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## Recent Trends in ADR

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# Uncertainty, Doubt, and Rules of Unlearning in the Mediation of Construction Disputes

By James Duffy O'Connor



**James Duffy O'Connor** of success on the merits” in terms of percentages: e.g., “eight times out of ten I ought to win this case,” which is intended to communicate to the client an “80 percent” chance of winning. And, too many times, the opposing counsel may advise his or her client using the same phrase. There is no escaping the fact that every construction dispute is a gamble. As a consequence, the biases that the litigants bring to bear on the mental processes of prediction, judgments, and decision making inevitably influence the outcome of a construction mediation. This article addresses the fundamental function of uncertainty in the parties’ competing decision-making processes and proposes a set of rules intended to undo the biases that complicate the finding of a joint resolution of construction disputes.

## Uncertainty and Doubt

Uncertainty is simply a natural state of affairs, and doubt is a tool that helps us voyage carefully through it. There are many other tools we use every day to navigate spheres of uncertainty. Most of them we consider essential to decision making. But doubt is the tool we instinctively resist. This article emphasizes the importance of doubt in decision making. That tool can be the most important in the box because it instructs us how to safely use all the others, especially those that we feel we have mastered. Doubt helps us rethink how we make decisions under circumstances of uncertainty. Doubt is especially helpful in discerning biases in our thinking that can muddle our

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Uncertainty pervades every construction dispute. There is no such thing as a “sure bet” in any litigated matter. Any case can be won or lost based on facts and circumstances both within and outside of the control of the litigants. Indeed, the same case can be won and lost multiple times, such that many lawyers describe their view of the “likelihood

decision making. In this paper, doubt is the captain in a journey of unlearning, and the first rule of unlearning is to embrace the notion that there is no certainty in the universe of construction disputes.

The Uncertainty Principle is a good place to start the process of embracing uncertainty and the power of doubt. The history of science at the beginning of the twentieth century was all about physics. Ernest Rutherford, a hero of the atomic age, famously remarked, “All science is either physics or stamp collecting.”<sup>1</sup> Physicists at this time were steeped in the Newtonian view of the Universe, and only coming to grips with the idea that Time and Space were equivalents, and similarly influenced by forces such as gravity. But even Einstein, who single-handedly turned the whole study of physics on its head with his theories of Relativity, was stuck on the idea that science can “certainly” fathom and measure the physical Universe. The alternative was unthinkable.<sup>2</sup>

But even that need for certainty was about to change. Rutherford and other like-minded physicists of his age were especially blessed by the liberation of brilliance from “old-thinking.” The physicists of the atomic age were engaged in an entirely new kind of thinking, where open-mindedness, novelty, daring, and even humor opened the door to quantum theory, quantum mechanics, and the impracticability of prediction and precise measurement in a random nuclear universe. At the heart of quantum mechanics rests the belief that uncertainty is a normal state of affairs, so get used to it.

Niels Bohr, a fellow scientist working with Rutherford, was obsessed with determining the atom’s structure. Of course, the thing is too small to observe, so he sought to determine its structure by observing how it behaved when he taunted it. He followed Rutherford’s thinking that electrons somehow traveled around a nucleus of protons and neutrons, but what explained why electrons didn’t simply fall into the atom’s dense nucleus? He posited the idea that they *could only* occupy certain well-defined orbits, so that an electron moving between orbits would disappear from one and appear in another instantaneously *without traveling through the space between*. This behavior gave the field of study its name and became known as the “quantum leap.”<sup>3</sup>

