envelope to use existing materials more efficiently, all of which increase the risk of design errors that are not “covered” by safety factors, such that a seemingly minor error can result in a design which fails to perform as intended.

Sophisticated owners have also realized that given all of the challenges mentioned above, virtually every project will involve unanticipated changes, some of which result from design errors. Part of this is calculated—an architect can advise a client that its budget for a job with some errors will be $X, while the budget for an error-free project will be much higher. The owner can do the math and elect to buy less than perfection at the lower price, recognizing that a contingency should be set for the inevitable cost of that imperfection.

In view of these factors, creative attorneys and consultants representing designers have begun to promote a new definition of professional negligence. Building on the truism that professionals are not expected to execute their jobs perfectly, they argue that a designer’s imperfections—her errors—do not constitute negligence unless and until they result in additional costs in excess of some threshold amount. They assert that this threshold amount will vary with the complexity of the project, but may range from a few percent of the contract price to beyond 10 percent.

The author has found only one reported decision raising this theory and no scholarly articles discussing this concept. It is hoped that this article will help fill that gap, and provide litigants authority for advocating against this new and false definition.

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**John R. Heisse**

Construction Counseling & Dispute Resolution

+1.415.983.1543  
john.heisse@pillsburylaw.com

John Heisse is a partner in the San Francisco office of Pillsbury Winthrop Shaw Pittman LLP, where he leads the Construction Counseling and Dispute Resolution team. He is a past chair of the ABA Forum on the Construction Industry and is a Fellow in the American College of Construction Lawyers.
The article first traces the historical development of the standard of care for professionals, then discusses the current state of the common law standard, and contractual modifications to that standard, before considering the “threshold approach.”

The Measure of Design Professional Liability

Overview

Three primary legal theories subject a design professional to liability for professional errors and omissions: professional negligence; the breach of the duty of care implied into every contract for professional services; and the breach of an express warranty.

The first two theories generally rely on the same legal standard—breach of the professional standard of care. Compare Gagne v. Bertran (professional negligence):

[Professionals] have a duty to exercise the ordinary skill and competence of members of their profession, and a failure to discharge that duty will subject them to liability for negligence.

with Bonadiman–McCain, Inc. v. Snow (breach of duty of care implied into design contracts):

By his contract to furnish services, Bonadiman implied that he possessed the competence and ability ordinarily possessed by members of his profession.

Absent a contractually defined standard of care that varies from the common law definition of professional negligence, little practical difference exists between these two theories, and they typically can be treated as one. However, parties to a contract may define a standard of care more or less stringent than that which will be implied into their contract if they are silent on the issue. If the parties expressly define a standard of professional competence, that definition will distinguish the designer’s duty from the common law standard of professional negligence.

The third theory (breach of express promise) does not rely on the standard of care, but rather imposes strict liability where the design professional has made and violated an express warranty of some nature with regard to its services—whatever that warranty may be. For example, in the seminal case of Coombs v. Beede, an architect’s suit to recover his fee for services encountered the defense that he had breached a “special promise” to design a house within the owner’s budget. Alternatively, in County of Los Angeles v. Superior Court, the court found that the architect “by reason of its contract with County, undertook to provide plans free of defects . . .” and thus held the architect liable to the County for all of its damages. And, in Gagne v. Bertran, supra, a developer sued its soils testing firm for mistakes in its soils report, “on the ground that under the circumstances of this case, the law imposes the strict liability of a warranty.”

Putting aside the relatively rare cases where the parties negotiate an express promise or warranty, one obviously cannot properly evaluate design professional liability without understanding the professional standard of care.

Historical Context on the Development of the Standard of Care

Although the development of the role of the architect in the Western world as a scholar and artist can be traced back centuries to the great castles and cathedrals of Europe, the development of the design professions in this country can be traced to somewhat more humble beginnings. As explained by noted authority, Carl M. Sapers, in his course materials for Harvard’s Graduate School of Design:

In early nineteenth century America the professional architect, as distinguished from the skilled carpenter-designer-builder, was a scarce commodity. With the exception of a few public buildings and a handful of private residences, buildings in early nineteenth century America were built by skilled tradesmen . . . who built from their own designs or used pattern books.

For the early American builders and craftsmen who were the nation’s first significant practitioners of building design, utility rather than elegance was paramount. Technical competence, e.g., the ability to fashion a “product” such as a tight roof without leaks, was surely more important than any talent for pleasing aesthetic design. And because a craftsman or “mechanic” was legally obligated to perform his trade “in a workmanlike manner,” producing works free of defects, early nineteenth century judges and juries, reasoning by analogy, developed the notion that a craftsman or builder architect drafting or adapting the plans for a building or supervising its construction should similarly guarantee his work.

As private and corporate wealth accumulated in America, clients appeared with the desire as well as the means to imitate—and surpass—the great buildings of Europe. Such clients could not be satisfied by pattern books. At
With the development of professional architects and engineers, operating independently from the construction trades, and the coincidental development of a clientele expecting buildings of more elaborate design—often imitating the great mansions of Europe—the design took on a new importance. The courts responded by holding the professional architect or engineer to a standard of reasonable skill in the design of a project, rather than holding him to a design free of defects.  

By the end of the nineteenth century, the accepted role of the building designer had developed from the “mechanic” who essentially warranted his work, into one of designer/supervisor of construction—a role much like that contemplated by current form contracts for architectural services. The seminal case of Hubert v. Aitken involved the architect’s failure to properly size chimney flues—“one grave fault” in the design, coupled with “some quite serious departures from the specifications and from the best workmanship in the erection of said building.” In finding the error in flue sizing to be negligent, the court stated that the architect was “bound only to exercise reasonable care, and to use reasonable powers of observation and detection, in the supervision of the structure.” The architect did not guarantee that the contractor would properly execute the design, as long as he or she reasonably inspected the work that was visible during site visits.

