Applying Neurobiology to Conflict-Resolution Process Design

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REIMAGINING CORPORATE CONFLICT MANAGEMENT
An InnovADR Workshop co-sponsored by
The Straus Institute for Dispute Resolution of Pepperdine University School of Law,
and The Graziadio School of Business and Management
Pepperdine University, Malibu, California, September 17–18, 2014

Neurobiology can shed new insights on dispute-resolution processes and the systems one might design to accommodate these insights. When experienced disputants are asked what they want, the answer is normally "outcomes", but with a sense of quality, namely, "faster, cheaper and/or better" than what they could be getting in court. Can we systematically generate such outcomes, bringing a sense of quality into every process with a sense of regularity? Neurobiology provides some interesting ideas, worth further exploration.

In order to better understand conflict management and process design, it is useful to understand the patterns of behavior that are programmed into the human brain. Oxygen and glucose are consumed very frugally, and the human brain can be likened by analogy to a computer hard drive, that has developed three operating systems (one emotional, one social and one cognitive/rational) that have evolved to perceive and make decisions rapidly to minimize energy consumption. These systems often get in one-another's ways.

The emotional and operating systems tend to be activated more rapidly, within several tens or hundreds of milliseconds, before the rational/cognitive operating system is activated (which happens approximately half a second later – a very long time lag in terms of "brain time"). Humans thus have pre-developed rapid patterns of thinking ("reactive" or "reflexive" thinking) that they are unaware of, that tend to predetermine and influence conscious thinking. Rational thought is not always about deeply reflective or creative ways of trying to generate optimal outcomes that involve new patterns of thought, but sometimes automated responses that are the result of predetermined unconscious brain responses.

This pre-conditioning of rational thought processes is partly genetic and partly environmental. For example, lawyers often think reflexively, along patterns of what they perceive to be relevant/irrelevant in terms of a legal syllogism whereby FACTS + LAW = OUTCOMES, thus thinking they are suppressing or excluding emotional or social considerations, which have already been integrated, before cognition can occur, by social and emotional systems, which the lawyer will be unaware of. Furthermore, one's culture and upbringing often affect perception and memory, influencing retained social and emotional patterns of thinking and orienting attention differently towards notions of fear or reward.

It is useful first to consider each operating system separately before looking at how they can function together in the context of dispute resolution and process design. The emotional

operating system acts as a rapid relevance detection system. Emotional impulses direct our brains to focus on certain details around us and ignore others, depending on whether they may be a danger (something to avoid) or a reward (something to approach). Memories assist in unconsciously storing patterns to assess what may be important for our survival or a threat to our needs. In this way, emotions quite literally determine our level of conscious awareness, and in so doing can leave us with perception "holes" or "biases" in our thinking. This means that there is no such thing as an unemotional conscious thought, as all thoughts are pre-conditioned unconsciously by emotions. It is thus impossible to claim something is a purely rational or logical decision, as such thoughts are mental constructs based on an unawareness of unconscious emotional patterns that have allowed the thoughts to occur at a rational or cognitive level. These emotional patterns play an important role all conflicts. Emotions will be activated based on dangers or rewards, and a strong emotion is normally a useful indicator of a fear or unmet need.

The social operating system is deeply ingrained in our unconscious psyche and involves the same regions of the brain as the emotional system. We are unusually social animals, having the largest "clique" sizes, and we are innately programmed to empathize with and care for others that we deem to be "in" our clique ("in-group") as opposed to people who we perceive as being different and not belonging to our clique ("out-of-group"). We seek a comfortable social status in-group, with a sense of certainty, autonomy, relatedness and fairness in our social interactions. One aspect of our social processing "in group" is mirroring, where it is believed that certain neurons wire and fire synchronously with a person we identify with as similar, or "in-group", leading us to feel what they feel and share their experiences. Seeing a person we care about who is sad makes us sad, whereas seeing a person we care about who is happy makes us happy.

These so-called "mirror neurons" (or mirroring behavior) are believed to be based on our brains' abilities to perceive others' emotional states, and they do so in much the same way as one would expect them to activate if *we* were in the emotional state ourselves. These effects reinforce our feelings of connection with those "in" our "group" and, together with other biological mechanisms, such as the release of the neurotransmitter oxytocin, can create a strong sense of bonding or trust. Oxytocin has thus been called a "trust hormone", and is expressed for example, in pregnant woman and picked up in new born infants via breast milk, creating a chemically-reinforced sense of bonding and belonging. (An ultimate "in-group" feeling). Even when an "in-group" script is triggered, however, we still tend to unconsciously try to unconsciously compute to what extent another person is likely to be trustworthy or dominant, activating emotional patterns of behavior.