European physicists were fascinated with the weirdness of the electron. Sometimes it behaved like a particle, and sometimes it behaved like a wave. They lined up on either side of the issue, all rejecting the idea that an electron

could do both. In 1926, Werner Heisenberg developed a celebrated compromise.<sup>4</sup> At the heart of his explanation was Heisenberg's Uncertainty Principle, which postulates that an electron is a particle that can fairly be described in terms of a wave. He reasoned that one can precisely predict the "path" of an electron but never know exactly where it is on the path. Alternatively, he opined that the precise location of the electron could be located at any given instant, but its path could not be known. You can't know both simultaneously. Thus, scientists must make peace with the idea that certainty is impossible in the prediction of the atom's behavior because its electrons must be regarded as being everywhere and nowhere *at the same time*. Still, he argued, there is real merit and progress in predicting the "probabilities" of that behavior—just don't obsess about the fact of uncertainty. Still, the notion drove many traditional physicists nuts.<sup>5</sup>

The history of quantum mechanics over the last ninety years has been driven by the notion that crazy is good—the crazier the better.<sup>6</sup> Nobel Laureate Richard Feynman advocated throughout his career about the importance of uncertainty and the role of doubt in the advancement of human thinking. What he had to say in the last century about physics applies equally to what we are up to today in the mediation of construction disputes.

- "Uncertainty should not frighten us. It is simply one factor out of many that influence how we make decisions. The fear is that we seek certainty . . . here is where we make mistakes."
- "Freedom to doubt was born out of a struggle against authority . . . a struggle to allow us as a people to question—doubt—be not sure."
- "Our connection to Galileo is our ability to doubt."
- "The first principle is that you must not fool yourself—and you are the easiest person to fool."
- "Science is the belief in the ignorance of experts."
- "The human condition is a long history of learning how to fool ourselves."<sup>7</sup>

Decades later, Amos Tversky and Daniel Kahneman would champion the same ideas in their instrumental study of decision making under circumstances of uncertainty. Kahneman too would be rewarded with a Nobel Prize for his work on the subject. Tversky also would have received the award but for the fact that it is not awarded posthumously. The next section of this article addresses their work and explains why it is so important to take their work into consideration in the mediation of construction disputes.

### **Tversky & Kahneman's Undoing Project**

Daniel Kahneman is a descendant of Lithuanian Jews who was displaced by the German occupation of Paris and after World War II relocated to the newly declared Jewish state of Israel just in time for the first Arab-Israeli War. Questions about human behavior infused

his professional and personal development throughout his life. He became a psychologist in order to do philosophy, "to understand the world by understanding why people . . . see it as they do."<sup>8</sup> Amos Tversky's parents fled Russia to escape pervasive anti-Semitism in the 1920s and became pioneers in the building of a Jewish state. His mother was a member of the first Israeli Parliament and several that followed. His father was a veterinarian who declared to Amos that "animals experienced more pain than people and complained a lot less."<sup>9</sup> Amos dedicated his PhD dissertation to his father, who he said, "taught me to wonder."<sup>10</sup>

These two very different, and yet oddly similar, people embarked on an exploration about how people make decisions. Their journey took them from Israeli universities to U.S. universities, to British universities, to Canadian universities, and back again, where both studied under giants in the field of the psychology of decision making. In time, they would become the giants. Together their journey veered from traditional thinking about decision making to a very radical realization that our decision-making faculties were so influenced by biases, intuitions, emotions, dramatic narratives, confirming descriptors, minimal evidentiary support, and often downright "fast and slow" lazy thinking, that many of our most important decisions were fundamentally flawed and risky in the extreme. Their research and writings initially generated a tidal wave of professional resistance, until it became so apparent that it replaced the traditional thinking itself, culminating in a Nobel Prize for the surviving Daniel Kahneman.