An architect is no more a mere overseer or foreman or watchman than he is a guarantor of a flawless building, and the only question that can arise in a case where general performance of duty is shown is whether, considering all the circumstances and peculiar facts involved, he has or has not been guilty of negligence. The recognition of architecture as a profession whose members “deal in somewhat inexact sciences and are continually called upon to exercise their skilled judgment in order to anticipate and provide for random factors which are incapable of precise measurement” was articulated in a turn-of-the-twentieth-century case from Maine:

The responsibility resting on an architect is essentially the same as that which rests upon the lawyer to his client, or upon the physician to his patient, or which rests upon any one to another where such person pretends to possess some skill and ability in some special employment, and offers his services to the public on account of his fitness to act in the line of business for which he may be employed. The undertaking of an architect implies that he possesses skill and ability, including taste, sufficient to enable him to perform the required services at least ordinarily and reasonably well; and that he will exercise and apply, in the given case, his skill and ability, his judgment and taste, reasonably and without neglect. But the undertaking does not imply or warrant a satisfactory result. It will be enough that any failure shall not be by the fault of the architect. There is no implied promise that miscalculations may not occur. An error of judgment is not necessarily evidence of a want of skill or care, for mistakes and miscalculations are incident to all the business of life.

The Current State of the Law on the Common Law Standard for Negligence

The standard of care for professionals, including designers, has not changed much since the dawn of the twentieth century. It was ably expressed by Justice Traynor of the California Supreme Court more than fifty years ago. Citing cases involving physicians, dentists, and timber appraisers, he underscored the lack of a guarantee of performance:

The services of experts are sought because of their special skill. They have a duty to exercise the ordinary skill and competence of members of their profession, and a failure to discharge that duty will subject them to liability for negligence. Those who hire such persons are not justified in expecting infallibility, but can expect only reasonable care and competence. They purchase service, not insurance.

And, just as the jurist in Maine concluded in 1896 that “[a]n error of judgment is not necessarily evidence of a want of skill or care, for mistakes and miscalculations are incident to all the business of life,” courts in recent times also have recognized that we do not expect professionals to be perfect. See, for example, the landmark case of City of Mounds View v. Walljarvi, where the City sued its architect on implied and
express warranty and negligence theories after the basement of a newly constructed addition to city hall experienced serious moisture intrusion, after the architect obtained partial summary judgment on the express and implied warranty counts, the City appealed. First, the court found that the City had failed to substantiate its claim that the architect’s written, extra-contractual assurances which “guarantee[d] the watertightness . . . of the basement” created an express warranty.23 The court next rejected the City’s argument that designers impliedly warrant the fitness of their designs for the purpose intended, adopting, instead, the majority rule, dating back to Coombs v. Beede,24 limiting the liability of “architects and others rendering ‘professional’ services to those situations in which the professional is negligent in the provision of his or her services.”25 Noting that architects and engineers “deal in somewhat inexact sciences and are continually called upon to exercise their skilled judgment in order to anticipate and provide for random factors which are incapable of precise measurement,”26 the court reasoned:

The indeterminate nature of these factors makes it impossible for professional service people to gauge them with complete accuracy in every instance. Thus, doctors cannot promise that every operation will be successful; a lawyer can never be certain that a contract he drafts is without latent ambiguity; and an architect cannot be certain that a structural design will interact with natural forces as anticipated. Because of the inescapable possibility of error which inheres in these services, the law has traditionally required, not perfect results, but rather the exercise of that skill and judgment which can be reasonably expected from similarly situated professionals.27

Similarly, in Annen v. Trump,28 the Missouri Court of Appeal, in 1995, quoting from one of its earlier cases, held that:

An architect is not a guarantor or an insurer but as a member of a learned and skilled profession he is under a duty to exercise the ordinary, reasonable technical skill, ability and competence that is required of an architect in a similar situation; . . .

Thus, as professionals, architects and engineers29 are bound to satisfy the standard of care for their profession:

An architect must exercise such care, skill, and diligence as others who are engaged in the profession would ordinarily exercise under similar circumstances, and statutory provisions regulating the profession of architecture may expressly so provide.

6 C.J.S. Architects § 16 (2004), as quoted in C. H. Guernsey & Co. v. The United States.30

For many years, design contracts have not defined expressly a standard of care. Some have posited that this shortcoming is intended—after all, what professional wants to call to its prospective client’s attention that, although he will do his best, one should not expect his work product to be error-free, or necessarily fit for the client’s intended use? Surely, such a conversation would lead to the incorporation of a more stringent standard for performance into the contract terms.31 Fortunately, however, it is well settled that in the absence of contract language to the contrary, the common law negligence standard is implied into all design contracts. See, e.g., Bondiman-McCain, Inc. v. Snow,32 (“[b]y his contract to furnish services, [the civil engineer] implied that he possessed the competence and ability ordinarily possessed by members of his profession.”) and Cobb v. Thomas (“In contracting for his services, an architect implies that he possesses skill and ability, and that he will exercise and apply his skill and ability reasonably and without neglect. The skill and diligence which he is bound to exercise are such as are ordinarily required of architects, and his duty depends on the particular agreement entered into with his employer.”).33

In addition, where courts have implied a warranty of plans and specifications into the third party relationship between architects and contractors lacking privity of contract, they, logically, also have implied the same standard of care. For example, in Eastern Steel Constructors, Inc. v. City of Salem,34 the West Virginia Supreme Court of Appeals upheld direct tort claims filed by a contractor against a city’s designers based on an implied warranty of the plans and specifications. Relying on authority from several other jurisdictions, the court held:

a design professional (e.g. an architect or engineer) providing plans and specifications that will be followed by a contractor in carrying out some aspect of a design, impliedly warrants to the contractor, notwithstanding the absence of privity of contract between the contractor and the design professional, that such plans and specifications have been prepared with the ordinary skill,
care and diligence commensurate with that rendered by members of his or her profession.  

