DECEPTION IN STRATEGIC THINKING: A DIAGNOSIS

S. RAJASIMMAN

Deception has long been used by military commanders as a "force multiplier", a way to increase the effectiveness of friendly forces and decrease the effectiveness of the enemy. Within a well articulated *system of deception*, the "mind" and the "cognitive nature" of the analyst or decision-maker becomes the key to initiate and detect strategic deception. This is so because *strategic deception* in conceptual terms aims to manipulate *perceptions* in order to gain competitive advantage. It is operationalised by the passage of information to national or military decision-makers either directly or via a nation's intelligence services. Channels for passing such information include public or private statements by government officials, leaks to journalists, double agents, and spoofing of technical intelligence collection sensors.[1]

Since intelligence analysts help policy-makers improve their understanding of reality, recognising that cognitive biases exist in any human appreciation of events, including their own, is crucial. The process is best understood as a matter of adjustment in perceptions and knowledge among all those involved. Intelligence is a human action and so is inherently

* Shri **S. Rajasimman** is a Research Associate at the Centre for Air Power Studies, New Delhi.

1. For a comprehensive understanding of strategic deception and the involved cognitive process, refer Richards J. Heuer Jr, "Strategic Deception and Counter-Deception: A Cognitive Process Approach," *International Studies Quarterly*, vol.25, no.2, June 1981, pp. 294-327. http://www.jstor.org/stable/2600359. Accessed 05/11/2009.

Strategic deception in conceptual terms aims to manipulate _perceptions_ in order to gain competitive advantage.

ambiguous and provides no certainties; actions based on it are gambles. Reality judgements can be further sorted into "known" and "presumed".

In order to understand deception, intangible or non-empirical variables such as *identity, self-esteem, power, and privacy* become crucial. Deception is usually considered a deviation from the norm and a violation of trust. However, deception is actually a common and accepted way of establishing personal boundaries and managing inter-personal relationships. Deception means using any of a variety of means to misrepresent what one believes to be true. Just as being truthful does not require knowing the "truth"; being deceptive does not require telling a lie. Deception involves limiting disclosure, equivocating, exaggerating, distorting, and presenting irrelevant information. Secrecy is morally more acceptable than lying. A lie is empirical while deception is not so, but is based on empiricism.[2]

Discussions of self-deception often begin by considering what the relation between self-deception and ordinary, inter-personal deception, or other-deceptions is. For example, a perception in public life is prevalent in China because of a particular set of assumptions about language use and interaction. Deception is conceived more honestly in India and China than in, say, the US. Deception is prevalent and lamented in contemporary China, and its historic particulars must be considered in evaluating the newness of what is considered a problem. Deception occurs throughout human society but with varying degrees of concern and frequency. Deception is a fundamental part of the human capacity for language though all societies struggle between the case for deception and the desire for honesty and trust.[3]

Individuals frequently treat their personal values as a kind of ideal point, and assume that the pursuit of those values also yields the best practical outcome. Self-deception in contrast means that people think they know something when

2. Jill Doner Kagle, "Are We Lying to Ourselves about Deception?" *The Social Science Review*, vol.72. no.2, June 1998, pp.234-250.
3. D. Susan Blum, "Five Approaches to Explaining 'Truth' and 'Deception' in Human Communication," *Journal of Anthropological Research*, vol.61, no.3, Autumn 2005, pp. 289-315.

they do not.[4] Psychological research has contributed immeasurably to the analysis of misperception of threat in international relations. Current theories do not consider the interaction among cognitive heuristics and biases and their cumulative impact on the misperception of threat in international relations. Nor do they integrate affective and cognitive processes in their explanations of distorted threat perception. Finally, politics must be explicitly built into the psychological explanation of threat perception in international relations.[5] In order to assess the scope of misperception, a standard of accurate perception is required. Misperception is basically underestimation or overestimation. Cognitive sources of the misperception of threat include:

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Table 1

- Belief system.
- Lack of empathy in contrasting cognitive context.
- The heuristics of "availability" and "representation".
- The "ego-centric" bias.
- Overconfidence.
- The "proportionality" bias.
- The "fundamental attribution error".
- Dispositional and situational bias.

Believing is not directly subject to our conscious control. One's beliefs can be consciously manipulated without the need for self-deception.[6] The potentials of timing of evidence disclosure is a deception detection tool. The main prediction was that deceptive statements were identified with

4. Tyler Cowen, "Self-Deception as the Root of Political Failure," *Public Choice*, vol.124, no.3/4, September 2005, pp. 437-45.
5. Janice Gross Stein, "Building Politics into Psychology: The Misperception of Threat," *Political Psychology*, vol.9, no.2, June 1998, pp. 245-271.
6. Thomas J. Cook, "Deciding to Believe Without Self-Deception", *The Journal of Philosophy*, vol.84, no.8, August 1987, p. 441.

Human beings are incapable of perceiving a goal. They, can however, imagine. Since strategy is an imaginary world, it is not possible for human beings to strategise.

high accuracy (67.7 percent) in late disclosure, indicating that the technique of this form is beneficial mainly for pin-pointing lies.[7] In order to understand deception, it is conceptualised as an internal issue. It is something to do with the analyst himself. *Self* is a misunderstood tense. Self is a constructed reality; construction includes: education, family, society, identity, role, motivation, and goal, dreams, imagination. Human beings are incapable of perceiving a goal. They, can however, imagine. Since strategy is an imaginary world, it is not possible for human beings to strategise. Strategy begins as imagination; when you start with an end objective, it is not project management.

CONCEPTUALISING DECEPTION

Deception, in its strictest sense, implies the project of misleading that is directed by a would-be deceiver at an unintended victim, but in common language, it may be a loose sense of 'deceived 'that implies mere error by misjudgement. Deception in other words is the *management of perception*.[8]

The true nature of the human mind is such that it is based on limited rationality. In order to successfully adapt to, and coexist with, the external environment, human beings construct a model and behave rationally within the confines of this model.[9] Psychological research on perception,

7. Maria Hartwig, Anderes Par Grahnay, Heif A. Stormwall, Vrij Aldert, "Detecting Deception via Strategic Disclosure of Evidence," *Law and Human Behaviour*, vol.29, no.4, August 2005, pp. 469-484.
8. David Kipp, "On Self Deception," *The Philosophical Quarterly*, vol.30, no.121, October 1980, pp. 305-317.
9. Herbert Simon first advanced the concept of "bounded" or limited rationality. Because of limits in human mental capacity, he argued, the mind cannot cope directly with the complexity of the world. Refer Herbert Simon (1957), "Models of Man" and Janice Gross Stein, "Building Politics into Psychology: The Misperception of Threat," *Political Psychology*, vol.9, no.2, June 1988, pp 257-271.