Kahneman and Tversky uncovered many obstacles to reasonable decision making across myriad fields of study that impacted all aspects of human behavior. For example, we "frame" our decision making around our mental comparisons of things. We decide differently when we are faced with an array of different choices—and the way the choices are presented to us greatly influence our selections.<sup>11</sup> Often the comparison of choices is really "ideals" of choices, and we favor those choices that are similar to concepts of the ideal. These "similarity judgments" often lead to wrongheaded decision making. How? We categorize things to make them appear more similar, and what can make a thing more similar is nearly boundless: scents, memories, emotions, stereotypes, even the color of the day. These kinds of biases are widespread and difficult to assess in our decision-making process. We don't just identify with what we know; we trust it. We bend our thinking about uncertain circumstances to make them conform to what we know is certain—regardless of the reality of the circumstances.<sup>12</sup>

People leap from very little information to very big conclusions.<sup>13</sup> It is so prevalent in our decision-making processes that Kahneman coined an acronym to help us resist the mistake: WYSIATI = What You See Is All There Is.<sup>14</sup> Our decision-making process defaults to an associative machine that retrieves confirming data that

conforms to and coheres with our perceived set of ideal choices. Information that is not retrieved doesn't exist, and what data are retrieved are often minimal and biased. WYSIATI facilitates the achievement of coherence and the cognitive ease that allows us to be certain of its reliability. It leads to the single greatest risk in our decision-making process: overconfidence. Kahneman and Tversky jokingly referred to this phenomenon as The Law of Small Numbers.<sup>15</sup> Everyone acknowledges that small sample analysis is unreliable. Yet, we routinely make decisions on the basis of a small sample analysis, too often involving important matters under circumstances of uncertainty. In the end, it is human intuition that influences our reliance on insufficient data to justify our judgments, predictions, and decisions. But intuition all too often only approximates correct judgments, predictions, and decisions.

## Mediation is a time for thoughtful testing of intuitions and assumptions.

People often make decisions based on their association of the subject matter of the decision with completely irrelevant data. This is called “anchoring.”<sup>16</sup> We can be anchored to information that is totally irrelevant to the problem we are trying to solve. These anchors can adjust how we apply our predictive modeling as we think through a problem. Anchors can be economic, psychological, or environmental and can be greatly influenced by emotions, hubris, need, or regret. We also are biased by what we currently know, such that we resist new facts that are contrary to what we want to understand. We also base our predictions on what we know, ignoring “new knowledge.”<sup>17</sup> Our biases are greatly influenced by “how” a similarity is presented to us. The more interesting the story, the more influential it becomes in adjusting how we make predictions and decisions. And once we adopt a particular hypothesis or interpretation, we grossly exaggerate the likelihood of that hypothesis or the importance of that interpretation, such that it becomes difficult to see things any other way.

If options are presented to us with “positive” outcomes, we are more willing to accept risks attached to the options. We often are talked into accepting risky options simply by the manner in which it is offered to us. “Can't lose/sure thing” narratives are invitations to loss wrapped in alluring illusions. Kahneman and Tversky referred to this as “framing.” Framing is when you present an option in a way that influences the party to accept or reject it. If you emphasize gain, the risk appears acceptable. When you emphasize its loss potential, the option is viewed as less acceptable. The scary reality of our decision-making process is that we do not choose between things; we choose between *descriptions* of things.<sup>18</sup>

Our minds automatically make associations that bias how we make judgments and decisions. Words, ideas, images, sounds, and scents all generate associations for us—some good, some not so good. Being aware of how these associations bear upon our decision-making process is easier said than done.<sup>19</sup> Illusions are not just visual. They are also mental. Predictable illusions occur if a judgment is based upon cognitive ease. The easier the association, the more biased we are to accept it and act upon it when making a decision. A reliable way to make someone believe a falsehood is through frequent repetition. Familiarity is not easily distinguished from truth.<sup>20</sup> An unfortunate source of “falsehood by familiarity” is from so-called experts who market and sell them to the public as though they were commodities.<sup>21</sup>

Finally, we often substitute easier questions for hard questions when it comes to making decisions. If we cannot find a satisfactory answer to the harder question, we substitute an easier question and accept its answer as the answer to the harder question. Q: Is Joe competent? A: I like Joe. He's friendly. He makes me feel comfortable and welcome. So, yes, Joe is competent. We make mistakes like this in our decision making frequently.<sup>22</sup> We substitute questions, notions, and suggestions to assess risks, make predictions, and act on judgments. This kind of substitution can skew our judgment about making important decisions under uncertain circumstances. We even substitute “feelings of happiness/good will” for evaluative study of important data in our decision-making processes.<sup>23</sup>

