A New Forensic Picture Polygraph Technique For Terrorist and Crime Deception System

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Tribute: *This technique is dedicated to the memory of Dr Russell N. Cassel USAF 2 Bird Colonel who in 1987 was distinguished by the Australian Police for pioneering computerized biofeedback personality assessment. Russ Cassel's life mission in service before self was honored in 2002 with the APA Presidential Citation for exemplar humanitarian contributions in operational research and caring for military personnel since 1962. His humanitarian contributions were legion as an esteemed psychology professor, prolific research publications author and as an editor of 5 scientific journals "Where today was always yesterday, in helping others".*

Abstract

The Forensic Terrorist Detection System called the Pinocchio Assessment Profile employs standard issue polygraphs for a non-verbal picture technique originated as a biofeedback careers interest instrument (Costello 1987). This biofeedback test was published with 3 statistical validations as the Australian Life Mission Test (ALMT). For its intended career guidance purpose, ALMT used 112 career picture slides taking 40 minutes testing. Forensic adaptation needs only 8 minutes for 48 pictures in 8 sets of 6 pictures with 8 seconds per exposure including hook up. Basal norms are recorded by running through neutral pictures for comparison with later hot target exposures. Recognition deception is revealed when the series is altered and repeated. For elaboration, see ALMT (Cassel and Costello, 1981 ff.).

The system can be integrated readily into airport screening protocols. However the method does not rely on any questioning or foreign language translation, whether Arabic, French, Russian, Chinese or English. Its fresh rose-like sterling value is sustained in intelligence gathering through hot targets of suspected terrorists or suicide bombers including Al Qaeda, Hezbollah, Taliban et al. Suspect terrorists even at airports or in other criminal investigations; looters, rapists, murderers or armed hold-up robbers are exposed to photographs of suspect collaborators or weapons from brutal crime scenes.

Neutral photographs are interspersed with hot-target snaps of suspect collaborators, crime scene localities or weapons. Involuntary reflex EMG, GSR/EDA, temperature and heart rate change responses are recorded for instant statistical comparison between sets of neutral and hot pictures.

Cognitive dissonance (Festinger, 1957) is revealed between hot target and neutral picture recognition, recorded and computed with simple statistical comparisons. Through instantly shared data it's a small world after all and "growing ever smaller" (Eisenhower, 1961). The FTDS can be monitored remotely from international central intelligence sharing centers.

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Rapidly identifying suspect terrorists or criminals, placing them into custody and reaching closure at the time of trial are urgent issues for law enforcement; citizens, business, government agencies and the legal community. Terrorists "are" cold-blooded murderers who do not reason or experience our shared sense of morality. Criminals are not *"a rose by any other name"* while murdering innocent people regardless of race, color or religion. Terrorist cell metastases appears continuously on security screens even when the EU or UN fails to recognize terrorists like Hezbollah et al by name, in their hesitant diplomatic parlance. Without mincing words, the picture polygraph technique for standard issue polygraphs is a non-verbal parlance-free weapon, sharpened as precision tool for truth detection targeting.

Summary

The PAP was of course named after Pinocchio, the character created by Carlo Collodi in 1880, immortalized by Walt Disney, America's father of animation. Technique refinement for standard issue polygraphs will elicit involuntary non-verbal physiological responses. As in the 1940 Disney movie and storybook versions from Japan, Italy and Russia preceding it, Pinocchio was a wooden puppet whose nose grew longer whenever telling lies. In the non-verbal method, psychophysiological markers are measured in a manner unimaginable by Collodi, Pinocchio movie or any of the other storytellers who tried to deliver a precious moral message about telling the truth.

The method is a refined complement to good forensic intelligence and grass roots police work at the local, national and international level. Suspects are exposed to a series of pictures as in a police identification line-up to distinguish deceptively big noses going almost out of joint. When compared with current polygraph interviewing methods, the innovation offers an improved if not superior technique to identify deliberate deception.

We consider the method to be an imperative addition to the armamentarium in the war on terror and increasing crime rates. Cruel atrocities against humanity similar to those brutally perpetrated by Adolph Hitler et al have over-loaded doomsday foreboding and grotesque entrenched fear shadowing so many innocent freedom loving people.

Methodology

The technique comprises 8 sets of hot-target pictures of presumed collaborative suspects or crime scene locations. The test is administered in eight minutes to record corroborative forensic evidence and future investigative intelligence data.

1. Already known suspects or crime scene pictures are scanned into the high value target Windows platform. Hot target pictures are interspersed with sets of neutral non-emotive pictures.
2. High value hot target responses are compared with responses to neutral pictures of faces, places, or items such as specific weapons, explosives or poisons.
3. Statistical analysis programmed into robust software enables instant comparison between high value target suspect picture recognition and neutral stimuli responses.
4. Test-retest data is obtained by changing the order of implanted target recognition pictures, without the subject's knowledge.

Repeat Test Procedure Reliability

1. For reliability, the test is repeated but the serial order is altered for neutral pictures and inserted hot target picture sets. These are changed deliberately but this is unknown and thus cannot be remembered by the suspect.
2. As a second PAP truth detector test variation, only one high value target picture set is inserted within the eight picture groups; seven sets remaining neutral.
3. A third variation is used by inserting only one hot target snap within the entire set of forty eight neutral pictures.
4. As a fourth re-test variation, the hot target picture or group is inserted randomly within the entire set of neutral exposures.

Faces and Places Interrogation

Faces

Subjects are shown high value suspect collaborator target pictures to gauge involuntary psychophysical recognition, in lieu of verbal interviewing so this procedure is independent of language because questions are not asked. Intentionally, no feedback whatsoever is available to suspects for scientifically controlled, extraneous variable free interrogation.

The unique advantage of using pictures of collaborator faces is interrogation independence from polygraph interviewing or questioning and awkward language translation. Tedious and sometimes ambiguous translation is removed. Results give instant comparisons between high value target pictures (faces) compared with neutral pictures that do not evoke visual recognition through cognitive dissonance (Festinger, 1957).

Places

The same method is used to gain helpful information by replacing specific sets of presumed collaborators or contacts with these photographs of precise crime scene locations.