memory, attention span, and reasoning confirms this.[10] Psychological research is perhaps only beginning to unveil what had been articulated in some ancient texts of the Chinese and Indus civilisations around 3,500 BCE.[11] For example, the sacred text followed by the Hindus, the *Bhagvad Gita*, has perhaps the most refined explanation of human nature which is deductiable through the verses dictated to Arjuna on the battlefield. As one basis for accepting his view or incepting Arjuna's mind, Lord Krishna raises the issue of epistemology and reality. Furthermore, he creates a worldview constructed on the discussion between life and death.[12] The knowledge based on sensory information was held to be partial and only an abstract reality. Similar is the discussion by Confucianism and Daoism in 551 BCE-479 BCE. While Confucius committed to a positivist thought pattern, Daoism was sceptical of human nature, similar to the limitation of knowledge (rational) as cited in the Indian texts. Abstraction was a crucial feature of this knowledge (rational), because in order to compare and to classify the immense variety of shapes, structures and phenomena around us, we cannot take all their features into account, but have to select a few significant ones. Thus, we construct an intellectual map of reality in which things are reduced to their general outlines. Rational knowledge is, thus,

10. Some of the ideas developed from this psychological research have articulated into the study of political behaviour by J. De Rivera, ed., *The Psychological Dimension of Foreign Policy* (Columbus: OH, 1968); Merrill De Weerd, "Strategic Surprise in the Korean War," *Orbis, 6*, Fall 1962, pp. 435-452; A. George, and R. Smoke, *Deterrence in American Foreign Policy* (New York: Columbia University Press, 1974); M. Handel, "Perception, Deception and Surprise: The Case of the Yom Kippur War," *Jerusalem Papers on Peace Problems 19*, 1976 (Jerusalem: Hebrew University); R. Hogarth, *Judgment and Choice* (New York: John Wiley 1980); R. Jervis, *Perception and Misperception in International Politics* (Princeton, NJ: Princeton University Press 1976); K. Knorr, "Failures in National Intelligence Estimates: The Case of the Cuban Missiles" *World Politics 16*, April 1964, pp. 455:467; R. Nisbett and L Ross, *Human Inference: Strategies and Shortcomings of Social Judgement* (Englewood Cliffs, NJ: Pretice-Hall 1980); A. Shlaim, "Failures in National Intelligence Estimates: The Case of the Yom Kippur War." *World Politics* 28, 3, 1976, pp 348-380. A. Tversky and D. Kahneman, "Judgement and Uncertainty: Heuristics and Biases," *Science 185*, September 1974, pp. 1124-1131. B. Wasserman, "The Failures of Intelligence Prediction." *Pol. Studies 8*, June 1960, pp. 156-169.
11. For linking modern Physics and Chinese and Indian traditional thought, refer Fritjof Capra, *The Tao of Physics: An Exploration of the Parallels Between Modern Physics and Eastern Mysticism* (Flamingo: London, 1975). Note: The book argues that a consistent view of the world is beginning to emerge from modern physics which is harmonious with the eastern wisdom.
12. A.C. Bhaktivedanta Swami Prabhupada, *Bhagavad-Gita as It Is* (Bhaktivedanta Book Trust: Mumbai, 1972), p.191.

a system of abstract concepts and symbols, characterised by the linear, sequential structure which is typical of our thinking and speaking. The natural world, on the other hand, is one of infinite variety and complexity, a multi-dimensional world which contains no straight lines or completely regular shapes, where things do not happen in sequences, but all together, a world where—as modern physics tells us—even empty space is curved. It is clear that our abstract system of conceptual thinking can never describe or understand this reality completely. According to Fritjof Capra (1975: 35) in thinking about the world, we face the same kind of problem as the cartographer who tries to cover the curved face of the earth with a sequence of plane maps. We can only expect an approximate representation of reality from such a procedure, and all rational knowledge is, therefore, necessarily limited. Human nature as understood by Chinese and Indian philosophers is dual or multiple in nature.

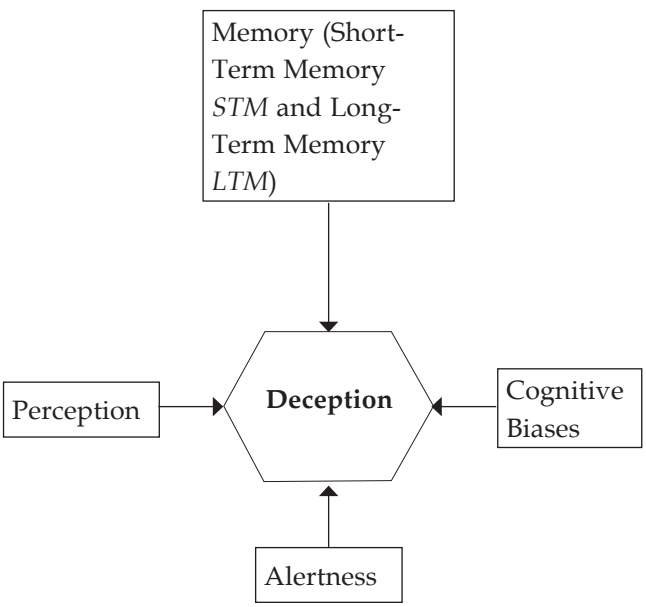
In Geneva (March 19, 2010), two 3.5 TeV proton beams successfully circulated in the Large Hadron Collider (LHC) for the first time. This is the highest energy yet achieved in a particle accelerator, and an important step on the way to the start of the LHC research programme. The first attempt to collide beams at 7 TeV (3.5 TeV per beam) will follow on a date to be announced in the near future. Advanced research of similar type otherwise known as *high energy* physics is confused while making observations on the sub-atomic world. Interestingly, the wisdom it generates has significant parallels with the Hinduism, Taoism, and Buddhism. The physicist today is of the view that the nature of the sub-atomic world is such that it is *uncertain* and exists in a condition of *duality*.[13] It is further believed that the nature of matter is such that it is what the observer makes out of it. This essay attempts to understand *deception* in strategic thinking by making the human "mind" the focus of study and argues that the analyst must adhere to methods which keep the analyst himself as the key to understanding deception rather than the objective of analysis.