Notably, however, the architect’s implied warranty is not all it seems, as it does not warrant accuracy of the design documents:

Design professionals, in the absence of an express guarantee, do not “warrant” that their work will be “accurate,” [citation]. Rather, as noted above, they “warrant” merely that they have exercised their skills with care and diligence and in a reasonable, non-negligent manner.

* * *

We conclude that damages sought, in tort, for economic losses from a defective building are just as offensive to tort law as damages sought . . . from a defective product.

Proof of the Failure to Satisfy the Standard of Care

In most jurisdictions, expert testimony is required to prove a breach of the standard of care. Of course, this makes sense. For the same reasons we expect only due care from these professionals—the fact that they exercise “special skill” in the performance of their profession—one hardly can expect a judge or jury to analyze their competence without assistance. As explained by the Missouri Supreme Court in Fisher v. Wilkinson:

If laymen [who sit on juries] are not to be guided on issues requiring peculiar and thorough special training in a science or art beyond the experience and knowledge common to mankind by witnesses possessing the necessary testimonial qualifications, juries will be cast into a river of doubt and must establish an arbitrary standard of their own founded upon conjecture and surmise in their effort to reach certain and sure ground.

However, some courts, when faced with a verdict on negligence that is either wholly or partially unsupported by expert testimony, are loath to upset the verdict where “the negligence relied upon is so grossly apparent that a layman would have no difficulty in recognizing it as a departure from prevailing standards.” Stafford v. Hunter (dealing with medical malpractice). Stafford was relied upon in an architectural malpractice case in Washington for a similar proposition:

Furthermore, expert testimony is not required in all cases of professional malpractice to establish prima facie negligence by the professional. Where negligence is such that laymen are capable of recognizing it as a departure from recognized standards, expert testimony is generally not required.


Contractual Modifications to the Common Law Standard of Care

It should surprise no one that not all parties are willing to accept the common law standard of care—the designer can contract to work to a different standard of care than that which the client would expect from comparable designers in the same area. In those cases, so long as their agreements are not contrary to public policy and do not violate law, parties are “generally free to contract as they pleased.” Aerojet-General Corp. v. Transport Indemnity Co.

Thus, presuming a willing designer can be found, the design contract can stipulate a much higher level of performance. To borrow from Gagne v. Bertrand, supra, the parties can choose to purchase service and insurance.

Although such contracts are rare in the building market, they do exist. For example, in County of Los Angeles v. Superior Court, the California Court of Appeal considered a contract between the County of Los Angeles and its architect in which the architect “warranted to perform [its] services in a non-negligent manner and in accordance with the standards of the architectural and engineering professions.” In determining that the County’s claim sounded in contract rather than tort, the court found that the architect, “by reason of its contract with County, undertook to provide plans free of defects . . . .” However, since “defects” are determined by reference to “the standards of the architectural and engineering professions,” the contract essentially imposed the same duty on the architect as the common law—that is, the duty to perform non-negligently.
Another such clause, seen recently by the author in the design contract for a health care facility, read as follows:

**Standard of Care**
The Consultant shall perform Consultant’s Services with a high degree of skill, care, expertise, and diligence as is normally exercised by professional and licensed consultants involved in the planning, design and construction of civic, institutional quality facilities and hospitals and in the performance of the type and Discipline to be performed by Consultant hereunder. Consultant’s Services with respect to design of the Project shall be performed without defects in design . . . determined in accordance with sound design principles and generally accepted industry standards . . . . This standard of care is for the benefit of the Owner and the General Contractor.

Although the case in which this clause was involved settled prior to award, the language requiring the designer to produce an error-free design “for the benefit of . . . the General Contractor” figured prominently in the parties’ arguments.

Contracting to design to an objective performance standard, as is commonly done with process plants, supplants the implied common law negligence standard with warranted performance criteria. An example of this type of contracting appears in *Arkansas Rice Growers Co-op. Association v. Alchemy Industries, Inc.* There, a company which held the rights to a new process for the combustion of rice hulls contracted with a growers’ cooperative, agreeing to provide the engineering and design for the construction of a factory that would burn a specified quantity of rice hulls to produce a specified amount of steam, as well as waste ash. Although the plant was designed to operate twenty four hours a day, every day, it never operated as planned. And, although the plant was intended to operate on rice hulls alone, the desired consistency of the ash could not be achieved without the use of fuel oil in addition to the hulls when outside temperatures dropped below fifty degrees Fahrenheit. After unsuccessfully operating the plant for three years, the cooperative shut it down and sued the designers. In ruling in favor of the cooperative, the court stated:

The construction contract obligated [designers] to provide “the necessary engineering plant layout and equipment design and the onsite engineering supervision and start up engineering services” for the construction of a hull-burning plant capable of achieving the performance criteria. [The designers] thus warranted that a plant constructed according to [their] design was capable of achieving the performance criteria. See *United States v. Spearin*, 248 U.S. 132, 137, 63 L. Ed. 166, 39 S. Ct. 59 (1918) (a party who furnishes plans and specifications warrants their sufficiency for the purpose in view); *Centex Construction Co. v. James*, 374 F.2d 921, 924 (8th Cir. 1967). The evidence is undisputed that the plant was never capable of achieving the performance criteria on a sustained basis. . . . We therefore affirm the district court’s finding that [the designers] are liable to [the owner] for breaching the warranty in the construction contract.