The technique pin-points a suspect's visual recognition of an exact crime scene, such as the tragic sites of the Bali Indonesia terrorist bombings of tourist resorts in 2002 and 2005.

1. If a bomb's exact placement, for example in a tourist bar or restaurant, is known by the suspect and forensic investigators, then a set of "neutral" photographs of local eateries can be selected for comparative "target recognition".

2. If an incendiary or chemical device's exact location positioning is known and scanned for non-verbal recognition, then the case is proven statistically when we see the same involuntary recognition responses repeated.

3. If terrorists or crime suspects claim never to have seen or been at crime locations, then hot target pictures of the crime scene are viewed to uncover deliberate masking.

High Value Target Testing

The refinement can use inter-changeable robust programs to modify interrogation options. Known criminals or collaborative suspects, scenes and / or items are scanned into the high value target repertoires, interspersed with pre-programmed neutral sets.

Precise forensic evidence can be established by response comparisons between neutral pictures and crime-marker target pictures. Involuntary recognition is a cognitive dissonance process, making the psychophysical PAP method valuable in a wide array of applications. (Please see Page 6)

Non-Verbal Interrogation Advantages:

The refined technique employs standard issue polygraphs but eliminates human error in subjective investigator interviewing and interpretation.

1. Adapting the methods used in photographic “police line-ups” to enable victims and witnesses to identify assailants, this is useful efficient technique for identification of “persons of interest”.

2. Example photographs of most wanted terrorists were standard issue playing cards. photographs are in the FBI website www.fbi.gov/wanted/terrorists/fugitives.htm and Military Personality Identification “Rummy” cards http://en.wikipedia.org/wiki/Most-wanted_Iraqi_playing_cards

3. Evidence is gathered while viewing 48 pictures in only 8 minutes for forensic deception detection confirmation.

4. Responses to high value target pictures are in real-time compared with neutral pictures for precise statistical comparison built into robust software.

5. Suspects’ responses to questioning are via simultaneous automatic psychophysical responses elicited by questioning but in non-verbal interrogation, investigators rely on involuntary responses to pictures.

6. The PAP method is non-verbal, whereas verbal interviewing relies heavily on language translation, non-ambiguous terms, clever interpersonal skills analysis and subjective interpretation. Under astute expert cross-examination these capabilities evaporate in clouds of doubt over subjective, rather than objective measurement.

7. Because the method uses involuntary visual recognition testing, it is possible to obtain previously unavailable information as for example, intelligence can be gathered from suspects who refuse to co-operate, have limited English or are hearing impaired.

8. When emergency crisis timing is imperative, the technique refinement for standard issue polygraphs mimics a “virtual reality” advantage for testing and interpretation.

9. Using only pictures, the contrasting technique is uniquely cost-efficient; being independent of foreign language translation or punctuated with frequent delays.

10. The technique relies solely on the involuntary mode of the suspect's visual recognition through un-masking cognitive dissonance responses measurement.

11. Precision built software programs, such as Microsoft Office, can be set up to use extra sets of inter-changeable neutral pictures for suspects or crime scene locations, as additional forensic investigation options.

12. Portable miniaturized units can use non-verbal "real-time" in face/place recognition interrogation whereby the HQ command center downloads its chosen hot targets. This feasible opportunity enables near-simultaneous investigator (DTS) through monitoring and sharing data similarly used by ambulance and security systems.

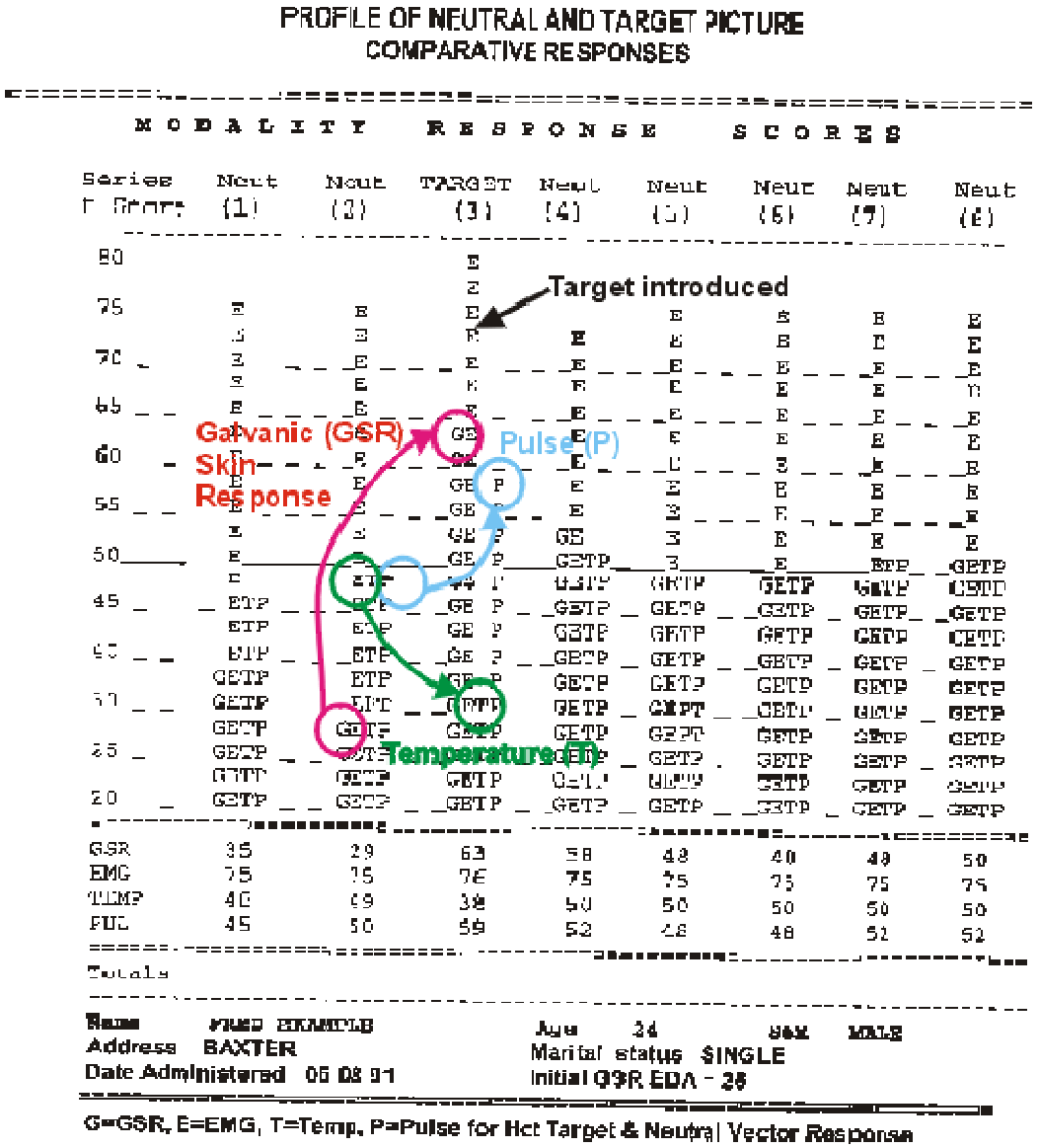
13. Although not the subject of this article, it is posited that target voice recognition comparison samples for auditory cognitive dissonance could be used in concert.