13. Sub-atomic particles *do not exist with certainty* at definite places, but rather *show 'tendencies to exist'* and atomic events do not occur with certainity at definite times and in definite ways, but rather show 'tendencies to occur'. Fritjof Capra, *The Tao of Physics: An Exploration of the Parallels Between Modern Physics and Eastern Mysticism* (Flamingo: London, 1975), p.145.

This dimension of reality is crucial in understanding deception, particularly that associated with international politics and strategic situations. The inherent faultline lies in the fact that the *analyst himself* is the key to understanding deception. Deception is a state only realisable through awareness and consciousness; it requires the analyst to place himself in the centre of the analysis and not be limited by making observations from outside or in hindsight. The term deception has been discussed as cognitive-based, in other words, it is the natural outcome of the complex manner in which our mind (brain) functions.[14]

In order to understand deception, it is crucial to understand how the human mind functions which is perhaps universal in nature.

Fig 1



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14. Psychology today distinguishes the mind from the brain, for memory is now understood to be stored elsewhere to the brain. While the brain is the hardware, the mind is its software.

characteristics of the human mind (memory, cognitive bias, alertness, and perception) are discussed briefly to locate deception. The conclusion being that deception is more of an internal phenomenon than externally induced.

PERCEPTION

The perception of an analyst is crucial, for *strategic deception* aims to manipulate elite perceptions in order to gain competitive advantage. The chances of successful deception are increased by knowledge about the cognitive processes of the target decision-makers or intelligence analysts.[15] Deception, in other words, is the art of managing *perception.* Notable acts of deception in the 20th century[16] indicate that *deception* is a consciously initiated process in which the initiator transmits false information or impressions to his victim, causing him (or her) to adopt, or adhere to, an erroneous opinion or belief and to consequently construct an unrealistic picture of the prevailing situation. However, this method involves not interfering with the adversaries' perception but positively reinforcing their existing perception. For example, during the Yom Kippur War, Egyptian planners were required to cause the Israelis *not* to take those operational steps that, in the former's view, would perpetuate Egyptian weakness or at least cause the Israelis to tarry in taking them; a delay would neutralise their effectiveness during the critical first phase of the offensive. Similarly, during World War II, British and Allied forces successfully deceived the Germans into believing that the attack was not going to be on Normandy. While the Germans had visualised the Normandy attack, intelligence conveyed to German key decision-makers forced them to discount such an attack. Also, during the 1962 Sino-Indian border war, multiple factors, both domestic and international, forced key players in the Indian government, bureaucracy, and military to perceive no military action

15. Heuer Jr., n.1, p.297.
16. These include, for example, Gen Sir Edmund Allenby's operations during the Palestine Campaign in World War I; German deception prior to 'Barbarossa' , 1941; Desert Campaign, 1940-42; the Normandy invasion, 1944, and the Coalition's 'hail-Mary' manoeuvre in 'Desert Storm', 1990-91. Sheffy Yigal (2008), "Overcoming Strategic Weakness: The Egyptian Deception and the Yom Kippur War" in Scott Len and Gerald R. Hughes, eds., *Intelligence, Crises and Security: Prospects and Retrospects*; (Routledge: London, 2008), p.158.

from China.[17] Thus, despite maximum striving for objectivity, the intelligence analyst's own preconceptions are likely to exert a greater impact on the analytical product than in other fields where the analyst is working with less ambiguous and less discordant information. For perceptions are quick to form, but resistant to change. Once an impression is formed, it is easy only to reinforce it, not change it.

Perception as understood by the psychologist is a mental model that the analyst uses to make sense of the information being analysed. This information is categorised and classified in accordance with the preexisting mental model of the analyst. This mental model involves the analyst's time, energy and ego, therefore, is well defended and justified by the analyst himself. This is a reflection not of the analyst, but of his human mind which is universal in pitfalls.

ALERTNESS

Deception becomes also possible as the human mind tends to focus and remain alert during objective analysis. For example, the magician banks upon his spectators' alertness while performing tricks. Without an alert audience, the magician could hardly perform his magic tricks. During the performance of a trick, the audience remains hyperalert to the magician's actions and tends to make the mistake of focussing on the obvious aspect which is universal. The magician, while designing a specific magic trick, is aware of this limitation of the human mind and, accordingly, relocates his trick from the obvious, thereby achieving deception or a successful magic trick. In order to successfully trace or crack a particular magic trick, it is important for the audience to also observe and understand more closely for the magician is using his or her mind to perform the magic.

What is true for a magic trick is also true for deception and counter-deception. Deception is achieved by playing into what the adversary is most alert towards. The limitation of the human mind is such that it does not see but perceives what it wants to perceive or make out.

17. Declassified CIA Report, *Sino-Indian Border Dispute* (Reference Title Polo XVI), DD/I staff Study-CIA/RSS, Section 3: 1961-1962, May 5, 1964. Approved date for release May 2007.

However, a vast body of literature on cognitive psychology suggests the pitfalls and natural mechanism of the human mind that gets activated while doing so.

COGNITIVE BIAS

Cognitive biases are those that result from regularities in the way the human mind processes information, independent of any intellectual or emotional predisposition toward a certain judgement. The real problem is that our inferences are based on our assumptions. This characteristic feature of the human mind's cognitive ability is crucial in understanding deception, in terms of the following:

- Estimation.
- Probabilities.
- Availability.
- Anchoring.
- Evaluation.
- Consistency.
- Absence of evidence.[18]

These terms and their understanding drives a central point that the human mind is limited and functions on limited rationality. It is impossible for the human mind to see the complete picture, for the true nature of the environment that the strategic analyst is trying to decode does not exist in complete form, but in parts. Analysts attempt to put the parts together to come up with a coherent picture. However, a vast body of literature on cognitive psychology suggests the pitfalls and natural mechanism of the human mind that gets activated while doing so.

DECEPTION AND METHODOLOGY

While dealing with a particular strategic situation, intelligence analysts deal with highly ambiguous situations on the basis of information that is processed incrementally under pressure for early judgements. Intelligence

18. Heuer Jr, n.1, p.315.

analysis tries to illuminate the unknown. In other words, the greater the ambiguity of the stimuli, the greater the impact of expectations and pre-existing images on the intelligence analyst's own preconceptions; these are likely to exert a greater impact on the analytical product than in other fields where the analyst is working with less ambiguous and less discordant information.[19] The inherent nature of a strategic situation is such that its diagnosis can only be based upon the analyst's preconceptions concerning how and why events normally transpire in a given strategic situation.

