

# Completion report for the RNSA support of a one day event on the simulation of the intelligence analysis



**Event :** Simulation of the intelligence analysis meeting

**Location :** Canberra, International Affairs Conference Centre

**Date :** 24 November 2006

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## Summary

This event was organised by  
Colin A Wastell PhD  
Acting Dean of Students and  
Senior Lecturer in Psychology  
Psychology Department  
Macquarie University

This meeting's aim was to explore the possibility of developing a computer administered simulation of the intelligence environment which closely imitates the analytic processes, allows the manipulation of inputs so as to evaluate current practice and so design a training supplementation program.

The program would be suitable for users across a range of abilities and experience levels aims to address the problems within the intelligence analysis environment and to development a training and analysis technology that will improve the quality and flexibility of analyst assessments

9 people were invited to attend the event.

Athol Yates, Outreach Manager, RNSA welcomed everyone on behalf of the meeting, facilitated the meeting and organised logistics.

The workshop will be conducted at the unclassified level in order to facilitate discussion at a level all participants can take part in.

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## Event rationale

This event was supported by the RNSA because it contributed to the RNSA mission statement of *facilitating a knowledge-sharing network for research organisations, government and the private sector to develop research tools and methods to mitigate emerging safety and security issues.*

Specifically, it allowed researchers to meet with intelligence officers to explore the potential for developing a program and building links with the intelligence community. It also allowed the researchers to gain a better understanding of the intelligence cycle.

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## RNSA support

This following support was provided by the RNSA via the outreach manager.

1. A meeting room on 23 November to prepare for the workshop
2. A seminar room on 24 November to run the workshop, lunch and a digital projector

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**Financial  
arrangements**

The event cost the RNSA \$680.

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**Attachments**

Attachment 1 contains the program description.  
Attachment 2 contains the event's financial details  
Attachment 3 contains the list of delegates and speakers.

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**Information**

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RNSA  
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# **Attachment 1: Program description**

**Research Support for Counter-Terrorism (PM&C).**

**Dr Colin A WASTELL**

**Capability requirement category: Intelligence, Surveillance and Operations**

**Capability requirement component: Intelligence collection, analysis, dissemination**

**Project title: SINTELLA: Simulation of Intelligence Analysis**

## **Context:**

Western democracies in the 21<sup>st</sup> century have been forced to confront a resurgent terrorist threat which has called into question long practiced methods of intelligence collection and analysis. The agencies charged with this responsibility have been the subject of a number of inquiries [Flood (2004), Butler (2004), 9/11 Commission (2004)] which have identified problems with the quality, timeliness and reliability of the assessments provided to their respective governments. Whilst these reports have identified problems with management and the available resources of intelligence agencies they were not tasked to evaluate the fundamental reasoning processes that underpin intelligence analysis. The context of intelligence analytic work is one characterised by uncertainty, time pressure and high stakes. In addition potential adversaries change over time in their methods, aims and a multitude of other characteristics. These characteristics together with the particular nature of intelligence analysis work combine to produce a special information processing environment that places unusual and unique demands on the human capacity to understand and analyse the data provided. All the recent reports acknowledge the fact that post cold war western nations must come to terms with a new adversary. Old methods, categories and mindsets need the incorporation of knowledge and methods from new domains (e.g. cultural studies, religion) if they are to better understand and predict the actions of these new adversaries.

Over the last 30 years Psychology and Decision Sciences have made considerable advances in mapping out the human capacity for information processing. This research has identified a range of heuristics and predispositions that constrain and limit the conclusions that are most likely to be drawn from available data. The findings of this research into judgement, decision making, reasoning and thinking are centrally important to improving the quality and rigour of the assessments provided to government. This is particularly so given the nature of the terrorist threat. Terrorist organisations are distributed in geography, culture and especially ideology. This means that traditional categories developed from within the Cold War are of minimal use in understanding and predicting the actions of an ideologically distributed adversary. What is needed are rigorous methods which can take into account the characteristics of this new adversary and process the data in such a way as to minimise the effect of the constraints and maximise insight into the adversary.