EXAMPLE used for the Langley Washington Interactive Technologies Conference Society for Applied Learning Technologies 2004 -- Workshop Participants www.onetv.us PAP Terrorist Deception Detection Hardcopy Reports (extracted from Dr Costello's 1986-2003 Research archives).

Test Administration 8.0 minutes
COMPUTERIZED POLYGRAPH — FACES & PLACES
from ACVII (B) Biofeedback Careers Test 1987, R&D 1986-2005
NON-VERBAL RECOGNITION INTERROGATION

Dissonance for 48 Picture Exposures of 8.0 seconds

Explanation: After the first assessment, cluster three (3) HOT target suspect accomplice photographs replace neutral cluster (7). Finally, neutral cluster (1) is replaced with the target for third test administration.
Note: increased **Galvanic Skin Response/EDA** in **RED**; increased **Pulse** in **BLUE**; decreased **Temperature** in **GREEN.**



Presented by Harold Finkelman at Langley in AUG 2004 from Dr Costello's 1986-2003 research archives

Terrorist Deception Detection Report Printout

PAP NON-VERBAL RECOGNITION INTERROGATION

Test Administration 8.0 minutes

COMPUTERIZED PICTURE POLYGRAPH
Modified From ACVII (B) 1987, R&D 1986-2004

Dissonance for 48 Picture Exposures of 8.0 seconds
Note: MS DOS files (HIS & DAT) are actual records

Assessment Explanation: *For reliability after the first assessment, cluster (3) HOT target suspect accomplice photographs replace neutral cluster (7). Finally, neutral cluster (1) is replaced with the target for the third test administration.*

PROFILE OF NEUTRAL AND TARGET PICTURE COMPARATIVE RESPONSES

M O D A L I T Y R E S P O N S E S C O R E S

Series t-Score	Neut (1)	Neut (2)	TARGET (3)	Neut (4)	Neut (5)	Neut (6)	Neut (7)	Neut (8)
80			E					
			E					
75	E	E	E		E	E	E	E
	E	E	E	E	E	E	E	E
70 _	E _ _ _	E _ _ _	E _ _ _	E _ _ _	E _ _ _	E _ _ _	E _ _ _	E
	E	E	E	E	E	E	E	E
65 _ _	E _ _ _ _	E _ _ _ _	E _ _ _	E _ _ _	E _ _ _	E _ _ _	E _ _ _	E
	E	E	GE	E	E	E	E	E
60 _ _	E _ _ _ _	E _ _ _	GE _ _	E _ _ _	E _ _ _	E _ _ _	E _ _ _	E
	E	E	GE P	E	E	E	E	E
55 _ _	E _ _ _ _	E _ _ _	GE P _ _	E _ _ _	E _ _ _	E _ _ _	E _ _ _	E
	E	E	GE P	GE	E	E	E	E
50_____	E_____	E_____	GE P____	GETP____	E_____	E_____	ETP_ _	GETP
	E	ETP	GE P	GETP	GETP	GETP	GETP	GETP
45 _	_ ETP _ _ _	ETP _ _ _	GE P _ _	GETP _	GETP _ _	GETP _	GETP_ _	GETP
	ETP	ETP	GE P	GETP	GETP	GETP	GETP	GETP
40 _ _	ETP _ _ _	ETP _ _ _	GE P _ _	GETP _	GETP _ _	GETP _	GETP _	GETP
	GETP	ETP	GE P	GETP	GETP	GETP	GETP	GETP
30 _ _	GETP _ _	EPT _ _	GETP_	GETP _	GEPT _ _	GETP _	GETP _	GETP
	GETP	GETP	GETP	GETP	GEPT	GETP	GETP	GETP
25 _	GETP _ _	GETP _ _	GETP _ _	GETP _	GETP _ _	GETP _	GETP _	GETP
	GETP	GETP	GETP	GETP	GETP	GETP	GETP	GETP
20 _	GETP _ _	GETP _ _	GETP _ _	GETP _	GETP _ _	GETP _	GETP _	GETP
GSR	35	29	63	58	48	48	48	50
EMG	75	75	76	75	75	75	75	75
TEMP	46	49	38	50	50	50	50	50
PUL	45	50	59	52	48	48	52	52
Totals								

Name FRED EXAMPLE **Age** 24 **Sex** MALE
Address BAXTER **Marital status** SINGLE
Date Administered 05-08-91 **Initial GSR EDA** = 25

G=GSR/EDA, E=EMG, T=Temp, P=Pulse for Hot Target & Neutral Vector Response

Hot Target Vector Responses_____

Neutral Vector Responses

Additional PAP Applications

1. Weapons Forensic Evidence Denial

Not infrequently suspects deny ownership, knowledge of, or even seeing the weapons they are suspected of using. If the suspect denies ever seeing the alleged weapon, then the response to the hot target weapon picture is unmasked by with responses to neutral snaps.

2. Embassy or Intelligence Agency Infiltration

Periodic polygraph assessment for embassy staff is a standard procedure that can be expedited for security purposes. An awkward bane for offices handling sensitive information could be reduced to expedient encryption. Specifically designed software can be more helpful and cost effective for such intentions and purposes than currently practiced.