The concept brought about by the relativity theory was, therefore, one of the greatest revolutions in the history of science. However, the history of philosophy seems to have articulated this dimension much earlier.

A strategic situation comprises not just physical aspects such as geography, terrain, intelligence, analysts, and decision-makers, but also a large amount of discordant information. Individuals have only limited capacity to sort and store this information in their memory in a manner that makes it possible to recall it for evaluation of hypotheses currently under consideration. For example, the Situation Reaction Test (SRT) is designed by psychologists to arrive at the predisposed behaviour patterns of those being tested. In other words, these tests are based on the assumption that at any given moment, individuals resort to a familiar model in order to face unknown or suddenly thrown up situations. The term strategic situation is similar to a *moment* and the philosophical understanding of time. There is an inbuilt paradox that exists while discussing a situation as a moment. Classical physics (Newtonian) recognises that any particle exists in three-dimensional space (represented as x-y-z- axis vectors); quantum physics, on the other hand, attempts to add a fourth dimension, *time*, which was until then treated as a separate dimension which is absolute and flows at an even rate, independent of the material world. This leads to complexity, and quantum physics rightly uses complex mathematics (integral and

19. Ibid., p.297.

differential calculus) to express four dimensional realities. It is difficult for the human mind to grasp reality if it is to integrate space and time; therefore, it uses simple models where the two are separated. The concept brought about by the relativity theory was, therefore, one of the greatest revolutions in the history of science. However, the history of philosophy seems to have articulated this dimension much earlier. The notions of space and time are linked here to particular states of consciousness. Being able to go beyond the ordinary state through meditation and rituals, Eastern philosophy realised that the conventional notions of space and time are not the ultimate truth. The theory of relativity is based on the understanding that all space and time measurements are relative. In other words, what is observed has direct bearings on who is observing. For example, in classical physics, it was always assumed that rods in motion and at rest have the same length. The relativity theory has shown that this is not true. The length of an object depends on its motion relative to the observer and it changes with the velocity of that motion.[20]

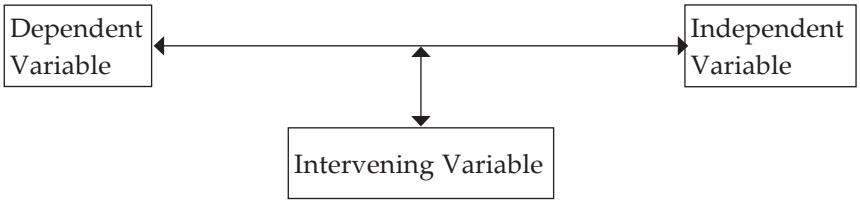
Research methods in social science are basically a reflection of the human mind and its ability to understand, hypothesise and test reality and experience. What has been known in the last fifteen years about the human mind is pathbreaking. Research methods in social science, political science, and international relations essentially depend on a method for enquiry. An in-depth understanding of the method of enquiry and its coherence with the latest known about the human mind then becomes crucial. All branches of knowledge must reflect the enquiry, for this study identifies that today's discourse is overshadowed by a few branches. It is knowledge that is sought, not wisdom. This remains the most important distinction between science and philosophy. While both science and philosophy perform the same task of decoding the same reality, they adopt different methods of enquiry. As a reflection of the human mind, science takes a shortcut method and at times leads even international relations to take deviant turns. While science has made human life far more comfortable and enhanced its quality, it does not

20. Fritjof, n.11, p.157.

understand human beings or perhaps understands them best. The methods adopted in science are of the positivist school, which is grounded in the empirical form of reality. That is, it believes in the knowledge conceivable by sensory organs that aid the human mind. Empirism is the fundamental means to understand experience and reality. This endeavour as a process of evolution has a story and hypothetically is in place for a particular interest. This method is insufficient and not as sophisticated as other branches of enquiry such as metaphysics. However, it is simple to understand and explain reality and experience. Science cannot answer questions such as: what happens to human beings after death? Or where do we go when we sleep? An important insufficiency with the method of science is that it breaks down reality, in other words, it attempts to simplify reality. There is a specific reason for why this happens: science has tied its hands by committing itself to the task of explaining rather than understanding. While science strives for explanation and knowledge, philosophy (metaphysics) strives for understanding and wisdom.

Science simplifies reality and experience as *cause and effect*. This is also the case with the social science method as adopted by international relations. The simplified model of enquiry made of the *dependent variable, independent variable, and intervening variable* in the equation format, leads us to an exercise of *analysis*. In other words, it is based on the interaction of various parts of a research puzzle with one another. While this method does provide a key explanation to the phenomenon observed, its method to breakdown or analyse does not capture the real meaning of the phenomenon being observed.

Fig 2: Basic Model of Research Puzzle in Social Science as adopted by International Relations (Positivist School)



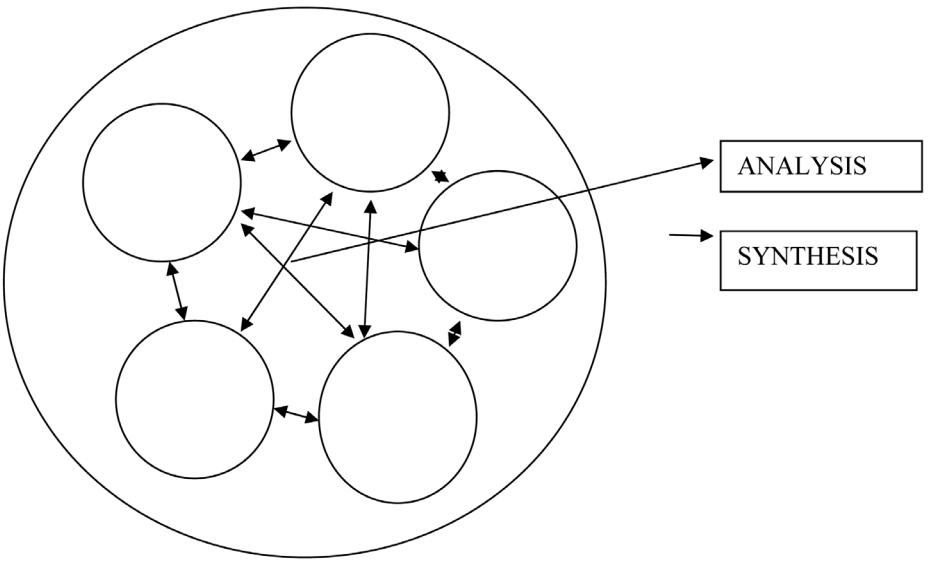
Understanding of the self more particularly underwent a transition, which was constructed as _self-interest_ and primarily concerned with survival.