### Rules of Unlearning in the Mediation of Construction Disputes

Mediation is an essential process in the resolution of construction disputes. But it is only effective when the parties and their counsel approach it reasonably and with the joint plan of finding an end to the dispute. Unfortunately, mediation is often treated as an extension of litigation, where posturing replaces compromise and obstruction trumps responsible advocacy. All too often today, construction mediations have become mini-trials, where the parties square off to prove they are “right,” and their opponent must “lose.” Generations of American construction lawyers have been trained to “win” the mediation. They have been taught to demonstrate utmost confidence in their position, to show no fear, and, above all, to come back victorious. All sides to the dispute show up with their exhibits and experts planning to bludgeon the other side into capitulation. And when that doesn't work, they ask the mediator to “declare a winner” through the mechanism of a mediator's proposal. The mediation should not be treated as a ring for delivering body-blows in advance of the bigger show that follows. We as construction lawyers ought to “unlearn” a few things in order to facilitate a successful mediation. Consider the following Rules of Unlearning.

1. **Distrust declarations of certainty.** “I can’t lose this case.” “It’s a slam-dunk.” Such braggadocio assertions are fabrications. They are an indication of dangerous overconfidence. The demand for overconfidence can just as easily come from the client. Manage that expectation before the mediation. Doubt is a more powerful tool than confidence when it comes to managing risk in a mediation.
2. **Use doubt to challenge your assumptions.** Actively eschew confirmation bias in the evaluation of your own case. Advocate against your position in advance of the mediation. Know your weaknesses, not how to deflect them.
3. **Investigate how you have “framed” your outcomes/ options.** Are your alternatives described in only positive terms, negating any consideration of failure? Identify potential obstacles to success over which you have little or no control. Express the possible outcomes/options negatively and explore whether the client has a different view about settlement.
4. **Beware of the Law of Small Numbers.** The universe of construction disputes is not data rich. Conclusions are drawn from “similar” cases, and what constitutes a similar matter is often biased in the extreme. Case evaluations are often highly subjective: the collection of facts, the priorities of applicable factors, the association of percentages of likelihood of success and damage estimates; these are little more than cues that influence the litigator’s “intuition.” But intuition isn’t subject to testing. In the end, all that supports the decision to refuse to compromise is guesswork hinged to untested rules of thumb. Are the expressed bases of the strength of your case numerically few: e.g., the statute of repose/limitation, a single witness, a handful of admissions in discovery? Explore whether the “story” of your case is more dramatic than it is compelling. Is it the client’s story or is it the lawyer’s telling of that story?
5. **Look for randomness.** Identify as many obstacles to success as you can over which you have no control: unknown decision makers, choice of law, differing perceptions of success/failure, black swans, etc. Apply numeric importance to each and recalculate your intuited percentage likelihood of success on the merits of the dispute.
6. **Don’t answer the wrong question.** Q: Why do you refuse to compromise? A: I hate that smug jerk, and I’ll show him what’s what! Conflict often drives intuitive reactions, which have little or nothing to do with the strength or weakness of a claim or defense. Q: Is the strength of the claim stronger than the other side’s defense to it? A: I need the money to bankroll an acquisition. Or I really like the way our expert explains why we couldn’t reach substantial completion. Both statements answer the wrong question. What is the answer to the right question? Or is it possible that there are multiple answers? How does that influence the decision to settle?
7. **Scout out surprises.** Nothing makes us take a second look at things more than the element of surprise. The capacity for surprise is an essential aspect of life. It keeps us alive and alert. We passively expect our normal models of thought to maintain us until something shakes our faith in them. So, shake things up. Put doubt to work. Ask the “what if” questions that can shake your faith in the strength of the claim. What if our expert tanks? What if the arbitrator doesn’t enforce the statute of repose to bar the claim? What if . . . ?
8. **Discipline intuition.** We intuitively associate data with beliefs and act upon the intuition. We do it so instinctively that we don’t see ourselves doing it. As a result, we often demonstrate an excessive willingness to predict the occurrence of unlikely events based only on an intuited expectation. And to complicate matters, we often are insensitive to the quality of evidence we use to form the intuited instinct. What You See Is All There Is (WYSIATI). The combination of WYSIATI and associative coherence tends to make us believe the stories we tell ourselves. So, discipline your intuition. Anchor your judgment of success on the merits of a claim to plausible and testable data and question the strength of your evidence.
9. **Kill all the experts.** Do your experts provide you anything more than the illusion of validity? Their subjective confidence is not a reasoned evaluation of the probability that their judgment is correct. Do they do anything more than tell a good story? If the strength of your case hinges on the telling of a story, you ought to rethink your settlement strategy.
10. **Never pretend.** When faced with making important decisions under circumstances of uncertainty, don’t pretend to know what you don’t. The unforgivable sin is to chart a false path for the client.