3. Armed Hold-ups, Robberies, Looting and Mall Gang Store-Storming

(a) Comparative picture place recognition is revealed by scanning snaps of neutral bank safes for comparison with the known target bank safe picture. Cognitive dissonance in visual recognition will be achieved immediately (Festinger, 1957)

(b) The same investigative procedure is used for typical crime scenes such as neighborhood homes, fast food restaurants, 24hour gas stations or roadside stores.

(c) By providing separate sets of place pictures which are neutral for comparison with hot targets, the test can be used any number of times for un-masking deceptions.

Statistical Validation Model

The ALMT, upon which PAP is based, was validated statistically for the third time and presented at the 1998 Melbourne International Council of Psychologists' 56th Annual Convention (Costello & Meyer). US and Australian and adult student male/female populations were sampled for validation. The ACVII (B) biofeedback re-named ALMT was introduced as a new ACVII companion test possessing strong biofeedback correlations.

Standardized for American and Australian Populations The data offered premier sampling for N=138 US and N=396 AUS. Included was an additional factor analysis of 56 X 56 correlation for N=946 AUS cases. There was unusual concept clarity amongst career patterns. The non-verbal assessment was free of any literacy implications. Simultaneously, four biofeedback modalities assessed internal psychophysical responses for 112 career picture stimuli evoked for electromyography, epidermal skin activity, heart rate change and peripheral body temperature. Norm conversions for both US and Australian populations prognosticated statistically reliable indications, (Meyer, 1998). Deception detection was deemed observable based on cognitive dissonance (Festinger, 1957). Biofeedback records were compared with left brain questionnaire results for the same axes in a three times validated inventory used previously in over 700 Australian and New Zealand schools, colleges, clinics, rehabilitation centers, hospitals and sports institutes. Pencil and paper (left brain) responses were also compared with right brain responses to reveal quantifiable vector valence. Comparisons showed exceptional preference similarities in both Australian and US samples, related to Festinger's original cognitive dissonance model.

Cognitive Dissonance

Cognitive dissonance is a psychological phenomenon which refers to the measurable discomfort felt at a discrepancy between what is already known or believed and new information or interpretation. There is a state of opposition between cognitions. For the purpose of summarizing cognitive consistency theory cognitions can be defined as; interest attachment attitude, contact emotion, disparate belief values or a mixture of these. See Appendix (A) 1987 Biofeedback Technique Applied to Careers Interest Profile Assessment and Appendix (B) Cognitive Dissonance Brief Explanation. We assert that the key to truth detection is measured in accurate suspect recognition of collaborators, associated crime scenes or weapons used in attempted mass murder. The Shakespearian precept, *"Conscience doth make cowards of us all"* does not apply to perceptions of abnormal psychotic murder or lying by radical Islamic extremists. While modern psychiatry relates antisocial personality disorder APD to sociopathy (not to be confused with *psychosis),* according to the DSM-IV only 3% men and 1% of women are diagnosed with antisocial personality disorder. Because young terrorists are impaired, hopelessly brainwashed or misguided local cult hybrids, improved methods of deception detection are crucial to the war against terrorism. To understand the non-negotiable a-moral terrorist bully personality because *"carrots won't work",* superlative explanations are offered in "Psychology of Terrorism" (Borum, 2004) and "The Sociology and Psychology of Terrorism" (Husdon, 1999)

Discussion

While steadfast in sharing hope in the future built on humanity's survival with freedom, dignity and worth there is every good reason for continued success in achieving more scientific miracles in the war on terror *(Ecclesiastes 8:1, John 8.32, 1 Corinthians 1:Ch 13).* United strength in shared solid intelligence is the uncompromised cornerstone for reinforcement. In the war against heinous terrorism and crime success will be enhanced by non-cowardly with hope in the future combined with highly advanced surveillance technology and software. This can be facilitated with fewer examples of flakey strutting and fretting by safe and cozy armchair academics or weak kneed diplomatic parlance. From 2006 onwards software speculates dreamlike advances on a horizon crafted with glimmers for mankind's accelerated science in overcoming the blight of international terrorism. Questionably publicized SWIFT software debate and other self-interested giant-killers distracted imminent focus on preventing "global" biochemical or nuclear annihilation. We are at war with ourselves unless harmony prevails without the precious gift of Liberty beaconed with faith for continued hope in prevailing justices. Phone-tapping phantoms and stealth interception were an inconvenience manifested in real-time moderate paranoia. In isolated cases, conscience produced night-mares for salt-damp geldings as former self-presumed pillars of society. Smacking of big brother conspiracy theory, even the pious may fear encounters from above with 'Big Daddy'. Evil scourges cloaked in distorted Islamic spiritual ideology have resulted in dynamic global threat-sensitivity never before experienced by so many freedom loving people.

"We pray that peoples of all faiths, all races, all nations, may have their great human needs satisfied; that those now denied opportunity shall come to enjoy it to the full; that all who yearn for freedom may experience its spiritual blessings; that those who have freedom will understand, also, its heavy responsibilities; that all who are insensitive to the needs of others will learn charity; that the scourges of poverty, disease and ignorance will be made

to disappear from the earth, and that, in the goodness of time, all peoples will come to live together in a peace guaranteed by the binding force of mutual respect and love".

(Eisenhower, 1961)

The Munich Massacre of Israeli Olympic athletes in 1972 marked the start of an era of huge scientific investment in ways and means of thwarting terrorist activity and staving off disasters. We have been progressively successful through rapidly improved intelligence sharing although previously horrific un-godly attacks wounded England, Canada, Scotland, Mumbai, Ireland, Israel, Netanya, Madrid, Bali, the US and many other nations.

The PAP innovation beacons existing standard issue polygraphs to help shared global intelligence gathering to improve the likelihood of leaving no stone unturned in ways to shake terrorists loose withheld information**.** Here is an incredible innovation. "If you believe the incredible, you will end up doing the impossible!" *(Fulton J. Sheen, 1951)* Historically, polygraphs have staunch supporters or vociferous detractors but this subject is no longer comfortably just academic or commercial.

Understandably, polygraph enterprises cautiously resist change so contrastingly instead of constructing a new polygraph unit, we offer a "technique" virtually up for grabs for *"existing standard issue polygraphs*".