Contrast *Arkansas Rice Growers* with *Day & Zimmerman, Inc. v. Blocked Iron Corporation of America*. Day & Zimmerman involved the design, engineering, and construction of a plant to make blocked iron through a new and recently patented process. Although the method had been used before, at the time of contracting it had never been attempted on a commercial scale. Day & Zimmerman designed and constructed the plant, which failed to operate to its intended capacity, and failed to operate profitably for more than a year after start-up. Shortly after start-up, the owner ceased making payments, and several months later, Day & Zimmerman, having notified the owner of its intent to withdraw for non-payment, removed its crews from the project. In the subsequent litigation, the parties argued over whether Day & Zimmerman had guaranteed the production rates at start-up and the maximum cost of design and construction. Although the District Court rejected both parties’ arguments, it was influenced by the conduct of the parties, coupled with the untested nature of the process being applied for the first time in concluding that “[w]hen the entire contract is read and all of its terms including the modifications of it considered, it becomes quite clear that . . . it is a contract for services in connection with which D&Z’s obligation was to render engineering and other cognate services with reasonable professional skill.”

However, having found that Day & Zimmerman had not warranted the plant’s performance, but was to be judged by common law negligence standards, the court went on to find...
that Day & Zimmerman “failed to exercise reasonable engineering skill . . . and effected the purchase of a piece of equipment wholly incapable of furnishing the necessary heat required by the duty specification.”

Although both Arkansas Rice Growers and Day & Zimmerman involved the design of plants applying new technology for the production of an end product, the courts’ disparate conclusions on the measure of performance required of the designer turned primarily on its interpretation of the parties’ contracts. The Day & Zimmerman opinion strongly suggests that if an owner wants to require its designer to guarantee production rates, it had better say so with clarity in the contract.

As Bruner & O’Connor point out, design contracts specifying a non-common law standard of care fall into three broad categories: the “designer agrees to: (1) satisfy the client; (2) meet the highest standards of the profession; or (3) meet some specific objective criteria (usually related to the owner’s program).”

Both Arkansas Rice Growers and Day & Zimmerman demonstrate the third category, while the first “is sometimes encountered in situations where the architect is preparing schematic drawings to interest the client in proceeding with a specific project . . . and the design contract is usually interpreted to entitle the architect to its fee only if the client is subjectively satisfied with the service.” The middle category—meeting the highest standards of the profession—is hopelessly vague, and invites litigation. It must mean something more than the common law standard, but would seem to fall short of requiring error-free, strict liability performance imposed in the County of Los Angeles case. As Bruner & O’Connor notes, “design professionals are well-advised to avoid contracting for such an ambiguous standard of care.”

**The “Threshold Approach” to Evaluating the Standard of Care**

Fortunately for us, human professionals can fall short of perfection without breaching the standard of care. Since no lawyer, doctor, or designer is perfect, the “exercise [of] the ordinary skill and competence of members of their profession,” by definition, establishes a standard where imperfection is expected. “An error of judgment is not necessarily evidence of a want of skill or care, for mistakes and miscalculations are incident to all the business of life.”

As mentioned in the Introduction, there is a trend among design professionals (or, perhaps more precisely, the insurers of design professions) to assert that since perfection is not required, some threshold amount of imperfection must be allowed before a designer can be found negligent. This argument posits that the amount of permissible errors is determined by the complexity of the project—a straight forward project may tolerate errors costing 5 percent or less of the construction budget before the standard of care is violated, while on a complex project, the owner should expect to incur 10 or 15 percent of its budget in addressing design errors. It follows, they assert, that until the cost of malfeasance exceeds the applicable threshold, the designer has not violated the standard of care.

At first blush, this argument may have some appeal—after all, if perfection is the absence of error, then why not measure imperfection by the cost of the errors, finding negligence only when a reasonable threshold has been crossed?

The question becomes, what does it mean to allow imperfection? The proponents of the “threshold approach” to evaluating the breach of the standard of care want to evaluate imperfection—that is, design errors—on a purely quantitative basis. However, as will be demonstrated below, this cannot be the law. Errors must be evaluated individually and qualitatively without regard to the cost of the error to determine whether the professional, in each individual instance, “exercise[d] the ordinary skill and competence of members of [his] profession.”

While the existence of more than nominal damages is a necessary element of proof of a tort cause of action, once this requirement is satisfied, the amount of damages caused is irrelevant to the question of whether negligence has been proven.

Historically, courts have uniformly used a qualitative, not quantitative, approach to evaluating design malfeasance. For example, in Gagne v. Bertran, the California Supreme Court considered whether an engineer violated the standard of care by improperly performing a soil test. The court did not consider the value of the soil test claim relative to the overall cost of the project, nor did the court consider the engineer’s
overall performance. Rather the court considered whether the engineer performed the soil test with the level of care, skill, and diligence required of a member of his profession. As the court explained:

Defendant’s duty of care in performing the soil test was established by his contract with plaintiffs. His failure to discharge that duty was established by the testimony of his employee that the employee noticed evidence of fill 4-5 feet below the surface, as well as by the testimony of the persons who dug the foundation trenches. This testimony indicates that had defendant made his test with due care, he would have discovered the true extent of the fill, and it supports the inference that defendant made his test in a careless and negligent manner.59

There is no indication in the court’s language that it considered anything other than whether the soil test at issue was performed in accordance with the standard of care.

Similarly, in Appeal of Leo A. Daly,60 the Board of Contract Appeals considered whether an architect-engineer had violated the standard of care by specifying roof beams for a military building in Saudi Arabia with inadequate splice lengths in the bottom reinforcing bars to bear the load of the overlying concrete roof slabs. The problem was discovered during construction, and the architect-engineer revised the specifications to call for lightweight metal deck roofing in place of the concrete slabs. The government brought a claim against the architect-engineer for the cost of removing the concrete slabs in the amount of $77,460.00.