The central component in any intelligence capability is the intelligence analyst. He/she is charged with the process of identifying, collecting, analysing and judging the information that is relevant to an assessment. The traditional training and selection of intelligence analysts has not taken into account the findings of the research into judgement, decision making, reasoning and thinking. The source of the errors and biases identified in the recent reports are deep seated psychological processes which are automatic and below consciousness. This means that analysts of high integrity and commitment are possibly committing errors in analysis of which they are unaware. Hence any attempt to improve the quality and adaptability of analytic processes will require a systematic process which incorporates the findings of research into judgement, decision making, reasoning and thinking and trains analysts to minimise or even eliminate the underlying problematic processes.

## **Aim:**

This research aims to address the problems within the intelligence analysis environment and to development a training and analysis technology that will improve the quality and flexibility of analyst assessments.

## **Proposal Outcome:**

The project will develop a computer administered simulation of the intelligence environment which closely imitates the analytic processes, allows the manipulation of inputs so as to evaluate current practice and so design a training supplementation program. The program will be suitable for users across a range of abilities and experience levels.

## **Project Phases**

Utilising resources of the Research Network for a Secure Australia (RNSA) gather together representatives of the major agencies from the Australian Intelligence Community (AIC). Contact and interest has already been established from DIO, AFP and the ADF Intelligence Training Command. This meeting would produce the outline of the simulation. One of the key deliverables from this meeting would be to define precisely the characteristics of the intelligence analysis environment. For the simulation to be effective it is critical that it be realistic. The simulation must engage the same psychological processes as in the intelligence environment.

1. Dr Colin Wastell (Macquarie University) and Professor Wearing (University of Melbourne) in collaboration with Latrobe University (Fire Chief Project) will direct the development of a simulation program. This assumes appropriate levels of funding for additional personnel and equipment. This will be done in consultation with stakeholders who will vet the reality and applicability of the simulation.
2. The simulation program (Version 1.0) and associated documentation would then be developed into either a stand alone or networked installation in AIC agencies. This would require customisation for each agencies specific intelligence focus. In addition there would need to be developed a training package for each organisation though it would be possible to have economies of scale for central aspects of the simulation activity.
3. A follow up phase for the development and refinement of the simulation program (Version 2.0) which would then be handed over to the individual agencies for maintenance and further individual development.

## **Project Benefits:**

The research proposal has several benefits for the AIC:

1. The program will provide a common training ground for analysts thus enabling evaluation of analytic product and a common metric for quality assurance.
2. Due to a common training tool interoperability across agencies will be increased.
3. Organisations will have developed a coordinated representation of their processes leading to greater understanding of each agency's methods and focus.
4. There will be developed an improved understanding of the intelligence activity across agencies which potentially will facilitate communication between agencies.
5. A common quality assessment measure could be developed enabling agencies to improve their product in consultation with other agencies.

## **Personnel Profiles:**

1. **Chief Investigator**                      **Dr Colin A. WASTELL**  
Dr Wastell is a Senior Lecturer in the Psychology Department of Macquarie University, Sydney. His research interests are in complex human cognition and in particular reasoning and analysis in uncertain environments. He is also Royal Australian Naval Reserve Intelligence Officer, currently tasked out of Scientific and Technical Analysis Branch in DIO. In 2003 he was Head Information Warfare Studies Group in Information Networks Division, DSTO.
2. **Associate Investigator**                **Professor Alexander J. WEARING**

Dr Wearing is a Professor of Psychology in the Psychology Department at Melbourne University. He has published research in human information processing, decision making and simulation studies for over 30 years. He is a principle investigator in the ARC CRC on Bushfires and a collaborator in the development of the Fire Chief Simulation program.

## **The Intelligence Analysis Process**

### **Preamble**

The steps and processes involved in the production of intelligence assessments can be broadly broken down into two aspects for the purposes of this /research.

#### 1. The Intelligence Cycle or management of the process.

This aspect consists of the procedures that an analyst or team of analysts must carry out in order to produce the assessment. This will include background information gathering, requests for information to open source and classified agencies as well as integration of the assessment with mission planning.

#### 2. Information Transformation and Problem Solving

The second aspect consists of all those process that are integral in the transformation of raw data and information into a coherent assessment which adds value to the collected material. One of the truisms of intelligence assessments is that they must be much more than mere reportage.

The focus of this research proposal is on the transformation processes. The emphasis will be on those factors which predict the quality and accuracy of intelligence assessments. These factors will include analyst characteristics as well as constraints which result from the context of analytic work, including issues of secrecy, deception and stealth. Intelligence assessments are very frequently framed within a context of a high degree of uncertainty and this is a critical and salient feature of the work environment which must be represented in the development of this proposal.