When a person is deemed to be "different", and "out-of-group", our mirroring systems effectively switch off, and the expression of oxytocin has been shown to generate more aggression or competitive behavior, rather than trust. These assessments of being "in" or "out" of group are unconscious, and there are two zones in the medial prefrontal cortex that are believed to be associated with triggering these in-group as opposed to out-of-group unconscious patterns of social behavior. The in-group system has direct links to the anterior insula (the part of our brain that is involved in assessments of fairness), whereas the out-of-group system has no such direct physiological connection to the insula, which means that humans can act unfairly towards others who are not perceived as being in-group. This also explains our ability to be either empathetic or cruel, depending on whether a person is "in" our "out" of our group. As

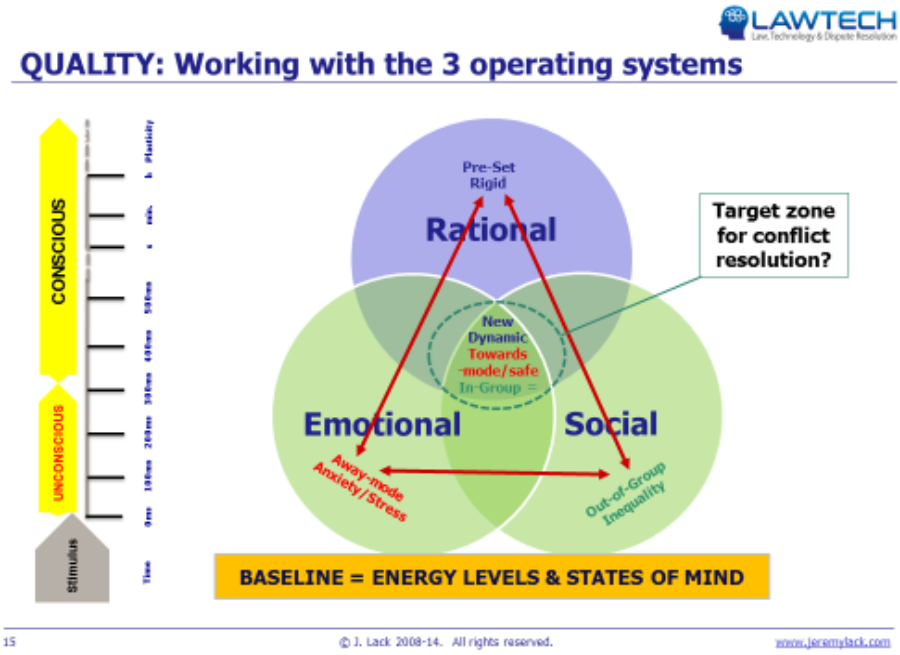
biologically tribal animals, with different scripts and patterns, conflict tens to generate "us" vs. "them" social patterns, with reduced ability to empathize, trust or connect intuitively with other people and their emptions. The same social mechanisms that biologically drive us to connect with one person can also just as forcefully push us away from others, creating a gap that conflict-resolution practitioners must try to bridge in order to help parties move forward.

Finally, the cognitive or rational operating system has often been characterized as involving two types or modes of cognitive thought or data processing. The first type, sometimes called "fast thinking" or "System 1" thinking, is about rapid pattern recognition, rushing to simple intuitive judgments. The second type, sometimes called "slow thinking" or "System 2" thinking, is about deeper reflection. Given that System 2 thinking uses up more resources in our brain, for instance oxygen and glucose, the body prefers to use System 1 thinking, whenever possible. It allows our bodies to expend less energy. This type of "reflexive" (as opposed to "reflective") thinking unconsciously creates unconscious biases and reinforces what the brain wishes to see. There is still great debate in social neuroscientist circles as to whether and in what ways these different two types of processing are beneficial, and which type of thinking is "better", but what seems clear is that sometimes, when we think we are making conscious decisions, we can miss key details and make false assumptions based on our subjective experiences and perceptions, which other people can analyze and construe completely differently. As conflict management practitioners, therefore, it can be helpful to be aware of peoples' tendencies to be hardwired to make "quick" decisions and snap judgments, in some instances unconsciously, especially in conflict.

Many systems of conflict resolution actually prime and activate "out-of-group" social scripts merely by having certain words or expressions that activate certain pathways. For example, by using the terminology of "parties", "plaintiff", "defendant", "opposing counsel", "the other side", etc., competitive and anti-social patterns are activated, reducing the inherent and natural propensities of the parties to be able to empathize and experience mirroring. Other words also activate fear and "away" patterns, such as "positions", "statements", "bottom lines" and "walk-away points", "deal-breaker", "conditions", "take-it-or-leave-it" etc. Focusing on diametrically different language can, on the contrary, help to trigger "in-group" patterns. These disruptive patterns are indicated by the red arrows in figure 1 below. Using vocabulary of "us" and "we", referring to the disputants as "partners in this negotiation", encouraging each party to list "all of our interests" looking to the future and using them as a basis for "co-creating" possible solutions that are "better than each partner's BATNA" can generate pro-social thinking as there is a mutual of seeking rewards that will meet everyone's interests. This are is indicated the overlapping area in the Venn diagram in Figure 1 below. Allowing the disputants to prepare and treat the preparation phase of a mediation to do perspective-taking, and identify interests as much (or instead of) positions, can help to create "towards" reflexes, activating collaborative behavior that is intuitive and comes naturally, and allows that zone of convergence of the three operating systems to be optimally attained. This can be facilitated by positive prior social priming (e.g., a good meal, in a new and interesting setting, or any other positive shared experience, where the disputants are encouraged to simply make social contact, reminding them of what unites them rather than what divides them – e.g., the need for safety, attachment, predictability, certainty, good relations, shelter, clothing, and wanting a fair and mutually acceptable process, etc). Slowing down the preparation phase and spending more time on the preliminary stages of the