Deception detection is one of the many roads to be taken including computer email chatter and contact tracking surveillance. Eliciting truth from suspects and witnesses is prerequisite for enhancing global public safety, accountability and democratic justice. To that end, many investigators and researchers are studying new ways and means of discerning truth and lies. Daily news papers and TV news constantly scream desensitizing headlines of airport alerts, Al-Qaeda and Hezbollah, Taliban attacks fanned by radical Islamic cleric posturing *(Koran: Sura 9:5, 5:33, 9:73, 8:59, 5:49)* suicide bombings, beheadings and in rising crime rates for murder, rape, child abuse, graft, embezzlement, drug trafficking, commercial espionage, armed robberies, looting and muggings. In reality the media generally reports facts jolting us repeatedly out of faulty thinking. In the 20th Century, the events up to the end of World War II were deceiving and frightened us, but were accepted as facts of war.

According to the National Counterterrorism Centre: Our job is to inform, empower, and help shape the national and international counterterrorism effort to diminish the ranks, capabilities, and activities of current and future terrorists. www.nctc.gov and www.dni.gov The DoD states that, "Terrorism is the calculated use of unlawful violence or threat of unlawful violence to inculcate fear; intended to coerce or to intimidate governments or societies in the pursuit of goals that are generally political, religious or ideological." Although a sanitized definition appeals to diplomatic negotiators it does not apply to blood-lust individuals seeing themselves as freedom fighters, liberators, revolutionaries, rebels, Jihadi, Mujaheddin (strugglers) or Fedayeen (soldiers of martyrdom).

According to Australian Attorney General Philip Ruddock (23 JUN 2006):

"Australians can be confident that the Government is doing everything it can do to prevent the possibility of a terrorist attack. Australia has strong and well established national counter-terrorism arrangements in place. The Government's response to the terrorist threat has been multi-pronged with stronger laws and enhanced cooperation with our international partners, particularly in our own region.

It has committed over $8 billion to improving a wide range of national security capabilities since 11 September 2001 including security, law enforcement, intelligence, emergency management, border control and transport security. While the Government can never guarantee that Australia will not be affected by terrorism, it is committed to protecting our citizens here and abroad. We are confident that we have the best arrangements in place to prevent acts of terrorism occurring on our soil". www.nationalsecurity.gov.au

According to the Australia Federal Police AFP

"The global criminal environment is complex and fluid with transnational crime groups active at local, national and international levels. This requires innovative and adaptable measures to address the criminal challenges present in diverse geographical regions. The AFP has a range of international networks in place with other agencies, as well as AFP International Liaison Officers located strategically around the world.

AFP work with representatives of the Australian Government and State and Territories on the National Counter-Terrorism Committee (NCTC), which was established as early as OCT 2002 by the Inter-Governmental Agreement signed by the Prime Minister, Premiers and Chief Ministers. The role is to contribute to the security of the Australian community through coordination of a nation-wide cooperative framework to counter terrorism and its consequences. The committee meets twice a year and is comprised of representatives from the Australian Government and State and Territories". www.afp.gov.au/international

At the Melbourne 2006 Commonwealth Games, exceptional security was achieved but not inexpensive at $M119 for the State and $M200 for the Federal Government. In the world of terrorists, telling lies is cheap in the service of an ill-fated noble goal, such as "total conquership" as a revered principle. Joseph Berger (2006) writes, *"After the ill-fated Oslo Accord of 1993, Peace Prize winner Arafat told the Arabs that what he had done was repeat the practice of an 8th Century Moslem leader who lied, pretending to make peace, only to turn around later to attack the enemy. Differentiating between religiously observant and non-observant terrorists is moot. What is more germane is that many 'terrorists' are young, often mentally disturbed and heavily drugged. They are convinced that they must carry out acts of terrorism, such as suicide bombings, to repay a moral debt to 'right a wrong' and embrace martyrdom".*

According to President Dwight D. Eisenhower, 1961 Farewell Address

"The prospect of domination of the nation's scholars by Federal employment, project allocations, and the power of money is ever present--and is gravely to be regarded. Yet, in holding scientific research and discovery in respect, as we should, we must also be alert to the equal and opposite danger that public policy could itself become the captive of a scientific-technological elite. Today, the solitary inventor, tinkering in his shop, has been overshadowed by task forces of scientists in laboratories and testing fields. In the same fashion, the free university, historically the fountainhead of free ideas and scientific discovery, has experienced a revolution in the conduct of research.

Partly because of the huge costs involved, a government contract becomes virtually a substitute for intellectual curiosity. For every old blackboard there are now hundreds of new electronic computers". *(Please see Appendix C)*

The CIA, FBI and other federal agencies like the NSA and ASIO are using polygraphs more than ever, even as scientists have become more certain that the equipment is ineffective in accurately detecting when people are lying.

Some experts say that the real utility of the "lie detector" is that many of the tens of thousands of people subjected to it each year believe that it works, thus frequently admit to things not otherwise acknowledged in interrogation" (http://freeinternetpress.com.; 2006).

Eliciting information from uncooperative suspects has always been a daunting task. Torture was used for millennia and is still practiced. But in 1994, the U.S. joined 140 nations in ratifying the *Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment*, upholding the Fifth, Eight and Fourteenth Amendments to the Constitution. Thereafter, terrorism investigators turned to alternatives to elicit information. Truth serums, Hypnosis, Polygraph, Reid System of interrogation, Statement Analysis, Scientific Content Analysis, Speech Analysis, Vocal-stress analysis, Cognoscopy, Thermal imaging, Brain fingerprinting, the study of micro-gestures and a host of other techniques were investigated. In a 2003 USA Today article entitled, "Terrorism lends urgency to hunt for better lie detector", Richard Willing writes, *"In labs across the nation, researchers are using technologies originally developed to examine diseases, brain activity, obesity and even learning disorders to try to solve some of the mysteries of human conduct. The provocative idea behind some of the research goes beyond measuring the anxiety of a liar - as polygraphs try to do - and to catch the lies as they form in the human brain".*

In contrast, the FTDS PAP technique refinement solely determines "visual recognition". University of Pennsylvania professor Britton Chance, aged 90, is among dozens of professionals who have raised perennial war cries for the development of a much better lie detector. "We need something…because of increased fears of terrorism". That "something", according to Willing, "is a device to detect lies told by spies, saboteurs and terrorists" and continues, "The US Department of Defense is financing at least 20 projects aimed at finding a better lie detector, and the FBI, the CIA and researchers in academia, public and private sectors are also hard at work". This is not a theatrical academic play!

