NEUROSCIENCE AND LAW:
IS NEURO-LITERACY OPTIONAL ANY MORE?

By Pauline Tesler and Norman Solovay

Most civil matters – some say more than 90% – now settle without a full trial to judgment, thus making settlement the actual job of advocate lawyers. Settlement modalities that enhance the quality of settlement practice and increase client satisfaction with legal representation (notably mediation and collaborative law) have grown exponentially in recent years, with ample statutory support. Yet neither the vanishing trial nor the popularity of out-of-court settlement practice nor the low regard felt by the public toward the legal profession have diminished the vigorous opposition of the organized litigation bar to these new and evolving ways of protecting clients from the escalating financial and emotional costs and collateral damage resulting from litigating personal disputes. So although there is wide acknowledgment that litigation and courthouse steps settlements by their nature serve the human needs of both lawyers and their clients poorly, we still are far from victory in the battle to establish scientifically valid understanding of our biological human nature as a core competency of lawyers who work with clients whose legal problems arise out of fractured human relationships.

Fortunately, change is pressing in upon our conservative profession from many directions, thanks to an explosion of new research discoveries about how humans experience and resolve conflicts. Reports coming our way daily from the fields of decision science, evolutionary neuroscience, neuro-economics, and positive psychology explicate discoveries that “challenge core beliefs about human consciousness and rationality imbedded in our legal institutions.” Until recent years, cutting edge scientific research was typically regarded by policymakers and professionals as obscure or esoteric, and seldom led directly to significant societal impact. But thanks to popular science writers whose articles and blogs make the fruits of this research accessible to policymakers and the general public, and thanks to some major governmental, think-tank, and foundation initiatives to translate neuroscience discoveries into terms that can be understood and applied by judges and law school professors, even the most diehard defenders of the legal status quo at this point have little ground to stand on when they ignore the large and still-growing evidence that traditional legal premises about the primacy of rational processes in our clients’ as well as our own decision-making are just plain wrong. For proof, look at the New York Times of June 25, 2013, a date significant only because it is the date this article is being written. Three articles in that issue address the growing impact of neuroscience and its close cousins, positive psychology and neuro-economics, on our changing understanding of how biology drives human behavior.

The first, a very favorable review of a new book entitled Touching a Nerve, begins: “You cannot understand the mind without understanding how the brain works,” writes the philosopher Patricia S. Churchland in this marvelous book, which uses recent findings from neuroscience and evolution to illuminate deep questions about human nature.

The second reports on the opening of a museum exhibition on illusions, stating: “There will also be some good old-fashioned tricks, with a pair of neuroscientists, Stephen Macknik and Susana Martinez-Conde, co-authors of ‘Sleights of Mind’ on hand to explain their cognitive
underpinnings. ‘Illusions allow us to study how and why the brain fills in missing or ambiguous information,’ said Paul Gleeson, a researcher for the show who is also a magician.”

The third is an article on a 3D Map of the Human Brain called “Big Brain,” which gives “unprecedented detail” 50 times better than anything previously seen, and is being made “available to researchers everywhere.” In the article a prominent neuroscientist describes “Big Brain” as a “technological tour de force,” linking it to the even more significant new brain initiative recently announced by the Obama administration. That mega-billion dollar national research project to map the brain carries its own much publicized and much repeated message about the importance of neuroscience. The New York Times (February 23, 2013) described the initiative as “a breathtaking goal… that would lead to a much deeper understanding of how the brain works,” and, according to the President, would “involve a level of research and development not seen since the height of the space race.”

It’s likely that similar reports from the front lines of neuroscience research could be found in almost any issue of the Times, and every week sees the publication of new books and articles translating statistical evidence from reports in scientific journals into practical, accessible understandings and tools for business, professions, and ordinary folks. Given the elevated place held by classical enlightenment theories about human behavior in our jurisprudence and traditional legal dispute resolution practice, it would be difficult to find a more appropriate audience for this new knowledge about the brain and the body-mind continuum than the legal profession. There is consensus on that point in some very influential places. For instance, consider the Gruter Institute, a private think tank located in the heart of Silicon Valley since 1981. The Institute’s current mission, which grows out of its founder’s belief that “human legal behavior is both facilitated and constrained by our biological nature,” is to foster education and communication among “law professors, judges, lawyers, economists, scholars from... other social sciences, and behavioral biologists, including evolutionary biologists and neuroscientists.”

Because biological advances in our understanding of human behavior are unfolding faster than the legal profession or our broader legal culture can incorporate, Gruter has partnered with some heavy hitters to help lawyers put this science to practical use. Its newest project, The Law Lab, is based in the Center for Internet and Society at Harvard University, where its interdisciplinary scholars will “investigate and harness the varied forces – evolutionary, social, psychological, neurological and economic – that shape the role of law and social norms as they enable cooperation, governance and entrepreneurial innovation.” The aim of The Law Lab is nothing less than to bring a laboratory approach to legal scholarship in order to “fundamentally transform law.”

