



‘The Galois Paradox: why intellect needs passion’

**The way we make decisions & knowing
how to make better decisions**

One-day Workshop

**Friday 12 November 2010
9.00am – 4.30pm**

**Meetings Room
University House
Balmain Crescent, Acton,
Canberra, ACT 2061.**

*“We will not rescue the Earth from our own depredations
until we understand ourselves a little more” - Ian McEwen*

**Workshop Leader
A/Prof. Rod O’Connor**

Consultant in Decision Making and
Health Care Improvement
Conjoint Associate Professor, School
of Public Health and Community
Medicine, University of NSW

Background to the workshop

In Paris in 1834 there lived a 20 year old man named Evariste Galois who was both a gifted mathematician and a passionate participant in republican politics (for which he was briefly imprisoned). In that year he fell in love and was challenged to a duel, ostensibly over a young woman. Aware his rival was a crack shot and that his life may soon end he worked through the night to record the basics of Group Theory, which describes the symmetries of the laws of physics and points the way to the "possible" physical theories. The next day a pistol shot through his stomach lead to peritonitis and he died within 24 hours.

The relatively short life of Evariste Galois embodies the paradox of humans. He was passionately involved in politics, fell in love leading to a duel that caused his own death, and contributed an element of the interlinked structure of mathematics and physics. His life represented a search for truth, unbridled and seemingly erratic emotion, and a genius for explanation that added to the store of knowledge for all that follow.

Humans commit routine and ongoing blunders as individuals, as organisations, and as societies. At the same time they add to a growing legacy of mathematics, science, and advanced technology. How rational are we? Is emotion an impediment to reason, or is it necessary if we are to understand the world? How might we make better decisions?

In the last 20 years many advances have been made in our understanding of how humans make decisions. It seems we are nothing like as rational as had been assumed. It has also shown that emotion is essential. This workshop sets out these and many other new insights into the way we make decisions, and draws out the implications for making better decisions.

Outcomes from the workshop

At the end of the workshop, participants should be able to explain:

- the role of unconscious processes, how we perceive and act automatically - we 'see what we seek' and 'make decisions' when we don't know we have
- how we may create explanations for our behavior only after having observed it
- the central role emotion plays in decision making – how it allows us to understand others, the phenomena of adaptation, and how emotion allows us to value outcomes
- that many decisions occur very rapidly by a set formula: restrict options, have pre-set preferences, and follow a policy of 'confirm and believe' – this allows speed at the cost of accuracy
- the role and nature of causal explanations, which allow us to work effectively in the physical world but which are always incomplete and potentially false
- the importance of our minds continuously generating new ideas to allow new explanations
- the need for individual accomplishment to be amplified by collaboration, which brings the benefits of a diversity of approaches and allows the handing-on of growing knowledge and skills
- how passion and intellect combine to produce beliefs that are a fusion of explanation and emotion and guide how we act in the world, how explanations regulate emotions, and how emotions give value to explanations
- how such a new understanding can be used to guide more effective decisions at both individual and group levels

Who should attend?

Healthcare professionals and others in:

- Management
- Administration
- Research
- Clinical Care

Teaching/Learning Methods and Associated Advice

The workshop will consist of lectures, discussions and some group work. All materials required will be provided, including copies of overheads and reference articles. Readings will be distributed to assist preparation for the workshop.

Workshop Leader

A/Prof. Rod O'Connor PhD is a consultant in healthcare and decision making and Conjoint Associate Professor in the School of Public Health and Community Medicine, University of New South Wales.

He has been a Technical adviser on health service quality improvement to The World Bank, consultant in Outcomes Research and Situational Analysis for Policy for the World Health Organisation, invited rapporteur on Quality of Life Measurement for the UK Economic & Social Research Council, and invited referee for the U.K. National Co-ordinating Centre for Research Capacity Development.

Rod has a PhD in cognitive science (Monash University) and training in health economics (Monash University & University of Melbourne), health outcomes measurement (Harvard School of Public Health), and modern measurement methods (University of Illinois at Chicago).

He is also a member of Brain Sciences UNSW, a research Institute comprised of researchers from the basic neurosciences, psychiatry, psychology, drug and alcohol, neurology, neurosurgery, biomedical engineering and mathematics. He is a member of the U.S. Society of Judgment and Decision Making, and the European Association for Decision Making.