Historically, people in the UK and in Australia remember the well earned saying, "My Friend the Policeman". Like elsewhere the general public detests terrorist brutes and dials 999. In Britain's sterling work with public cooperation, "The Security Service liaises closely with a wide range of organizations and Government departments, both in the UK and overseas". MI5 emphasizes clearly that, "This network of relationships is fundamental to our work". http://www.mi5.gov.uk/output/Page87.html Intelligence and general public can work hand in glove

Acclaimed Canadian psychiatrist Joseph Berger tells us, "The goal of interrogating terrorists is obvious, and to most people quite appropriate to prevent terrorist attacks and atrocities. Many people would agree that ANYTHING to prevent a terrorist attack, especially on the scale of September 11, 2001 or the failed *Operation Bojinka*, aimed at murdering the late Pope John Paul II and blowing up 11 airliners, is essential". The authors of this article couldn't agree more, and offer the technique in tribute to the late Dr. Russ Cassel with all men and women exploring combat against malignant insurgent growths.

R&D Invention History 1962-2005

"Partly because of the huge costs involved, a government contract becomes virtually a substitute for intellectual curiosity. For every old blackboard there are now hundreds of new electronic computers". (President Dwight Eisenhower, 1961)

In *1962* as a Grade school teacher exploring "intellectual curiosity with solitary inventor, tinkering", Costello entered Special Education non-verbal perception, patented and cartoon illustrated his tri-modality learning machine (Tandberg Ron, 1969).

The feature article illustrated by Tandberg was published in the Melbourne Journal of the Victorian Chamber of Manufacturers entitled, "Electronic Reading Teacher Toy invention" (Potter, 1971). This invention was a fore-runner for the electronic Pocket language translator and Talking Type-writer featured later in the science fiction movie, "ET". By *1974,* Costello completed his FCP thesis with the College of Preceptors London entitled "The Psychology of Special Education" and included the article "Toy to improve teaching of reading". In *1975*, then as Senior Psychology tutor at the University of South Australia, the Department Chair asked him to use a "Datagraph Unit" for 4th year research methods assignments. The unit had long been gathering dust without an instruction manual so staff were unable to use it. This task spurred Costello's technology interest from Special Education to psychology. In *1976,* the Australian Trade Commission drafted an itinerary and provided a translator for the inventor's visit with Japanese Electronic Toy Companies as potential manufacturers. The provisional patents without funding eventually ran out.

In Munich in *1978,* Costello attended Dr John K Meyer's ICP presentation who was a colleague of Cassel. Dr Cassel had served as a psychologist in Vietnam and Liberia, where through personal experience he withstood painful dissonance through hazards and stress in fighting the enemies of freedom. Significantly, he and Meyer were pioneering "micro-computers" for biofeedback personality testing with EMOTE and DISPROF *(Costello and Cassel, 1987 and Cassel, Costello and Pullar, 1993).*

Immediately following his book with John Cheetham in *1979,* Costello gave his NY APA and Princeton ICP conference presentations. On route to New York he met with Cassel in San Diego and became Cassel's and Meyer's diligent PhD student. In *1981* Costello then presented applications of computerized psychology at the ICP 38th Annual UCLA Convention. In *1981* with his intern psychologist Marcus Tomlian together they used Australia's first PC in clinical practice; a 100 Buss with only 48K purchased by Tomlian. This microcomputer was invented and built in San Diego by the Hungarian born Sandor Zoboki, whom *The San Diego Times* in *1975* described as a Soviet Defector. At that time NASA's Apollo Mars project had only 32K for picture retrieval. People did not own PC's in those days and the word PC had not yet been coined. In *1982,* computerized biofeedback was used in the writer's PhD supervised by Cassel and Meyer. As colleagues sharing continuous "intellectual invention curiosity" they continued working together on biofeedback research and scientific publications for 25 years, still remaining in contact with Tomlian.

By *1983* Cassel and Costello were transmitting biofeedback data via acoustic couplers for four modalities between Adelaide South Australia and San Diego. By *1984* an improved biofeedback unit interface motherboard evolved for personality testing used clinically with accompanying published statistical validations.

At the *1987* NY American APA 95th Annual Convention, Costello presented computerized biofeedback applications in medical psychology to Division 21 (Experimental Psychology and Human Engineering) distributing biofeedback hardcopy for Coronary Age Heart Risk Factor Assessment. In the same year he posited ALMT revisions for forensics/military intelligence and gathered a research team.

In *1998* at the Australian College of Education Melbourne convention he presented and demonstrated the ALMT, published for its second biofeedback statistical validation ISBN 1875713034 At the *1994* San Francisco California Annual Careers Conference, Costello and his wife administered ALMT over three days to 30 volunteer participants. His workshop was attended by Cassel and Meyer and among others, a NY delegate flown in especially from the World Bank. In *1996* the writer and ACFE Law Enforcement colleague Brian McGurgan visited the Melbourne US Consul. A copy of the original MS DOS program was sent previously by certified mail before leaving for San Diego. As a safe-guard precaution another software copy was handed to the US Consul commercial rep for safe keeping.

In *1997,* accompanied by Cassel and Meyer at the Del Coronado ACFE Annual convention the PAP technique was presented finally. Abruptly unit manufacture was halted when Costello fell ill with biopsy-proven esophageal cancer. Nevertheless, in 1*998* he published (4) Forensic Examiner Journal articles; *(a) Community Powerlessness: Collaborative Model for Law Enforcement, Education, Counseling & Technology (b) Forensic Psychology Enters Arena of Drugs Psychopathology (c) Reintegration of first offenders into a career orientated productive economy and (d) Forensic Book Review: Neuropsychological for the attorney..*

In *1998* ALMT biofeedback statistical validations were presented at the ICP Melbourne 56th Annual Convention, highlighting the final statistical validation for US and Australian samples and distributed to delegates (Costello and Meyer, 1998). By *2002* The Australian *Crimes Amendment Act* legislated to allow forensics to be used to identify victims of the Bali bombings. *2004* saw the PAP printout uploaded for seminar participant pre-reading material in the website www.onetv.us Former Reuters' correspondent Harold Finkleman stood in for Costello who had suffered critical spinal compression fractures, shingles, pneumonia and congestive heart disease. Finkleman presented the technique at Langley Virginia just across the road from the Pentagon (Finkleman 2004, 2005). In that same year Cassel was awarded his long overdue Presidential APA Citation in Washington DC.