This method of distinguishing between *cause and effect* is a reflection of an understanding of how the human mind functions. This understanding is an induced one, as the timeline suggests. Beginning with the 17th century, Europe underwent a transition in terms of ideas similar to the abovementioned model. *Understanding of the self* more particularly underwent a transition, which was constructed as *self-interest* and primarily concerned with survival. This view is limited and does not encompass a broader understanding of the *self* as described in other branches of philosophy (metaphysics). It is also based on the assumption that human beings are rational, and logic may explain them.[21] This is true, but the assumption is based on a particular weakness or limitation of the human mind. The human mind is less capable of integrating the dimensions of *space and time*. Integrating *space* (three-dimensional) and *time* leads us to a situation where conventional understanding of the past and future is redundant. It is easy to comprehend reality if these (*space and time*) are separated; however, it paints an incomplete or discordant picture of reality and experience.[22] Methodology in social science will shift towards *synthesis* instead of *analysis*, provided it focusses more on understanding than explanation. It has to be inspired by those schools of thought that view *cause* and *effect* as the manifestation of the same. Realisation within Britain during World War II and the complicated situation it presented, brought about the need to involve experts from other disciplines in order to offer assistance to resolve certain problems which until then were purely considered strictly military. This inter-disciplinary approach to military issues arising particularly due to advancement in science and technology and its less optimisation with previous military

21. The Age of Reason said that these forces had only ever existed in man's imagination; only reason could show man the truth about the universe. The trouble was that man became a thinking pygmy, and the world of rationalists was a daylight place in which boredom, triviality and 'ordinariness' were the ultimate truth. For a further critique of the rational model and its assumption about the human mind, refer, Colin Wilson, *The Occult* (Hazell Watson and Viney Ltd: Great Britain, 1979), p.3.
22. J.J.C. Smart, *Our Place in the Universe* (Basil Blackwell Ltd: Oxford, 1989), pp.17-18.

experience led to the advance of a body of knowledge known at that time as operations analysis and later in its various extensions, operation research, systems engineering, management science, cost-effectiveness analysis, and system analysis.[23] Operations research narrowly refers to analysis to increase the efficiency of the organised man-machine system and broadly to encompass almost all quantitative analysis. Whereas system analysis is located somewhere in the quasi-scientific domain, in other words, it brings in the element of statecraft and the way of the human spirit to produce policy options or advice. System analysis, therefore, attempts to combine science and philosophy.[24]

Fig 3: Analysis and Synthesis



For example, without taking a "system" point of view, it might seem obvious that if the accuracy of a missile can be improved, the result will be

23. E.S. Quade, ed., *Analysis for Military Decisions* (Santa Monica: RAND Corporation, 2000), p.3.
24. Note: Difference between operations research and system analysis: System Analysis: 1) Broad. 2) Long Range 3) High Level 4) Choices of Objective 5) Choices of Strategy 6) Judgment 7) Quantitative 8) Assistance to Logical Thinking. Operations Research: 1) Lower Level 2) Overall Maximisation 3) Menstruation 4) Quantitative 5) Means to End 6) The Optimal Solution.

The point is not that psychological models should replace rational models, but that no single approach has a lock on understanding rationality.

more enemy missiles or planes shot down. It does not follow at all, however, that the most effective overall defence system will necessarily be the one with the highest potential for destroying enemy vehicles. Numerical values that measure the kill capability of a missile defence system must depend on at least four factors: first, the number of missile emplacements within whose range the invaders must fly; second, the number of missiles that can be launched during the time the enemy is within range; third, the probability that a given missile will be operative; fourth, the probability that an operative missile will kill its target.

Currently, strategic thinking is gauged by three kinds of method specialists: (1) behaviourist; (2) political psychologists; (3) rational choice theorists.[25] While their individual methods and assumptions are different, they all agree on one crucial aspect regarding the human mind and its cognitive process. They all keep the mental phenomenon *out* as an explanatory variable, for they believe nothing much is known about it. For them, psychology explains only mistakes (or deviations from rationality): therefore, (1) rationality must be free of psychology; (2) psychological explanations require a rational baseline; (3) psychology cannot explain accurate judgement.

The point is not that psychological models should replace rational models, but that no single approach has a lock on understanding rationality. In some important contexts (such as strategic choice), or when using certain concepts (such as trust, identity, justice, or reputation), an explicitly

25. Note: Behaviourists focus their analysis on an actor's action and make predictions about intent; political psychologists concern themselves with rational political behaviour and highlight any deviations from there on; rational choice theorists work with a model where they assume all human beings to be capable of reasoning in order to behave rationally. Psychology, on the other hand, explains wars that result from misperception, but only after the development of a rational model. 1) Rationality must not be free of psychology; 2) Psychology explains mistakes has led international relations theorists to believe that psychological explanations need a rational baseline; 3) Belief that psychology cannot explain accurate judgements. Farrell Theo, ed., "Critical Concepts in International Relations" in *Security Studies* (New York: Routledge, 2010), p.523..

psychological approach to rationality may best be a rationalist one. Knowing irrational behaviour depends on knowing rational behaviour. Rational choice theorists and political psychologists agree that psychology explains only deviation from rationality. The primary task of political scientists is to study "rational political behavior, not psychology or the psychology of political behavior".[26] The belief, commonly held by rational choice theorists, can best be understood as part of an intellectual tradition in psychology and economics that sought to eliminate all mental phenomena from explanations of human behaviour. Why do political psychologists accept as their task the explaining of why people slip off the rational baseline? The key difference between rationalists and psychologists is not over what they explain, but over how they explain it. Rationalists rely on deduction, statistics, and probability theory, whereas psychologists rely on induction and a description of how the mind actually works. Behaviourist and neo-classical economists eliminate the "mind" from causal explanations of human behaviour. Behaviourists and economists reject the metaphysical in favour of the observable and material. They aim to overthrow "folk psychology" and replace it with science. Although behaviourists do not address rationality directly, their attempt to substitute observable stimuli for mental phenomena is central to the contemporary rational choice theory. Methodological reasons also drive economists to eliminate the mental phenomenon from their explanation. Because beliefs and desires constitute action and cause action, folk psychology is *unfalsifiable*.[27] Understandably, behaviourists, economists, and rational choice theorists seek to replace folk psychology with a *causal theory* of human action. Behaviourists limit their focus on studying behaviour, not the mind. Psychology, however, requires a rational baseline. Rational choice is above all else a normative theory. It explains how one should reason in order to be rational. Analysts can only know what is not rational—the domain of psychology—after establishing what is rational. Rationality, therefore, necessarily depends on psychology (mental phenomenon).