Rod has worked on the development of decision tools to assist allocate the \$4 billion per year Commonwealth Disability Support Pension (the 'Work Ability Tables'), Aboriginal health infrastructure funding (the 'Environmental Health effects Scale'), assess medication compliance (the 'Asthma Medication Adherence Questionnaire'), home-carer burden, dysphagia, and quality of aged care. His book 'Measuring Quality of Life in Health' was published by Elsevier/ Churchill Livingstone U.K. in 2004. For the last six years he has worked on a book on the way people make decisions, and aims to complete it in 2011.

Further information may be found at www.RodOConnorAssoc.com , or contact Rod on ph. 02 9555 9916, mob. 0413 60 70 73, or email rod@RodOConnorAssoc.com

Workshop Outline

(note this may be amended)

The Galois Paradox

THE THEORY (OLD)

Man is rational

- Decisions are made by conscious reflection, and emotions are irrelevant or unhelpful 'noise'
- People are limited by computational capacity, but do the best they can given such limits

THE EVIDENCE (NEW)

Automatic running

- Awareness is allocated to just some of the events we sense
- Associated emotion increases likelihood of awareness and biases meaning
- Goals, feelings, and behaviours are triggered by environmental cues
- Focussed awareness can hinder perception
- We make up perceptions and explanations
- Feeling, acting, and explaining without prior deliberation

Emotion the meaning of life

- What are emotions?
- What do emotions do?
- Emotion before language
- The role of emotion in 'understanding' others
- Trust and deception
- The effects of emotion on memory
- Emotion regulation: adaptation and reconstrual
- Emotion as decision maker

Having ideas, fast thinking

- Selective options
- Set preferences
- Confirm and believe, 'like a dog with a bone'
- 'Fast' examples
- Slowing it down
- Other processes: intuitive heuristics versus analysis

Forming explanations to act effectively in the world

- Assessing causation
- Explanations as stories
- Determining effective action
- Understanding ourselves
- Supplementing intuition with definitions and numbers

New ideas

- What is creativity?
- Creativity in mathematics and science
- Creativity and behavioural disorders
- Does creativity need language?
- Fostering creativity

Group effects

- Group think
- Amplifying action
- Benefitting from diversity
- Creating shared information

The partnership between explanation and emotion

- Beliefs provide health, positive emotion and motivation
- Forming explanations to change emotions
- Forming explanations to justify emotions
- Our moral sense: turning emotional reactions into guides for action
- The function of consciousness

The real us

- Explaining Galois
- What is needed to improve human systems

For further information on workshop content contact Rod on ph. 02 9555 9916, mob. 0413 60 70 73, or email rod@RodOConnorAssoc.com

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REGISTRATION FORM**Fax to: 02 6288 7050**
 \$595 (inc. GST) *includes Morning & Afternoon Tea and Lunch*

Title _____ First Name _____ Surname _____

Position _____

Organisation _____

Address _____

Town/Suburb _____ State _____ Postcode _____

Telephone _____ Fax _____

Email* _____

*(required for registration confirmation to be sent)

PAYMENT**TAX INVOICE** ABN 41 008 390 734
 Cheque - must accompany registration and be made payable to ACHSE ACT Branch or
 Visa **Mastercard**

Card Number: _____ / _____ / _____ / _____

Total Amount: \$ _____ Expiry Date: _____ / _____

Cardholder's Name: _____ Cardholder's Signature: _____

Payment Policy

It is a condition of registration that full payment is received prior to the commencement of the event.

Cancellation and Refund Policy

If after registering for the event, you find yourself unable to come, we will refund your registration fee in full up until Friday 29 October 2010. Any cancellations made after this date and up until Friday 5 November 2010 will be refunded, less an administrative fee of \$110. After 5 November 2010 we regret that NO REFUNDS can be given. You can at any time, however, substitute a replacement delegate at no charge or transfer your fee to a future Rod O'Connor workshop.

Insurance

We strongly recommend that you take out an insurance policy if you have made flight or hotel reservations in order to attend this event. If, due to circumstances beyond our control, the event is cancelled, we cannot be held responsible for any loss of money due to cancelled flight or hotel bookings.

Privacy Policy

The collection of this information is primarily so that we can register you for this event. The information (excluding payment details) will be stored in a database and may be used for future marketing of events. If you do not wish your details to be retained we ask that you notify us in writing.

Please forward your completed registration form with payment to:
Postal Address
 PO Box 3500
 WESTON CREEK ACT 2611

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