



## UNDERSTANDING THE MIND IN PEACE NEGOTIATIONS

CAN NEUROSCIENCE UNLOCK THE SECRETS OF THE BRAIN  
AND HELP TO RESOLVE CONFLICTS?



Kenya Peace talks 2008 (UN Photo/Eskinder Debebe)

*Neurobiology is beginning to generate new and astonishing insights into current conflict prevention and resolution systems. These suggest that we may need to re-think current ways of negotiating.*

### THE UNTHINKING RESPONSE

Historic power and rights-based conflict resolution systems are not designed to take into account what increasingly appears to lie at the source of most conflicts. Negotiation based on factual and legal aspects of a dispute neglects the underlying issues - the subjective and emotional aspects such as perceptions, beliefs and fears.

### UNDERSTANDING THE BRAIN

Until recently, our investigations of the brain have been restricted either to (a) the low spatio-temporal resolution of imaging macro-scale brain regions or (b) the isolated micro-scale events for communication between one neuron and another across the gap between them (the synapse). In order to correlate sophisticated mental processes - such as those involved in peace negotiations - with mechanisms in the physical brain, we need to develop a conceptual

framework within which we can appreciate the brain at work holistically, yet in sufficient detail to be informative.

One such concept is that of 'neuronal assemblies', large-scale coalitions of tens of millions of neurons that form and disband in less than a second. These assemblies can now be visualised using fluorescent dyes that correspond directly to the activity of brain cells and (unlike conventional non-invasive imaging such as fMRI) are able to give a real-time readout of neuronal responses. Using this technique we can start to explore the various factors that may determine the degree of assembly size at any one time. The formation of unusually small assemblies could be due to sparse neuronal connectivity (as seen with children), synaptic modification (as with psychotropic drugs), or indeed any environment that was strong in sensory input.

Such scenarios could also correlate with underactivity in the front part of the brain in an area, the prefrontal cortex, known to be only fully operational in late teenage years, and indeed to be underactive in conditions such as obesity and schizophrenia, where sensory factors trump the more usual 'cognitive' ones.

For peace negotiations it therefore appears to be desirable to avoid situations in which a 'small assembly' mind-set and an underactive prefrontal cortex are involved. Optimally, prefrontal cortical pathways should be stimulated, activating broader assemblies.

### ACHIEVING AN OPTIMAL BRAIN STATE

Neuroscience looks to be able to make a valuable contribution in understanding how to prepare an optimal mindset for negotiation. Other areas of exploration include the contribution of neuromodulatory substances (e.g. Dopamine, testosterone and oxytocin, sometimes called the 'trust hormone') and how their expression or effects may have an impact both on assemblies, and eventually on negotiations themselves.

In order to facilitate conflict resolution and avoid an escalation of hostilities, the parties must also gain trust, using techniques to encourage empathy and to perceive the conflict differently to prevent anger inhibiting adoption of a 'logical' stance.

Using non-evaluative mediators can help the parties avoid seeing one-another as 'competitors'. Unlike evaluative processes, a non-evaluative stance by a neutral may prevent stimulating a response based on fear and anger. The parties should also avoid 'highly arousing' environments that could lead to irrationality. Instead, a safe, unchallenging atmosphere (a 'beige room and mediator') could allow rational discussions to flourish.

### LOOKING TO THE FUTURE

While it is still very early days, neurobiology is already indicating that a better understanding of the brain could offer innovative techniques to those involved in conflict prevention and resolution.

The contribution of neuroscience is not to identify a simple magic bullet, but to provide a possible physio-chemical context in which known psychological behaviour patterns and dispute resolution techniques can be understood and applied in new ways.

### COLLABORATION ACROSS DISCIPLINES

This briefing arises from an event held on 10 March 2010, which aimed to explore the neuroscience behind the headlines of conflict resolution. The event, co-organised by the Institute for Ethics Law and Armed Conflict (ELAC) and the Institute for the Future of the Mind, brought together a leading conflict mediator, **Mr Jeremy Lack**, with renowned neuroscientist, **Prof Baroness Susan Greenfield**, to take an innovative look at the role of the brain in mediation, and explore how individuals actually negotiate.

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For more information on the Oxford Institute for Ethics, Law and Armed Conflict go to:  
[www.elac.ox.ac.uk](http://www.elac.ox.ac.uk)

For more information on the Institute for the Future of the Mind go to:  
[www.futuremind.ox.ac.uk](http://www.futuremind.ox.ac.uk)

For more information about the James Martin 21st Century School and its work on future challenges, please visit:  
[www.21school.ox.ac.uk](http://www.21school.ox.ac.uk)

Jeremy Lack is a lawyer and mediator with Altenburger Ltd. For more information, please visit:  
[www.altenburger.ch](http://www.altenburger.ch)



MRI Scan of a brain (Mark Lythgoe & Chloe Hutton/Wellcome Images)