In partnership with the MacArthur Foundation, Gruter has taken an active role in their ongoing “Neuroscience and Law” project. (Baylor Medical College, in Houston, operates a similarly-named program, “The Initiative on Neuroscience and Law.”) While most of the MacArthur project’s activity involves scholarly research about the brain science of criminal culpability, the Gruter Institute’s focus in the project is on educating federal and state court judges and legal scholars about law, human nature, and biology. Since 2007, the Dana Foundation has provided grants to the American Association for the Advancement of Science to conduct seminars for federal judges on emerging issues in neuroscience and the law as they affect legal determinations. Law professors from Vanderbilt and the University of Minnesota have written the first legal textbook on the intersection of law and neuroscience, to be published
But fortunately, the impact of neuroscience and biology-based social sciences is also beginning to be felt on our ground, where dispute-resolution lawyer meets client. At the think-tank level, scholars supported directly by the Gruter Institute are investigating such topics as the evolution in primates of reconciliation behavior during conflict; the biological basis for our seemingly innate sense of right and wrong, and our human capacity for moral reasoning and for trust. Among the more accessible products of research supported by Gruter are two books by Paul Zak (the economist who invented the term “neuro-economics), Moral Markets and The Moral Molecule (a very readable account of how the neurotransmitter oxytocin may be central to our moral capacities as human beings).

We lawyers who focus on resolving fundamentally personal disputes are in the vanguard of our profession in embracing the fruits of this research. It is no coincidence that at the 2012 annual ABA Dispute Resolution Program there were six separate programs dealing with neuroscience. Nor should it be a surprise to find that collaborative lawyers – whose work by definition takes place entirely outside the courtroom, far from litigation template thinking about settlement negotiations – are leading the way in adapting these “revolutionary implications for our day to day work with clients, depicting a brain that is driven not by reason, but by emotion…” [which are] already beginning to transform dispute resolution practice. A movement to bring awareness of neuroscience and positive psychology into mainstream dispute resolution practice is being spearheaded by the Integrative Law Institute at Commonweal (“ILI”) a nonprofit program that is taking the discoveries gleaned from sophisticated collaborative interdisciplinary team practice further and deeper, adding to the mix immersion in neuroscience, decision science, and positive psychology, seasoning the mix with new values-based transactional methods for making and memorializing deals, and icing the cake with communications skills training, body-mind awareness practices, coaching aimed at strategic practice transformation, and much more – all aimed not just at family lawyers, but at all of us who help clients embroiled in the legal fallout from fractured human relationships.

ILI’s aim is to teach lawyers to become more intentional, self aware and self reflective in our legal work with both colleagues and clients, offering continuing education courses that examine dispute resolution habits through the lens of biological realities about being human primates. ILI’s requirements for earning certification as an integrative lawyer include learning sophisticated communication techniques that go below content to explore the subtle, biologically driven meta-communications that cannot be suppressed and often elude self-awareness; expanded understanding of the conscious and unconscious, constructive and harmful, therapeutic and anti-therapeutic impacts of every interaction we have with another person during our workday; basic grounding in brain science and decision science as they relate to negotiations and informed choice; basic education in neuro-economics, focusing on the biologically-driven irrational side of choices that cannot be explained by classical economic theory; neuro-ethics and...
neuro-morality as they relate to disputes arising from broken relationships; and information from cognitive, social, and positive psychology, systems theory, and body-mind awareness practices, all aimed at making lawyers more conscious of the systems-based and biology-driven nature of our work – all toward the end of making us better at our job—settling disputes.

We have seen “touchy-feely” efforts to transform testosterone-poisoned litigators into crunchy granola peacemakers before, and we know that the impact of those approaches seldom extends beyond the already-converted. What’s different about the Integrative Law movement is its emphasis on hard science about the biological realities of human nature and human behavior as reflected in legal conflict resolution practice. You can argue with a guru in ways that you can’t argue with lab results or brain scans. ILI has developed an array of courses aimed at the needs of lawyers working in the trenches of personal dispute resolution. These courses explore the intersection of many of the biologically-informed behavioral sciences, translating research findings into practical concepts and tools for lawyers. Topics include: “Law, Money, and Values in Negotiations and Settlements,” “Neuro-Economics, Neuro-Morality and Distributive Negotiations,” and “Neuro-Literacy 101: Introduction to Brain Science for Lawyers, Judges, and Mediators.” Workshops on these and similar topics have been presented at the annual Forum of the International Academy of Collaborative Professionals and the annual gathering of Collaborative-Practice California, and at the Vancouver (Canada) Collaborative Roster Society, as well as under the auspices of the New Hampshire State Bar Association and the Texas chapter of the Association of Family and Conciliation Courts, and to commercial and legal aid lawyers in Cape Town and Johannesburg, South Africa.