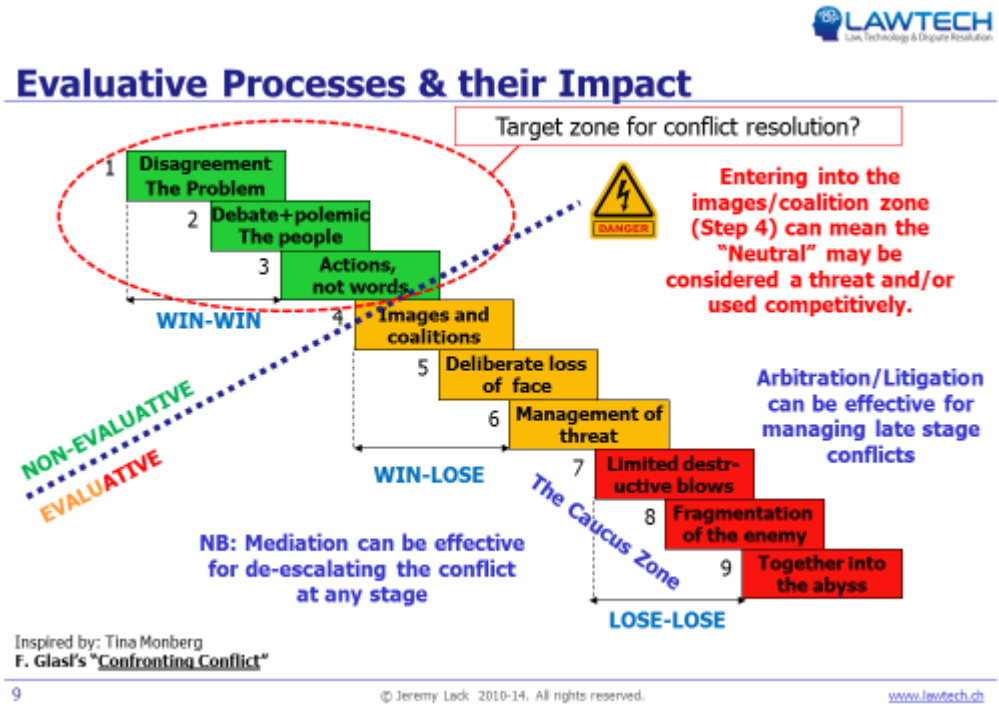
dispute resolution process can help the parties to "slow down" and avoid automated patterns of thinking that can become stuck. It is also possible to open up new patterns of thinking, and to orient attentions differently, allowing the rational operating system to operate optimally and more laterally and creatively.

Figure 1



Once this is considered, re-visiting conflicts and how they tend to escalate, it is easy to see how many typical dispute resolution processes actually drive and accelerate anti-social and competitive behaviour. Level 4 in the Glasl scale of conflict escalation (see Figure 2 below) is normally about coalition building: the appointment of an evaluative neutral (whether a judge, arbitrator, conciliator or evaluative mediator) will often activate "out-of-group" scripts, which may be amplified by caucusing and the assumption that what is happening in the "other room" is not for their ears. When disputants go to see their lawyer, they are also already often at "level 4", seeking to reassure themselves that they are "right" and to create coalitions with their lawyer, who often may even reinforce this sense to such an extent that the conflict escalates further due to the confirmation of hearing that the "other party" is "wrong". The pivot from stage 3 to 4 on the Glasl escalation scale thus seems to be a pivotal point, and optimal win-win outcomes are likely to be found in non-evaluative systems than in evaluative systems, where the outcome is likely to be more of a compromise, where at least one (if not both) of the parties will be losing something (e.g., by compromising, or by the damages done to relationships, or simply in the loss of money and time spent on the dispute that cannot be compensated by future business transactions with the partner involved in the dispute. Although litigation and arbitration clearly have essential roles to play in dispute resolution processes, they tend to operate at the more advanced stages of the conflict escalation scale (and partially contribute to the conflict0s escalation in the first place).

Figure 2: The Glasl Conflict Escalation Scale



These are simply some basic introductory thoughts, that should be treated with some suspicion and skepticism given how little is really known about the human brain. What recent findings are suggesting, however, is that the process itself is part of the problem, and can detrimentally affect the parties' cognitive decision-making capabilities, rather than enhance them. It also suggests that optimal outcomes can be reached differently, but activating "in-group" scripts and mutual reward-oriented outcomes, that focus primarily on what the disputants' future interests are, which is simply another way of restating what many facilitative and transformative mediators are already doing in the first place.