### **Context**

The proposal will examine the factors that impact on the production of three analytic products. The three products are; Threat Assessment, Organisational Profile and Leader Profile. All three require a significant degree of judgement from the analyst(s) involved. Whilst each product requires the assembling of information they also require a significant element of estimation concerning the functioning of humans both individually and collectively.

All intelligence assessments must meet the following criteria. They must be timely, based on current information and responsive to changes in the context or situation that generated the requirement for their production. A critical aspect of intelligence assessments is that they must clearly communicate the adversary's aim or intention and make a prediction as to the actions the adversary will take in order to achieve his aim. The basis for meeting these requirements is a solid understanding in background information and openness to the possibility of deception from the adversary.

An intelligence estimate must be able to answer the questions of why, who, what, when, where and how? Thus an intelligence assessment must create as a result of the analysis a narrative that gives a coherent account of the situation with the adversary intentions and actions factored in. The narrative should enable a planned and coherent response from policy makers.

### **Processes**

The production process can be segmented into four main elements. Each element represents a stage in the analytic process.

#### 1. **Scoping**

This stage requires the analyst to become familiar with the background and context within which the particular intelligence assessment product is to be constructed. The stage requires information as to general background of the adversary. The context may be either a longstanding situation or a recently activated dispute or anything in between. For the purposes of this proposal the intelligence assessments required will be kept to three; Threat Assessment, Organisational Profile and Leader(s) Profile. Other assessments are possible but for the sake of brevity and focus the proposal will concentrate on the three nominated.

## **2. Information Gathering**

Once a particular assessment product is nominated there are certain typical information requirements. To cover the three nominated products an initial review of Defence Intelligence training manual suggested the following list is as minimum for the construction of adequate assessment products:

- a. Organisation
  - i. Structure
  - ii. Membership
- b. Leadership
  - i. Personality traits of an admired leader
  - ii. Decision making style and processes
- c. Ideology
  - i. General world view
  - ii. Outlook on Australia/The West/Allies
- d. Modus Operandi
  - i. Tactics
  - ii. Resources
- e. Reported Incidents
  - i. Recent activities
  - ii. Analysis of operations and operatives
- f. History
  - i. Origins of group or individual
  - ii. Similarities to other groups
- g. Cultural context
  - i. Comparison with western worldview
  - ii. Key elements eg view on timeframes for success
  - iii. Role of religion in activities
- h. Other particular to the product type

## **3. Initial Estimate**

The first cut through the information gathered is used to generate the initial intelligence estimate. This can be a draft document or a set of briefing slides. The estimate is designed to generate a set of hypotheses that are used to guide further information gathering and testing of the assertions and predictions contain in it.

One of the most important aspects of this process is to identify information gaps. What can be said with confidence and backed up by data is a key question at this stage. From this initial analysis there also arises the opportunity to seek an analysis from the adversary's perspective (sometime called 'red teaming').

## **4. Intelligence Assessment Document**

After appropriate quality control activity such as red teaming, deception analysis and information gap correction a document is produced which represents the distilled information with an explanatory framework which answers the two critical questions: What is the adversary's aim and how does he intend to achieve it? These two questions need to be modified for particular assessments of individuals and organisations but the essence of the

intelligence problem is prediction of adversary actions so as to prevent or minimise damage to ones own society.

# Attachment 2: Financial information

**Costings**

Below is a list of all expenses.

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<b>Component</b>	<b>Amount \$</b>
Income	\$0
Expenditure	\$680
<b>Amount to be remitted to RNSA</b>	<b>-\$680</b>

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**Expenditure**

Below is a list of all expenses.

<b>Expenditure details</b>	<b>Amount \$</b>
Meeting room on 23 November	0
Seminar room hire includes projector	\$520
Catering	\$160
Total	\$680

### ***Attachment 3: List of participants invited***

- Alex Wearing (University of Melbourne)
- Graeme Clark (DINTTC)
- Belinda Helmke (PICT Centre Macquarie University)
- Athol Yates (Homeland Security Centre)
- Jeff Robertson (DIO)
- Michelle Mosey (DIO)
- Peta Arbuckle (DIO)
- Paul Robottom (AFP) or representative
- Colin Wastell (Macquarie University)