**Mediation should not be treated as a ring for delivering body-blows in advance of the bigger show.**

Construction lawyers, especially litigators, are hard wired to overcome uncertainty, as though it were a foe, a virus, an obstacle to winning, a barrier to success. We’ve dressed the term in soiled vocabulary. It’s unreliability, inconstancy, fickleness, caprice. We won’t touch it with a ten-foot restraining order. We think it infects us with equivocation, hesitancy, vacillation, disquiet. You don’t see those words in our website bios. To the contrary,

construction lawyers in mediated disputes are typically quick to articulate a most confident sense of definiteness, assuredness, irrefutability, and certainty. Both sides. If it comes time to strap on the armor and do battle, then, by all means, go to war with all the confidence necessary to survive it. But mediation is not the time for battles. It is a time for thoughtful testing of intuitions and assumptions, for challenging presumed strengths and weaknesses. It's a great time to pull doubt out of the toolbox and let it tinker with your brain. 🧠

## Endnotes

1. See BILL BRYSON, *A SHORT HISTORY OF NEARLY EVERYTHING* 137 (Broadway Books/Random House 2003).

2. Einstein famously criticized quantum mechanics as a viable explanation of the behavior of atomic particles because at its heart is the notion that randomness permeates atomic behavior, making "certain" measurements impossible and irrelevant. To this Einstein is said to have remarked: "God does not play dice with the Universe." Rutherford started the party in 1910, when he shot alpha particles (ionized helium atoms) at a sheet of gold foil. Surprisingly, some of the particles bounced back at him as others penetrated the foil. He concluded from this that the particles that bounced back had to be striking something dense, at the heart of the atom, while all the rest traveled through what had to be empty space, thus demonstrating that the atom was mostly empty space, composed of a dense nucleus. The only problem with that conclusion was that it controverted all of the conventional laws of physics. The old thinking said atoms like that shouldn't exist.

3. See BRYSON, *supra* note 1, at 142–43. Bohr's novel theory explained that the reason that electrons didn't collide catastrophically into the atom's nucleus was because electrons could only exist in orbits that did not collide with the nucleus.

4. See *id.* at 144.

5. Schrodinger's famous thought experiment captured the nutty aspect of the Principle. He said to think of a cat in a box that also contained an atom of a radioactive substance attached to a vial of hydrocyanic acid. If the particle degraded, it would break the vial, and the acid would kill the cat. If not, the cat would live. Of course, he said, you couldn't know for certain which would be the case, so the quantum scientist must regard the cat both dead and alive at the same time.

6. Bohr is said to have cautioned that if you were not outraged by the idea of quantum theory, then you weren't listening. When Heisenberg was asked how to describe the behavior of atoms, he said, "Don't try." BRYSON, *supra* note 1, at 144–45.