The Board applied the standard of care to the architect-engineer’s specifications for the splice lengths and concluded that the architect-engineer “violated design standards and good practice by calling for the splicing of four bars at exactly the same point near mid-span of the beams.”61 The Board looked only at the individual design error and never considered or evaluated the architect-engineer’s overall performance or the value of the project. In fact, the cost of the extra work caused by the design error, $77,460.00, was roughly 0.1 percent of the total project cost, which according to another case involving the same project was $77,247,135.00.62

No court has ever applied the threshold approach to determine the liability of a design professional. Indeed, the only judicial body known to even consider the argument rejected it outright. In Appeal of Swan Wooster Engineering,63 the Agriculture Board of Contract Appeals considered 17 separate claims by the government against an architect-engineer arising from the design of a marina in Newport, Oregon. Each claim was based on a separate, alleged design error.64 The architect-engineer argued that “the total cost of construction including all changes was within 6 percent of the bid price and that this was evidence of a good job.”65 The Board of Contract Appeals rejected this argument, stating: “The Board is not considering the Appellant’s overall professional competence, rather we are considering allegations of individual design deficiencies.”66 The Board then evaluated each claim separately and considered whether each individual design error breached the duty of care.

Moreover, when the California Supreme Court, citing Prosser on Torts, set forth the elements of a cause of action for professional negligence, it made clear that the threshold approach is meritless:

The elements of a cause of action in tort for professional negligence are: (1) the duty of the professional to use such skill, prudence, and diligence as other members of his profession commonly possess and exercise; (2) a breach of that duty; (3) a proximate causal connection between the negligent conduct and the resulting injury; and (4) actual loss or damage resulting from the professional’s negligence.67

“The mere breach of a professional duty, causing only nominal damages, speculative harm, or the threat of future harm—not yet realized—does not suffice to create a cause of action for negligence.”68 Had the test been the existence of damages in excess of a threshold amount, certainly either the Court or Prosser would have noted as much.

It is worth noting that the proposed threshold approach would lead to illogical and unfair results. Take, for example, a structural engineer who designs a school building where it regularly snows in winter. Assume that the sole defect is the engineer’s failure to include snow load in his roof design. Under the traditional common law approach, this would be a clear violation of the standard of care resulting in liability for either professional negligence or breach of the duty of care implied into contracts for design services. Under the threshold approach, however,
liability would depend not on the nature of the defect but on the overall size of the project, when the snow load error was discovered, and how much damage the design error happened to cause.

Suppose, for example, the error is discovered during the preparation of shop drawings, and the fix at that time costs very little, less than 0.1 percent of the cost of the entire structure. Under the threshold approach, the mistake would lose its character as negligence. On the other hand, if the error is found after completion, but before occupancy, it may or may not be negligence, depending on the cost of the fix relative to the overall project. It could even lead to a dispute over how to define the “project” so as to increase or decrease the relative cost of the impact.

Suppose further that the problem appears in the first big snow, after occupancy, when the roof fails suddenly. If it fails during school hours, the damages might be catastrophic. If it fails on a weekend, the damages would be much less. Under the threshold theory, the designer’s liability would depend on random events that are unrelated to what the designer did when preparing the load calculations for the roof. This is but one example of how the threshold approach would lead to illogical and even absurd results if it were in fact the law (which, for the reasons discussed above, it is not).

Consider a different hypothetical—the design and construction of a hospital, and assume that, under the threshold approach, the complexity of the design warrants a 10 percent threshold before negligence can be found. The owner hires Firm A to design the mechanical systems and Firm B to design the electrical systems. They both make mistakes that competent engineers would not make. The cost of remediating each error is the same—$1 million. The dollar value of the mechanical contract is $11 million and the dollar value of the electrical contract is $9 million. Under the threshold approach, the mechanical engineer is not liable, but the electrical engineer is, although each defect causes the same amount of damage. Suppose further that after the designs are complete, the market shifts as two international mechanical contractors move into town and begin to drive down the prices of mechanical work. At the same time, material shortages increase the cost of electrical work. So, when the work is bid, the prices are reversed—the mechanical contract price is now $9 million and the electrical price is $11 million. Under the threshold approach, the mechanical engineer’s mistake is now a negligent act, while the mistake made several months earlier by the electrical engineer is now not negligent—both due to factors completely unrelated to the quality of the designs or the level of competence to be expected from like engineers in the community.

Similarly, if an architectural firm violates the standard of care repeatedly in its design of a structure, and the cost of correcting each error causes measurable, but relatively insignificant damages, the existence of actionable negligence under the threshold approach may turn on how many of these errors occurred.

To oversimplify, if the cost of addressing each error equaled 1 percent of the cost of the project, actionable negligence would not exist unless at least ten errors were proven. If only nine errors are shown, the designer avoids liability. Does this make sense?

And, what damages are counted in determining whether the threshold has been met? The cost of correction alone, or, in the case of the school building discussed above, do the consequential damages sustained when furnishings are damaged or lives are lost count towards the threshold? Certainly, no other area of tort law includes a requirement of more than nominal damages in the definition of actionable negligence. Why should professional negligence be treated differently?

Now consider a real life example that approaches the problem from the opposite side. The John Hancock Tower in Boston, built in the 1970s is well known for its monolithic glass skin, and for the fact that, beginning in 1973, while the building was under construction, its 500 pound glass panels began to fall from the building.69 Within months, more than an acre of the building’s edifice was covered in plywood, prompting local wags to dub the structure the “Plywood Palace.” Less well known to those outside the New England construction community is that the windows were not the Hancock’s biggest problem.