Historical Time Walk

1889 H.G. Wells, author of War of the Worlds, gained in his LCP teachers credential as a Licentiate of the College of Preceptors and later FCP thesis honors (Chapman 1985). In the Fifties we were amazed but startled by Sputnik's daring space-race adventure as Khrushchev's cold war propaganda boasted that Russian women would soon wear luxurious brilliant colored stockings unimaginable in the US. President Eisenhower retired in 1961 leaving us a cautious message like Russell H Conwell's "Acres of Diamonds". In 1962 locally in Melbourne we constructed new school Science tests with ancient computer punch cards. The Seventies marveled at Carl Sagan's Cosmos TV series and the Voyager #1 mission as Russ Cassel frequently said, "Modern technology accelerates from hardware to software via Graystone's systems analysis to brand new world of unlimited manipulative memory". In the 1977 NASA launched the Apollo mission to Mars for pictures with only 32K. In 2006, 29 years later, the Voyager #1 has traveled beyond earth to 85 times the distance from earth to the sun.

Timely Reflection in Perspective:

Time Ratio Simplification: "Geologically, if the earth came into being 24 hours ago, Man's appearance was 30 seconds ago. In the fullness of time at a debatable 11th Hour, the inhuman purge of International Terrorism materialized less than a second ago"

Acknowledgement

The authors express sincere gratitude to Dr John K. Meyer and Marcus Tomlian for their continuous help since 1979 and recent archival searches to translate this article to layman understandable format and since 1971 the late J. Vincent Chapman FCP. We offer resounding tribute to Russ Cassel, the "rambunctious" scientist, as he called himself. Russ modeled the square pursuit of excellence in devoted, selfless research unlike foot-steps in the sand, dedicated to "service before self". Ultimately on successfully passing his epic Aristotelian Life Mission where dreams can become real, like Socrates Russ saw others in a worse plight than our own.

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Appendix (A) 1987 Software Package Folder Extract

This excerpt is taken from the original 1987 ACVII Careers Test Software package purchased by Secondary schools throughout Australia and New Zealand. In later statistical validation publications ACVII (B) was re-named as ALMT (Australian Life Mission Test).

An Introduction to ACVII (B) Biofeedback

This second component of vocational interest evaluation ACVII (B) consists of using the most advanced technique that computerized biofeedback has yet developed, anywhere. Four computerized biofeedback modalities are used in evaluation. The method incorporates work developed by Dr. Russell N. Cassel who has gained international professional acclaim for his innovative research and practical techniques in hemispheric cortical dominance assessment.

A set of 140 slides, depicting the same vocational interest categories assessed in the multiple choice ACVII (Part A) are viewed by students while their biofeedback responses are monitored. Thoughts create feelings! Where any dissonance, anxiety/excitation is registered while viewing a set of vocational interest slides, this is interfaced with the computer through sophisticated biosensory equipment so that non-dominant brain/unconscious responses are computed within (25) minutes.

A printout profile for the same (14) ACVII categories is provided immediately for comparisons between deliberate and non-verbal (un-conscious) responses, utilizing graphic and statistical normative data.

Appendix (B) Cognitive Dissonance – A Brief Explanation

The theory of cognitive dissonance holds that contradicting cognitions serve as a driving force that compels the human mind to acquire or invent new thoughts or beliefs, or to modify existing beliefs, so as to *minimize* the amount of dissonance (conflict) between cognitions. Two cognitions are said to be dissonant if one cognition follows from the opposite of another.

What happens to people when they discover dissonant cognitions? The answer to this question forms the basic postulate of Festinger¹s theory. A person who has dissonant or discrepant cognitions is said to be in a state of psychological dissonance, which is experienced as unpleasant psychological tension.

This tension state has drive-like properties that are much like those of hunger and thirst. When a person has been deprived of food for several hours, he/she experiences unpleasant tension and is driven to reduce the unpleasant tension state that results.

Reducing the psychological sate of dissonance is not as simple as eating or drinking however. To understand the alternatives open to an individual in a state of dissonance, we must first understand the factors that affect the magnitude of dissonance arousal. First, in its simplest form, dissonance increases as the degree of discrepancy among cognitions increases. Second, dissonance increases as the number of discrepant cognitions increases. Third, dissonance is inversely proportional to the number of consonant cognitions held by an individual. Fourth, the relative weights given to the consonant and dissonant cognitions may be adjusted by their importance in the mind of the individual. If dissonance is experienced as an unpleasant drive state, the individual is motivated to reduce it. Now that the factors that affect the magnitude of this unpleasantness have been identified, it should be possible to predict what we can do to reduce it.

Appendix (C)

President Dwight D. Eisenhower Farewell Address Extracts, January 17, 1961.

"Today, the solitary inventor, tinkering in his shop, has been overshadowed by task forces of scientists in laboratories and testing fields. In the same fashion, the free university, historically the fountainhead of free ideas and scientific discovery, has experienced a revolution in the conduct of research.

Partly because of the huge costs involved, a government contract becomes virtually a substitute for intellectual curiosity. For every old blackboard there are now hundreds of new electronic computers.

The prospect of domination of the nation's scholars by Federal employment, project allocations, and the power of money is ever present--and is gravely to be regarded. Yet, in holding scientific research and discovery in respect, as we should, we must also be alert to the equal and opposite danger that public policy could itself become the captive of a scientific-technological elite.

We pray that peoples of all faiths, all races, all nations, may have their great human needs satisfied; that those now denied opportunity shall come to enjoy it to the full; that all who yearn for freedom may experience its spiritual blessings; that those who have freedom will understand, also, its heavy responsibilities; that all who are insensitive to the needs of others will learn charity; that the scourges of poverty, disease and ignorance will be made to disappear from the earth, and that, in the goodness of time, all peoples will come to live together in a peace guaranteed by the binding force of mutual respect and love.