26. Ibid., p.518.
27. Ibid., p.522.

Deception is an internal cognitive process, however, it has strong links with the external environment for deception is also processing of information sent and received.

There is a need to differentiate between "process" and "outcome". Why do both rational choice theorists and political scientists who use psychology view rationality as free of psychology? Economist have attempted to exclude psychology and its empirical tradition from their discipline, and embraced the certainty of logic. The epistemological debate as one between rationalists and psychologists, led to different approaches to rationality. For example, psychology can explain wars that result from misperception, but only after the development of a rational model. An analyst's reliance on unacknowledged psychological assumption can cause mistakes. For example, *trust* requires certainty beyond observable evidence and reliance instead on how one feels about someone.

Table 2

PREFERENCES	Rational Choice Theorists
ACTION →	Behaviourists
DESIRES AND BELIEFS	Folk Psychologists

Behaviourists believe that relying on the mental phenomenon is a mistake; economists believe that the mental phenomenon causes the mistake. The market's imperfections reflect individuals' psychological limitations. Because rationalists reject the mind as causing behaviour, the actor's environment carries the explanatory burden. Analysts cannot hope to exclude the mind from rationality if their explanations of rational behaviour depend on the mind. Political psychologists, like rationalists, believe that psychology explains mistakes. Behaviourists and neo-classical economists attempt to eliminate the "mind" from causal explanation of human behaviour, since it is impossible to know what role the mental

phenomenon played. Behaviourists and economists rule out metaphysics in favour of the observable and material. Although behaviourists do not address rationality directly, their attempt to substitute observable stimuli for mental phenomena is central to contemporary rational choice theory.

Table 3: Opposing Branches of Science and Folk Psychology with Opposing Methodologies.

Science	Folk-Psychology
Observable Stimuli	Mental Phenomenon
Rational Choice Theorists	Psychology

Behaviourist, economists, and rational choice theorists put forth the causal theory and folk psychologists put forth human action. Psychology, as the behaviourists view it, is purely an objective experimental branch of natural science. Its theoretical goal is the prediction and control of behaviour. Introspection forms no essential part of its method, nor are the scientific values of its date dependent on the readiness with which they lend themselves to interpretations. Behaviourists accept that private mental states exist, but reject their causal power.

NATURE OF STRATEGIC DECEPTION

Deception is an internal cognitive process, however, it has strong links with the external environment for deception is also processing of information sent and received. Most research suggests that deception is of the *self*; in other words, in order to understand deception, the analyst must ask himself as to how he is being deceived. This perhaps will not help completely since if deception is active, then the cognitive make-up of the human mind suggests that the analyst will be unable to detect it. With respect to deception, one overwhelming conclusion stands out: it is far easier to lead a target astray by reinforcing the target's existing beliefs, thus, causing the target to ignore the contrary evidence of one's true intent, than to persuade a target to change

The deception methodology involves initiating strong and obvious evidence that forces the desired conclusion to be at least seriously considered by the target intelligence analysts and decision-makers.

his or her mind.[28] Military deception is based on managing adversaries' expectations. Expectations are based on existing beliefs and deception requires persuading a target about something quite different from what he or she already is inclined to believe—this is difficult because of the target's tendency to integrate any new information into existing beliefs.

The deception methodology involves initiating strong and obvious evidence that forces the desired conclusion to be at least seriously considered by the target intelligence analysts and decision-makers. This is then followed in quick succession by additional supporting evidence that leads the target to a reasoned conclusion in favour of the desired alternative. Tactically, it involves a whole picture which can be transplanted within the adversaries' belief system, however, in parts, with key pieces, over a period of time. For example, surprise is frequently possible only by risking the revelation of the means of surprise. In other words, using the resource for surprise at the first opportunity would mean getting less from it than would be possible if a more suitable event were to come along immediately after the resource for deception had been expended.[29] Strategic surprise, therefore, is achieved by 'resource revelation'. Resources for sources can be exploited as a function of the stakes of the situation.

People process information to make judgements on incomplete and ambiguous information. Dick Heurer's research demonstrates that it is part of the natural functioning of the human cognition process, and it has been demonstrated across a broad range of fields ranging from medicine to stock market analysis. The process of analysis itself reinforces this natural function of the human brain. Economic theory is built on the assumption

28. Heuer Jr, n.1, p.298.
29. Axelrod Robert, "The Rational Timing of Surprise," *World Politics*, vol.31, no.2, January 1979, pp. 228-246.

of *homo economics,* a figure that is selfish and unconcerned about the well being of others.[30] One criticism of rational choice focusses on the lack of realism in its assumption that we calculate the expected consequences of our options and choose the best of them. A vast body of social research reveals that people often act impulsively, emotionally, or merely by the force of habit.[31]

The basic structure of deception is given as: When 'X' deceives 'Y' about some assertion P, it is true that[32]

- 'X' is aware that P is false.
- 'X' intends to make 'Y' believe that P is true.
- 'X' succeeds in making 'Y' believe that P is true.

Self-deception, on the other hand, entails that 'X' believes both *P* and *not P* at the same time.[33] For example, advertisements focus on the act of deceiving by the advertiser, rather than the effect of the message on the consumer.[34] The promotional communication influences the probability that a particular belief will be associated with an attitude toward a brand. It influences the evaluation of a particular belief associated with the brand. We set forth certain understandings and expectations about cause and effect relationships and then process and interpret information based on these models and filters. Information + Expertise are not equal to Intelligence Analysis. Dick Heurer asserts that the pitfalls the human mental process sets for analysts cannot be eliminated, they are part of us. What can be done is to train people how to look for, and recognise, these mental obstacles, and how to develop procedures designed to offset them. Intelligence analysts should be self-conscious about their reasoning processes. They should

30. Grezy Uri, "Deception: The Role of Consequences," *The American Economic Review*, vol.95, no.1, March 2005, pp.384-394..
31. Hechter Michael and Sutoshi Kanazawa, "Sociological Rational Choice Theory" *Annual Review of Sociology*, vol.23, 1997, pp.191-214.
32. Canfield V. John and F. Don Gustavson, "Self-Deception," *Analysis*, vol.23, no.2, December 1962, pp.32-36.
33. Mele R. Alfred, "Self-Deception," *The Philosophical Quarterly*, vol.33, no.133, October 1983, p. 588.
34. Gardner M. David, "Deception in Advertising: A Conceptual Approach," *The Journal of Marketing*, vol.39, no.1, January 1975, pp.40-46.