In 1975, before the building was opened for use, a renowned structural engineer informed the building’s owners that the structure was in danger of falling down. Because of
the glass problems, sensors and measuring devices had been installed throughout the Hancock, some of which were intended to measure the building’s movement in strong winds. It was discovered that the 60-story Tower, in ordinary conditions, was swaying and twisting such that the period of vibration of the lateral motion was very close to that of the torsional motion, and the two were reinforcing one another. This discovery was remedied by famed Cambridge engineer, William LeMessurier, who designed a Tuned Mass Damper to be constructed at the top of the structure, which tamed the lateral/torsional swaying of the building.

However, in response to this discovery, the Hancock’s architect, Harry Cobb of I. M. Pei & Partners, retained Bruno Thurlimann, one of the world’s leading authorities on high-rise steel-frame buildings, to advise whether the building was safe for occupancy. Thurlimann ultimately concluded that in certain rare, but possible, wind conditions, the Hancock was literally in danger of falling over. The problem identified by Thurlimann was addressed by adding 1,500 tons of diagonal steel braces to the structure. The two cures together cost more than $8 million—more than 10 percent of the initial cost of the Tower, not including the cost of addressing problems with the glass panels.

What has gone unstated in this discussion is that the state-of-the-art design of the Hancock satisfied every building code, and that no one seriously challenged the fact that the designers had employed at least the level of “skill, prudence, and diligence as other members of [their] profession commonly possess[ed] and exercise[d].” Thus, under the common law definition, the designers had not breached the standard of care. However, the application of the threshold approach would have yielded the opposite result—as the cost of the repairs as compared to the cost of the structure, not the relative skill of the designers, would have been the determinative factor in establishing negligence. Not only does this defy common sense, but it would tend to discourage the very innovation and creativity that brings us advances in design, and buildings like the Hancock Tower.

The social policy implications of a threshold rule are also troubling. The ability of third parties to recover for injuries suffered due to the negligence of a designer should not turn on the cost of correcting the mistake. This is certainly not the case in the automotive industry, where the misdesign of inexpensive parts can result in fatal crashes. Yet, it is a logical extension of a rule that equates negligence with the quantity of cost to repair, rather than the quality of the professional’s conduct.

The Threshold Approach Is Procedurally Untenable

The “threshold approach” resembles the inverse of an implied warranty of design. Instead of imputing into every design contract the requirement of perfection, the threshold approach would necessarily imply into the design contract the allowance of some threshold level of professional malpractice. Implied warranties are imposed in situations where, for example, the manufacturer of a product and its end user do not enjoy contractual privity, thus leaving the manufacturer immune from liability for breach of contract. “The relationship between an architect and its client is markedly different . . . . Architects and clients normally enjoy a one-to-one relationship” and negotiate directly over the terms of their agreement. In such a case, agreements to accept a threshold level of negligent services should be contractual, not implied.

In City of Mounds View, the Minnesota court considered the argument that a designer’s routine design tasks, which arguably carry no risk of error if performed with professional due care, should be subject to an implied warranty of fitness, while the more esoteric tasks would be tried under the traditional rule. In the court’s words,

“[I]t seems apparent, however, that the making of any such threshold determination would require the taking of expert testimony and necessitate an inquiry strikingly similar to that which is presently made under the prevailing negligence standard. We think the net effect would be the interjection of substantive ambiguity into the law of professional malpractice without a favorable trade-off in procedural expedience.”

This logic applies directly to the “threshold approach.” Under that approach, the plaintiff would first have to establish, through expert testimony, the threshold value to be surpassed in the individual case—a subject that undoubtedly would be contested, as the owner and designer strive to minimize and maximize
that threshold, respectively. Once the proper threshold is established, the plaintiff would then be compelled to prove that the threshold amount had been equaled or exceeded by changes made on the project—again the subject of contested expert testimony, as the owner and designer strive to classify each such claim as a “credit” against the threshold or not. Only after these significant and wholly undefined hurdles are surmounted can the plaintiff adduce proof of the design error over which it has sued. In the words of City of Mounds View, “the net effect would be the interjection of substantive ambiguity into the law of professional malpractice without a favorable trade-off in procedural expedience.”

Conclusion

Professionals of all stripes take pride in their work and in their workmanship, and understandably recoil at the suggestion that they have failed to exercise the ordinary skill and competence of other members of their profession. More specifically, their malpractice insurance carriers, charged with defending against allegations of design incompetence, would like to avoid the cost of such defense, particularly on large, complex projects, where sophisticated parties are aware that the combination of complexity of design, novelty of the materials and aggressiveness of schedule are likely to yield changes during construction which may lead to claims of design malpractice.

However, these challenges can and should be taken into account in evaluating whether the design reflects the exercise of ordinary skill and competence of members of the profession. As in the case of the Hancock Tower, expensive deficiencies do not establish the want of due care any more than their absence establishes the existence of due care. To quote the Maine jurist from 1896: “An error of judgment is not necessarily evidence of a want of skill or care, for mistakes and miscalculations are incident to all the business of life.”

Physicians, dentists, appraisers, lawyers, accountants and designers are all expected to perform their professional duties with the skill and competence of other members of their professions. Doctors are not immune from suit when the severity of the malady resulting from their malpractice is relatively modest, nor is the monetary impact of a lawyer’s error material to whether she has acted with due care. Why then should designers’ malpractice be measured by its financial impact on a project? If the answer is that a designer’s clients are more sophisticated in matters of building than are patients in medical matters or lawyers’ clients in legal proceedings, then the designer should engage those sophisticated clients in a negotiation which utilizes the threshold concept to contractually balance the design fee against the level of perfection expected, and define, in monetary terms, the extent to which the designers’ errors are expected and forgiven. Absent such a negotiation, and a resulting contractual modification of the common law standard of care, the law will not presume a negotiation that has never taken place, and the common law standard of care—“the exercise of that skill and judgment which can be reasonably expected from similarly situated professionals” must be enforced.