What does all this mean? We, the authors, submit that our culture is experiencing the early days of a scientific revolution as enormous in its implications as the shift from medieval to renaissance thinking about the place of science in human affairs. We lawyers will not anytime soon have a clear roadmap telling us step by step how we can apply these changed understandings of how our brains actually function in service of better, evidence-based ways of dealing with colleagues and clients – but that is no excuse for willful blindness. Our choices right now are to act from unexamined habit or to become aware and self reflective; and to be conscious or to be willfully unconscious about the probable impact of our methods on the people we are ethically obliged to assist as skillfully as we are able. Our conclusion: neuro-literacy is no longer optional. It’s part of what our human (as distinct from corporate) clients need from us when we help them settle disputes, and if our law schools have not yet caught up with the policy implications of this dramatic convergence of thinking about law and brain science, we lawyers will simply have to educate ourselves by enrolling in high quality integrative law and neuroscience workshops and trainings wherever we can find them. Our clients deserve no less.

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2 Macfarlane, p. 7.
3 “You’re giving a speech about lawyers and conflict resolution? Huh. I don’t usually connect lawyers with conflict resolution.” Macfarlane, p. 1.
The Uniform Collaborative Law Act (“UCLA”) was approved by a unanimous vote of the Uniform Law Committee and a number of states and courts, including California, Florida, North Carolina, Louisiana, Minnesota, Ohio, Utah, New York and Hawaii, have enacted collaborative law statutes and/or provided court rules for the use of collaborative law. Moreover, the UCLA is supported by the Ohio Bar Association, South Carolina Bar Association, Tennessee Bar Association Board of Governors, Vermont Bar Association Board of Managers and the Association of the Bar of the City of New York, as well as the Family Law Sections of the Minnesota Bar and New Mexico and Wisconsin Bar Associations and the ADR Sections of the Virginia and Wisconsin Bar Associations. However, the opposition of the Litigation Section in the ABA House of Delegates – on the asserted ground that collaborative law is unacceptably risky for clients – has consistently prevented official ABA support for the UCLA to date.

See, e.g., Mary E. O’Connell and J. Herbie DiFonzo, “Family Law Education Reform Project Final Report,” *Family Court Review*, October 2006, the fruits of a blue-ribbon study of the failure of law schools to prepare students for the reality of family law practice. The report is available at http://www.afcnnet.org/ResourceCenter/CenterforExcellenceinFamilyCourtPractice/ctl/ViewCommittee/CommitteeID/15/mid/495, last consulted June 30, 2013. [“As this sea of change has occurred, however, law school curricula and teaching have remained relatively static. The result, predictably, is that lawyers entering family law practice regularly find themselves unprepared for what they encounter. A substantial and growing gap between family law teaching and family law practice undermines the best efforts of new family lawyers to assist parents and children in separation, divorce, abuse and neglect, dependency, and delinquency actions. Lawyers need to think about—and law students need to talk about—how one helps a client in emotional turmoil to engage in effective planning despite the fact that it is difficult.”] Although this study was confined to education of family lawyers, the problem of poor preparation for the actual job of helping distressed clients resolve their disputes is not.


Patricia S. Churchland, *Touching a Nerve: The Self as Brain.* W.W.Norton, p. 1:

> Every day brings new discoveries about the brain: here is your brain on drugs, here is our brain on music, on jokes, on porn; here is your brain on bragging, on hating, on meditating. Sometimes it seems that neuroscience knows more about myself than I do.

http://www.gruterinstitute.org/about_us.html, last consulted June 27, 2013


http://www.moralmolecule.com/, last consulted June 30, 2013

They were: “This is Your Brain on Mediation: Reflections on Neuroscience and Practical Implications for Mediators as Well as Negotiators”; “The Neurobiology of International and Inter-Cultural Dispute Resolution”; “Overcoming Cognitive Illusions to Provide Procedural and Substantive Justice Arbitration”; “The Embodied Brain of Peacemaking: It’s Not Just In Your Head”; “Brain Based Listening: A Key to Successful Mediation”; and “The Transformative Master Practitioner: The Social Brain-Conflict Transformation and Trauma in Intractable Clients”.


http://www.commonweal.org/program/integrative-law-institute/

As noted in Churchland, p. 32:
My take on the roster of sensitive issues [generated by neuroscience] is that although much is still unknown about the nervous system and how it works, what is known begins to free us from the leaden shackles of ignorance. It makes us less vulnerable to flimflam and to false trails. It grounds us in what makes sense rather than in the futility of wishful thinking. It adds to the meaningfulness of life by enhancing the connections between our everyday lives and the science of how things are. Harmony and balance in our lives are deepened and enhanced by that connectedness.