7. See RICHARD P. FEYNMAN, *THE QUOTABLE FEYNMAN* (Princeton Univ. Press 2015); Richard P. Feynman, *The Value of Science*, 19 *ENG'G & SCI.*, Dec. 1955, at 13; RICHARD P. FEYNMAN, *The Uncertainty of Science*, in *THE MEANING OF IT ALL: THOUGHTS OF A CITIZEN-SCIENTIST* (1998) (previously unpublished lecture given in 1963); Richard P. Feynman, *Cargo Cult Science*, Caltech Commencement Address (1974); RICHARD P. FEYNMAN, *The Uncertainty of Values*, in *THE MEANING OF*

*IT ALL*, *supra* (previously unpublished lecture given in 1963); Richard Feynman, *What Is Science*, Address at the Nat'l Sci. Teachers Ass'n, N.Y. (1966), in 7 *PHYSICS TEACHER* 313 (1968); K.C. COLE, *THE UNIVERSE AND THE TEACUP: THE MATHEMATICS OF TRUTH AND BEAUTY* (1998).

8. MICHAEL LEWIS, *THE UNDOING PROJECT 66* & notes (Norton 2017).

9. *Id.* at 88.

10. *Id.*

11. *Id.* at 110.

12. *Id.* People filter a lot of noise from the sounds that they want to hear. They hear what they want to hear. This has come to be called "The Cocktail Party Effect." This kind of selective listening and filtering of data is a strong bias that can cloud reasonable decision making. *Id.* at 135–37.

13. *Id.* at 148.

14. DANIEL KAHNEMAN, *THINKING FAST AND SLOW* 85–88 (Farrar, Straus, & Giroux 2011) [hereinafter KAHNEMAN, *THINKING FAST*]. See also *id.* at 103, 114, 127, 154, 201, 209, 269, 336, 354, 402–06, 411, 417. We often intuit that we are fully informed about the circumstances surrounding our decision making. We fool ourselves into concluding that what we see is all there is (WYSIATI), when, in fact, there is so much more we don't see.

15. *Id.* at 109–18. See also Amos Tversky & Daniel Kahneman, *Belief in the Law of Small Numbers*, 76 *PSYCH. BULL.* 105 (1971).

16. LEWIS, *supra* note 8, at 192; KAHNEMAN, *THINKING FAST*, *supra* note 14, at 119–28, 417–30.

17. LEWIS, *supra* note 8, at 197. Kahneman and Tversky dedicated much of their research to the subject of prediction. To them, judgment and prediction are equivalents. A judgment implies a prediction, just as a prediction implies judgment. However, a prediction is a judgment that involves uncertainty. Thus, prediction equals judgment "times" uncertainty:  $P = JU$ . The more biases play upon one's judgment of similarities, the more uncertain is one's judgment and the more doubtful the prediction.

18. *Id.* at 278. We choose what we most want, not what we can most likely acquire. And when what we want is presented to us as an alluring option, we accept the risks associated with it. See also KAHNEMAN, *THINKING FAST*, *supra* note 14, at 87–88.

19. KAHNEMAN, *THINKING FAST*, *supra* note 14, at 50.

20. *Id.* at 62–70. We are "primed" to draw false conclusions about certain risks because they resonate with us more than actual facts. *Id.* at 137.

21. Kahneman is particularly wary of pundits and experts. "What supports the illusions of skill and validity?" *Id.* at 216–21. The answer is nothing. Indeed, their presentment of skill and training has a "halo effect" on their opinions, priming us to take what they say as Gospel truth. It isn't their fault, really; it's just that the world is difficult. *Id.* at 220. "The question is not whether these experts are well trained. It is whether their world is predictable." *Id.* at 221.

22. *Id.* at 97. In this way, we generate intuitive opinions on complex matters and act on them in risky situations.

23. *Id.* at 98–105.