Throughout America's adventure in free government, such basic purposes have been to keep the peace; to foster progress in human achievement, and to enhance liberty, dignity and integrity among peoples and among nations. To strive for less would be unworthy of a free and religious people.

Any failure traceable to arrogance or our lack of comprehension or readiness to sacrifice would inflict upon us a grievous hurt, both at home and abroad. Another factor in maintaining balance involves the element of time. As we peer into society's future, we--you and I, and our government--must avoid the impulse to live only for today, plundering for, for our own ease and convenience, the precious resources of tomorrow. We cannot mortgage the material assets of our grandchildren without asking the loss also of their political and spiritual heritage. We want democracy to survive for all generations to come, not to become the insolvent phantom of tomorrow.

Down the long lane of the history yet to be written America knows that this world of ours, ever growing smaller, must avoid becoming a community of dreadful fear and hate, and be, instead, a proud confederation of mutual trust and respect."

Appendix (D)

This schematic diagram constructed by Francois Schaut illustrates how portable miniaturized polygraph units can use non-verbal “real-time for specifically individualized face/place recognition interrogation via a cell phone.

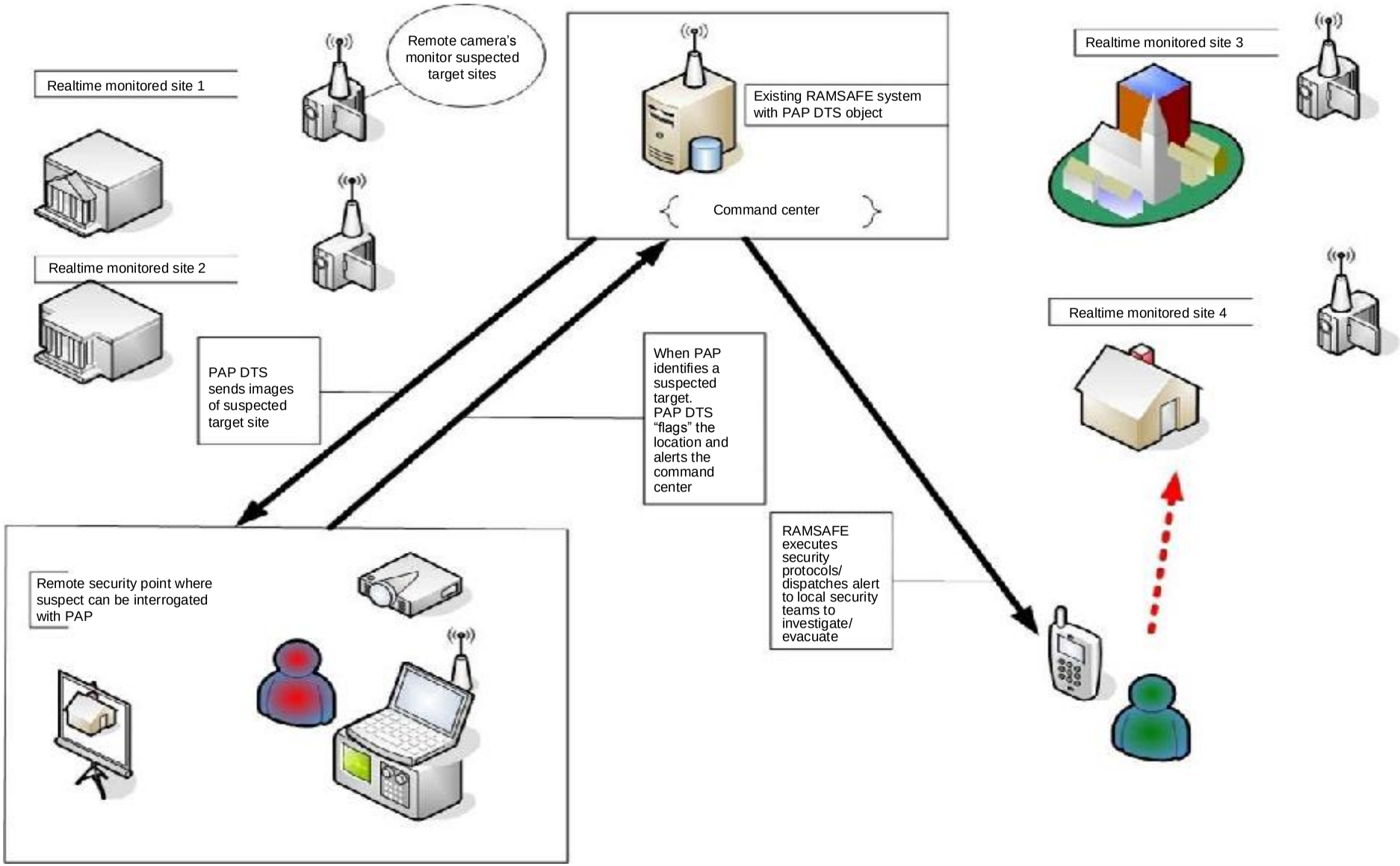
1. The DTS sends images of suspects to the operations Central HQ from the suspect apprehension investigator.

2. Depending on the geographic crime location, intelligence database HQ downloads specific hot targets which are instantly uploaded for FTDS interrogation at the point of apprehension.

3. This operational site test enables almost immediate investigator DTS monitoring in connection with operational HQ, similar to ambulance/security systems at the real-time monitored site.

4. The suspect’s results are transmitted to Central HQ for hot value and neutral target comparative statistical analysis.

5. As a dual emergency purpose, Central HQ executes security protocol alerts to local teams to investigate/evacuate.


Realtime monitored site 1
Remote camera's monitor suspected target sites
Existing RAMSAFE system with PAP DTS object
Command center
Realtime monitored site 3
Realtime monitored site 2
Realtime monitored site 4
PAP DTS sends images of suspected target site
When PAP identifies a suspected target. PAP DTS "flags" the location and alerts the command center
RAMSAFE executes security protocols/ dispatches alert to local security teams to investigate/ evacuate
Remote security point where suspect can be interrogated with PAP