think about how they make judgements and reach conclusions, not just about the judgements and conclusions themselves.[35] To offset the risks accompanying the analysts' inevitable recourse to mirror-imaging, it is recommended to look upon the analysts' calculation about foreign beliefs and behaviour as hypotheses to be challenged. An alternative hypothesis needs to be carefully considered, especially one that cannot be disproved on the basis of available information. If deception is well planned and properly executed, one should not expect to see evidence of it readily at hand. An agency that relies on sharp cognitive performance by its analysts must stay abreast of studies on how the mind works i.e. on how analysts reach judgements. Accurate intelligence requires accurate perception. Mindsets are neither good nor bad: they are unavoidable. Mindsets are quick to form but resistant to change. Intelligence seeks to illuminate the unknown. Almost by definition, intelligence analysis deals with highly ambiguous situations. If information does not fit into what people know, or think they know, they have great difficulty in processing it. Anything that influences what information is remembered or retrieved from memory also influences intelligence analysis. If people do not have an appropriate category for something, they are unlikely to recollect it. Many observers of international affairs had the impression that Communism was a monolithic movement, that it was the same everywhere, and controlled from Moscow. Intelligence analysis should be self-conscious about the reasoning process. Judgement is what analysts use to fill gaps in their knowledge. Situational logic is the most common operating mode for intelligence analysts. It as an analytical strategy that also has two principal weaknesses. While situational logic may be the best approach to estimating short-term developments, a more theoretical approach is required as the analytical perspective moves further into the future. What academics refer to as theory is really only a more explicit version of what intelligence analysts think of as their basic understanding of how individuals, institutions, and political systems normally behave. But if theory enables the analysts to transcend the limits of available data, it

35. Davis Jack, "Improving Intelligence Analysis at CIA: Dick Heurer's Contribution to Intelligence Analysis," *Psychology of Intelligence Analysis: Introduction* (Center for the Study of intelligence Central Intelligence Agency, 1999).

may also provide the basis for ignoring evidence that is truly indicative of future events. Analysis begins when the analyst consciously inserts himself or herself into the process to select, sort, and organise information. This selection and organisation can only be accomplished according to conscious and subconscious assumptions and preconceptions.

THE USE OF DECEPTION BY THE IRAQI FORCES AND COALITION FORCES: GULF WAR (1991)

The theory of deception as articulated above is also realisable in real-time. The following section looks into how deception was carried out during the Gulf War (1991) by both Coalition and Iraqi forces. The United States armed forces have categorically admitted that they were deceived.[36]

Both Iraqi and Coalition forces used deception during Operations Desert Shield and Desert Storm. Iraq had some success in tactical deception. However, the Coalition's efforts overall were more significant, highlighted by the successful effort to dupe Iraq into expecting an amphibious and frontal assault into Kuwait, while the Coalition's main effort was actually a large armoured thrust far to the west that eventually enveloped and destroyed the bulk of Iraq's army in the Kuwait Theatre of Operations (KTO). Coalition efforts were, however, facilitated by air superiority and complete command of space that together denied Iraq valuable intelligence gathering opportunities.

As articulated in this study, if deception was realised in the Gulf War, then reasonably both Coalition and Iraqi forces played into each other's belief system. Also, in this particular case, it is important to note that deception was successful or realised not after the crisis came into being (Iraq's invasion of Kuwait) but was built in much before the crisis. Success in the Gulf War was equally the product of persistent investments in US defence capabilities and security relationships over many years, indeed decades. Their (US) investments in material persistently sought flexibility

36. "Conduct of the Persian Gulf Conflict: An Interim Report to Congress" *Pursuant to Title V Persian Gulf Conflict Supplemental Authorisation and Personnel Benefits Act of 1991 (Public Law 102-25)*: Vol IV. p.24.

in design so that the equipment could be used in a wide variety of settings and roles.[37]

37. The following highlight the key decisions and major events in the policy and programmatic actions to develop and improve US defence capabilities in the region:-

- 1976 Saudi Naval Expansion Program (SNEP). The US commenced sales, training, and logistics support in the expansion and modernisation of the Saudi Navy.
- 1977 Presidential review of United States regional security commitments and capabilities. Conducted primarily within the Office of the Secretary of Defence, the effort resulted in a series of Presidential Review Memorandums (PRMs), including PRM 10 that stipulated the need for:

1) A limited number of relatively light combat forces (such as marine corps divisions and some light army divisions).
2) Naval and tactical air forces.
3) Strategic mobility forces with the range and payload to minimise dependence on staging and logistical support bases.
4) July: The US and Bahrain concluded leasing of docking and shore facilities by the US Middle East Force (which had been stationed at Manama since 1949).

- July 1978: Presidential Directive 18 identified a strike force of about 100,000 troops to respond to regional contingencies. The Defence Department identified two army divisions, one heavy and one light, and marine amphibious force. Additionally, the Pentagon was instructed to beef up its strategic airlift and sealift capability so that it could quickly transport these forces to potential combat zones. The strike force was to be backed up by two to four aircraft carrier task forces and by up to three air force tactical air wings totalling about 200 airplanes.
- December 13, 1979: Secretary of Defence Harold Brown spoke of rapid deployment forces, described the initial programmes for enhancing rapid deployment capabilities before the Armed Services Committee. Previewing the FY81 budget and the FYDP, the Secretary said: "We are undertaking two major initiatives to help the US cope with crises outside Europe. The first will be Maritime Prepositioning ships that will carry, in dehumidified storage, the heavy equipment and supplies for Marine brigades. These ships would be stationed in peacetime in remote areas where US forces might be needed. The Marines would be airlifted to marry up with their gear and be ready for battle on short notice. The other initiative will be the development and production of a new fleet of large cargo aircraft able to carry Army equipment, including tanks, over intercontinental distances. These aircraft would be used initially to deliver the outsize equipment of the advanced forces necessary to secure air bases or the ports or the beaches needed by the MPS to deliver their heavy gear."
- April 6, 1984: At the National Leadership Forum of the Centre for International and Strategic Studies at Georgetown University, President Reagan stated, "…given the importance of the region (the Middle East), we must also be ready to act when the presence of American power and that of our friends can help stop the spread of violence. I have said, for example, that we'll open the Strait of Hormuz, the vital lifeline through which much oil flows to the US and other industrial democracies."
- December 1979: DOD began negotiating with Oman, Somalia, Djibouti and Kenya to permit the increased use of ports in those countries by US forces.
- January 23, 1980: In the aftermath of the Soviet invasion of Afghanistan in December 1979, President Carter enunciated the "Carter Doctrine", which designated the Persian Gulf as an area of vital interest to the US. Specifically, the doctrine stated, "Any attempt to control of the Persian Gulf region will be regarded as an assault on the vital interest of the USA and will be repelled by any means necessary, including military force."
- January 29, 1980: In his third annual report, Secretary Brown further described the RDF. In addition to the hardware programmes, the Secretary reported the creation of a rapid deployment force based in CONUS under a Marine Lieutenant General.