Endnotes

1 The author wishes to acknowledge the research assistance of Bryan Basso, a law student at the J. Reuben Clark Law School, Brigham Young University and the advice and critique of Carl Sapers, a Fellow in the American College of Construction Lawyers and Adjunct Faculty at the Harvard University Graduate School of Design.


3 Beyond these three principal bases of liability, a design professional also may be subject to liability under negligent misrepresentation, interference with contract, negligent certification, breach of fiduciary duty, and other theories. See Philip L. Bruner & Patrick J. O’Connor, Jr., Bruner & O’Connor on Construction Law § 17:16-17:37 (2002) ("Bruner & O’Connor").


6 See, e.g., Aerojet-General Corp. v. Transport Indem. Co., 17 Cal. 4th 38, 75, 70 Cal. Rptr. 2d 118, 948 P.2d 909 (1997), as modified on denial of reh’g. (Mar. 11, 1998). Although Aerojet-General involved a contract for insurance coverage, absent some public policy consideration, the nature of the contract should not be determinative on the freedom of parties “to contract as they pleased.” Id. “They evidently did so. They thereby established what was ‘fair’ and just’ inter se. We may not rewrite what they themselves wrote.” Id.

7 There are a few reported cases holding that a designer impliedly warrants that the project, as designed, will be fit for its intended use. See Blooms-
burg Mills, Inc. v. Sordoni Const. Co., 401 Pa. 358, 164 A.2d 201 (1960) ("While an architect is not an absolute insurer of perfect plans, he is called upon to prepare plans and specifications which will give the structure so designed reasonable fitness for its intended purpose, and he impliedly warrants their sufficiency for that purpose.") Id. at 361-62, citing Hill v. Polar Pantries, 219 S.C. 263, 64 S.E.2d 885, 25 A.L.R.2d 1080 (1951)). However, the vast majority of courts reject the application of a warranty of fitness for purpose to design professionals. See, e.g., City of Mounds View v. Walijarvi, 263 N.W.2d 420 (Minn. 1978): the implication of a warranty for fitness for purpose into design contracts "is clearly contrary to the prevailing rule in a solid majority of jurisdictions. The majority position limits the liability of architects and others rendering "professional" services to those situations in which the professional is negligent in the provision of his or her services." Id., at 423.


9 County of Los Angeles v. Superior Court, 155 Cal. App. 3d 796, 202 Cal. Rptr. 444 (2d Dist. 1984) (disapproved of on other grounds by Bay Development, Ltd. v. Superior Court, 50 Cal. 3d 1012, 1032 n.12, 269 Cal. Rptr. 720, 791 P.2d 290 (1990)). In County of Los Angeles, the court found that the County’s contract with its architect obligated the architect "to provide plans and specifications which will give County of Los Angeles the structure so designed reasonable fitness for its intended purpose. Until the random element is eliminated in the application of architectural sciences, we think it fairer than [sic] the purchaser of the architect’s professional services to those situations in which the professional is negligent in the provision of his or her services." Id., at 423.


11 Id., at 803.

10 Supra, 43 Cal.2d at 486. The California Supreme Court rejected this argument as follows: The evidence in the present case does not justify the imposition of the strict liability of a warranty. There was no express warranty agreement, and there is nothing in the evidence to indicate that defendant assumed responsibility for the accuracy of his statements. He did not, as did the defendant in Crawford v. Duncan, 61 Cal. App. 647, 650, [215 P.573], tender plaintiffs an “absolute promise” that the results of his test would be accurate. He was not a seller of property who obligated himself as part of his bargain to convey property in the condition represented. The amount of his fee and the fact that he was paid by the hour also indicate that he was selling service and not insurance. Thus the general rule is applicable that those who sell their services for the guidance of others in their economic, financial, and personal affairs are not liable in the absence of negligence or intentional misconduct.

Id. at 487.

12 For a discussion of these beginnings, see Bruner & O’Connor § 17:1 (2002).

13 Carl M. Sapers and Penny Pittman Cobey, Legal Cases and Materials for the Construction Professional (Carl M. Sapers, copyright 2003) (unpublished course material used by Professor Carl Sapers at the Harvard University Graduate School of Design), pp. 212-19.

14 Hubert v. Aikin, 2 N.Y.S. 711 (C.P. 1888), judgment aff’d, 5 N.Y.S. 839 (C.P. 1889) and judgment aff’d, 123 N.Y. 665, 25 N.E. 954 (1890)).

15 5 N.Y.S. at 840.

16 Id.

17 Id.

18 City of Mounds View v. Walijarvi, 263 N.W.2d 420, 424 (Minn. 1978).


22 Supra, 263 N.W.2d 420 (Minn. 1978).

23 The court’s opinion quotes at length from the architect’s letter, dated after the parties’ contract had been executed, which repeatedly talks of guaranteeing a water-tight basement. (Id., at 421-22.) Fortunately for the architect, the City-architect contract contained no such language, but did include a provision limiting the amendment of its terms to writings signed by both the City and the architect. Had the court enforced the architect’s guarantee, the City of Mounds View case easily could have been one of the rare cases where an architect is held to have guaranteed his work.


25 263 N.W.2d 423.