NATURE OF IRAQI DECEPTION AND DISINFORMATION

The deception was designed to reduce the effectiveness of Coalition air strikes, enhance the survivability of the Iraqi forces, destabilise the Coalition and increase uncertainty about Baghdad's future intentions.

The Iraqi armed forces and intelligence services conducted a coordinated and sophisticated military deception programme directed against Coalition commanders, intelligence services, policy-makers and foreign populations. Deception was conducted primarily using Soviet training. The deception was designed to reduce the effectiveness of Coalition air strikes, enhance the survivability of the Iraqi forces, destabilise the Coalition and increase uncertainty about Baghdad's future intentions. Iraqi deception and disinformation did not mislead the Coalition intelligence activities and overall military capabilities and intentions, although Iraq was successful in complicating the Coalition effort.

METHODS

- Active measures by the Iraqis attempted to present a false picture (simulation, decoys, and disinformation).
- Drew Coalition fire, simulated heat signature.
- Decoy Scud missile launcher sites, some incorporating heat producers to simulate active generators, complicated the Coalition's effort to eradicate the Iraqi ballistic missile threat. Finding and destroying Iraq's mobile Scud launchers proved a difficult and vexing problem, diverting resources from other aspects of the air campaign and prolonging the threat to Israeli, Saudi and other civil and military targets throughout the region.
- Dual representation of the value of the military industry.
- Certainly the Iraqi deception and disinformation efforts had some success in causing the Coalition to direct some munitions to decoy targets, as well as making the campaign against military infrastructure

more difficult and more susceptible to propaganda exploitation.[38]

NATURE OF COALITION DECEPTION

Coalition force deception operations were an integral part of the overall strategy for Desert Storm. Planning began in early August and remained an essential element of the campaign. The goal of these operations was to keep the enemy off balance and disoriented as to the actual strength, location and intentions of the Coalition forces.

A deception measure was designed to convince the Iraqis that Coalition forces would directly attack Iraqi positions in Kuwait supported by an amphibious assault on the Kuwait coastline when, in fact, the main ground effort would be a penetration in the west, into Iraq itself. This deception played upon pre-existing Iraqi expectations, and the Central Command (CENTCOM) implemented a plan which would reinforce those expectations. Prior to Operation Desert Storm, the deception plan included amphibious rehearsals and exercises, training, air space locations, air refuelling and early warning orbits, air combat exercises, trench warfare training and minefield breaching operations. After hostilities began, but prior to the ground campaign, operations included border probes, artillery raids, feints and air strike packages. The Coalition's ability to deny air space to Iraqi reconnaissance aircraft and its command of space helped to ensure

- March 1, 1980: The Rapid Deployment Joint Task Force (RDJTF) was established to protect US national interests, including assured access to oil, stable and secure regimes in Southwest Asia, and prevention of the influence or takeover of the region whose interests are inimical to those of the US and the region.
- March 5: DOD announced that the Pentagon would deploy to the Indian Ocean seven existing cargo ships with enough equipment and supplies for early arriving forces of RDF. This formalised the Near-Term prepositioning Ships (NTPS) programme.
- The US undertook expansion of security assistance programs and defence cooperative efforts with friendly states throughout the region: sales of modern US military equipment to Jordan, Egypt, Saudi Arabia and the rest of the Gulf Cooperation Council (GCC) states.
- CINCCENT and its component commander's war-gamed the scenario of an Iraqi invasion of Kuwait more than 15 months earlier. The Joint Staff concurrently reevaluated CENTCOM's planning and findings. "Conduct of the Persian Gulf Conflict: An Interim Report to Congress," *Pursuant to Title V Persian Gulf Conflict Supplemental Authorisation and Personnel Benefits Act of 1991 (Public Law 102-25),* vol IV. p.24.

38. n. 36, p.24.

that the main effort to the west remained undetected throughout its long build-up after the air war started. Prior to the execution of hostilities, the Navy Central Command (NAVCENT) conducted a series of amphibious rehearsals throughout the Persian Gulf to include the highly publicised Exercise Imminent Thunder. The entire spectrum of amphibious capability and force structure was used with support from theatre tactical air forces. Naval gunfire and ship concentrations were consistent with amphibious pre-invasion efforts. This caused the Iraqis to commit a large number of forces (at least six to seven divisions) to defending the Kuwait coastline against an expected amphibious assault.

In addition to supporting the deception objective of fixing Iraqi positions in Kuwait, the Central Air Force (CENTAF) used deception to mask the beginning of the air campaign. Weekly sorties surges and periodic mass tanker launches portrayed increased activity. Continuous Airborne Warning and Control System (AWACS) and combat air patrols within Iraqi radar coverage conditioned the Iraqis to the presence of large numbers of Coalition aircraft. These portrayals were intended to convince the Iraqis that preparations for the initial attack were merely another training surge. That perception was used to help cover the air strike force marshalling out of range of Iraqi radar coverage. After marshalling, the packages entered Iraqi air space with minimum warning.

Aggressive border probes and artillery raids against the Iraqis positioned in Kuwait also aided in deceiving Iraq about Coalition intentions. Further, as the ground offensive began, the 1st Cavalry Divisions feinted along the southern Kuwait border to deceive the Iraqis as to the true location of the Marine attack. These efforts and the supporting attack by two Marine divisions into the "shoulder "of Kuwait, an obvious avenue of approach, and several demonstrations by 4th Marine Expeditionary Brigade off Ash Shuaybah, Bubiyan Island and Faylakah Island, served to fix the Iraqi forces in place and precluded their shifting to the west to meet the main attack or reinforce Iraqi forces to the west. When Coalition forces swept in from the west, they found the Iraqi defenders oriented to the east and south, allowing the Allies to attack them from the flanks and rear.