26 Id., at 424.

27 Id. In a passage that could have been written today, the court (in 1978) found that notwithstanding the “present state of technological enlightenment,” it would not impose strict liability on designers: “If every facet of structural design consisted of little more than the mechanical application of immutable physical principles, we could accept the rule of strict liability which the city proposes. But even in the present state of relative technological enlightenment, the keenest engineering minds can err in their most searching assessment of the natural factors which determine whether structural components will adequately serve their intended purpose. Until the random element is eliminated in the application of architectural sciences, we think it fairer than [sic] the purchaser of the architect’s services bear the risk of such unforeseeable difficulties.” Id.


29 Architects and engineers are treated the same in this regard. “The engineer’s undertaking in respect to the plans he prepares is comparable to that of an architect, which in the absence of a special agreement is not an absolute guaranty that satisfactory results will ensue.” Bonadiman-McCain, Inc. v. Snow, 183 Cal. App. 2d 58, 70, 6 Cal. Rptr. 52 (3d Dist. 1960). See also City of Mounds View v. Walijarvi, supra, 263 N.W.2d at 424, which treats engineers, architects, doctors and lawyers as comparable professionals, all subject to the same duty of care.

30 C.H. Guernsey & Co. v. U.S., 65 Fed. Cl. 582, 595
(2005). See also John W. Hays, Construction Defect Claims Against Design Professionals and Contractors, 23 Construction Lawyer No. 2 at 9 (Spring 2003) (“The common law standard of care requires design professionals to exercise reasonable care in applying their skills, abilities, and judgment . . . . Proving reasonable care requires, at a minimum, that design professionals perform their duties in a way consistent with the way other design professionals would have performed under similar circumstances.”); Bruner & O’Connor, supra, § 17-40, 631-32 (2002) (“A designer must exercise reasonable care, technical skill and ability, and diligence, as is ordinarily required of similar designers in the locality in preparing plans and specifications.”).

In addition to demonstrating that the designer failed to perform with the level of skill one can expect from similar professionals in similar circumstances, some authorities have required a complaining contractor to also demonstrate that it dutifully followed the design. For example, Bruner & O’Connor’s chapter on Design Professionals states that “[c]ompliance with design is an essential element in [evaluating] an owner’s claim against its designers for negligently preparing defective plans and specifications.” Bruner & O’Connor § 17:40 at 836. And, the Guernsey case itself quotes Appeal of Lafaye Associates, Inc., VACA No. 2151, 89-1 BCA 1121, 270, 1986 WL 115988, *42-43 (Veterans Admin. B.C.A. 1986) for this premise: “An essential element required to demonstrate [architect/engineer] negligence in furnishing defective specifications, is a threshold showing that the government’s construction contractor complied with those plans and specifications in attempting to accomplish the work required by his contract with the government.” C. H. Guernsey & Co., supra, at 596.

33 See, e.g. Carl M. Sapers and Penny Pittman Cobey, Legal Cases and Materials for the Construction Professional, supra, at 209. Designers, of course, are not unique in this regard; law firm engagement with client satisfaction with the outcome of our services is not unique in this regard; law firm engagement with client satisfaction with the outcome of our services.


35 Cobb v. Thomas, 565 S.W.2d 281, 286 (Tex. Civ. App. Tyler 1978), writ refused n.r.e., (Sept. 13, 1978). See also, St. Joseph Hospital v. Corebetta Const. Co., Inc., 21 Ill. App. 3d 925, 943, 316 N.E.2d 51, 64 (1st Dist. 1974) which quotes with approval from Bell, Professional Negligence of Architects and Engineers, 12 Vand.L.R. at 715-16: “Architects and engineers hold themselves out as competent to produce work requiring: (a) skill in the preparation of plans, drawings or designs suitable for the particular work to be executed; (b) knowledge of the materials to be used and the proper application for use; (c) knowledge of construction methods and procedures. Presumably, if the architect or engineer fails to use reasonable care to produce a satisfactory structure, he may be either sued for a breach of an implied term of his contract or in negligence.”


38 Donnelly Const. Co. v. Oberg/Hunt/Gilleland, supra, 139 Ariz. at 189.


45 County of Los Angeles v. Superior Court, 155 Cal. App. 3d 798, 202 Cal. Rptr. 444 (Dist. 1984) (disapproved of on other grounds by Bay Development, Ltd. v. Superior Court, 50 Cal. 3d 1012, 269 Cal. Rptr. 720, 791 P.2d 290 (1990)).

46 Id., at 800. Notably, this quote is from the County’s cross-complaint; the actual contract language is not contained in the court’s decision.

47 Id., at 803.

48 Arkansas Rice Growers Co-op. Ass’n v. Alchemy Industries, Inc., 797 F.2d 565 (8th Cir. 1986).

49 Id. at 569-70.


51 Id., at 119.

52 Id., at 122.

53 Bruner & O’Connor, supra, § 17:13.

54 Gagne v. Bertrand, supra, 43 Cal.2d at 489.
56 Gagne v. Bertrand, supra, 43 Cal.2d at 489.
57 See, e.g., Budd v. Nixen, 6 Cal. 3d 195, 200, 98 Cal. Rptr. 849, 491 P.2d 433, 436 (1971); "The mere breach of a professional duty, causing only nominal damages, speculative harm, or the threat of future harm—not yet realized—does not suffice to create a cause of action for negligence."
58 Supra, 43 Cal.2d 481 (1954).
59 Id., at 490.
61 Id. at 88,591, 1984 WL 13843 at 13.
64 Id. at 100,638, 1987 WL 40990 at 15.
65 Id. at 16.
66 Id.
68 Id.
71 City of Mounds View, supra, 263 N.W.2d at 425.
72 Id.
73 Id.
75 City of Mounds View v. Watjarvi, 263 N.W.2d 420, 424 (Minn. 1978).

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