USE IT OR LOSE IT

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ABSTRACT

This paper discusses possible factors in development of intelligence and creativity. It describes duties of team leaders, team selection, and tailoring teams to levels and direction of each study to maximize efficiency of brainpower. It defines realistic roles in team leadership versus social engineering.

INTRODUCTION

The world has finally shrunk to a small house as the result of overcrowding and technology. It gets more jammed by the second. There was a time when we lived far apart, had rare communication or contact outside our community and information underkill was a blessing. Our cultures were ecosystems that maintained population stability through wars, pestilence, disease and quirks of nature. People adapted to them or failed to survive. We know civilizations disappeared. We don't always know why. Those who survived did so by responding with imagination and invention demanded by the challenges they faced. Those facing the most critical and varied problems had to produce the quickest, most innovative and effective responses, or die.

I went to the Southwest Pacific during World War II as an 18-year old kid. I spent more than a year and a half on Manus Island in the Admiralty Island group. They lie to the east of New Guinea. I observed native life with the fascination of a kid from Minnesota, who's world was limited to a 50-mile radius as a child. Differences in climates between Minnesota and Manus were shocking. My climate swung from lows of -42 to highs of 105 degrees F compared to lows of 70 to highs of 112 degrees F on Manus. I dreamed of a white Christmas in 1944 along with Bing Crosby but also remembered blizzards and prolonged winters bringing problems of protecting livestock, travel, insulating house foundations, stockpiling food and fuel, making and repairing winter clothing and similar chores.

On Manus, children brought stalks of bananas home when needed. Papaya, coconuts and other foods were plentiful. Males of the villages killed animals or waded into shallow waters to catch fish and other sea food, their only daily effort. Women performed most all regular chores. Building or mending huts and boats were occasional duties. Clothing consisted of "grass" skirts or "lap lap", a sarong.

With that climate, plentiful food, few enemies, and minimal contact with the outside world prior to the war, I wondered what contribution was demanded of and made by these people and their ancestors toward advancing civilization. When I was in college after the war the thought recurred. I pondered writing a thesis to quantify and classify the total contributions of all cultures within the tropical zone toward advancement of the human condition. It would have taken a decade and large staff to uncover the philosophies, concepts, inventions, patents and products that represented strides toward the industrial revolution, curing disease and illness, spreading access to knowledge and betterment of the human race. I never got it done; however, the concept never left my mind.

People living in tropical climates face challenge, such as dry and wet seasons, but enjoy year-round growing conditions. Outside the tropics, the single factor of prolonged freezing weather radically multiplies and alters problems and scenarios which create necessity. Nomadic response to temporarily leave inhospitable environments, whether desert or glacial, and rotationally seek suitable climates is still practiced, even by our nomadic "snowbirds". It is not a response available to all.

For northern hemisphere ancients, frozen bodies of water and land compounded needs and problems of existence. Migrations of immense distance of birds and many marine and land animals produced cyclical scarcity of game. Folks had to preserve large quantities of food for domesticated stock as well as themselves to survive unknown lengths of severe winters. They required unique garments to protect themselves from extreme cold. They fashioned fuel-efficient housing from ice, snow, skins, rock, wood, or earth to insulate themselves from elements that plunged to -45 degrees F and hurled blizzards over them for days on end. Maldistribution of productive land and natural resources caused many to devise transportation to roam land and sea to obtain materials and foods they lacked. Methods to kill, retrieve and butcher large animals, such as whales and walrus, had to be invented. They required ships to tack into wind because "trade winds" were not available. They required systems to navigate in a variety of waters, military equipment and maneuvers to maximize winning odds over unknown opposition or circumstance, and strategies to turn conquests or contacts into lasting benefits.

KELLY'S LAWS

These early ruminations were simplistic viewpoints; however, the ponderings produced these two of Kelly's many Laws:

"If 'Necessity is the Mother of Invention'[1], your creativity and intelligence depend upon who your mother was."

"If Genius is 'One Percent Inspiration and Ninety-nine Percent Perspiration'[1], your success depends if you were sired by Persistence, the Father of Development."

I summarize thus: An environment of ever-varied challenges will produce superior minds over one of monotony or restriction. A competitive spirit and environment separates producers from talkers and dreamers.

War or threat of war produces quantum leaps in technology, however a poor reward for human misery. Life or death is the prime crucible for spurring effort. Those able to respond quickest, most decisively and innovatively, win.

Geographically or socially, the indolent mind that finds a physical and social environment to support it loses capacity with each generation. After "X" generations, diminished capacity becomes an accepted, even expected, norm.

The sum of segments forming a cradle to grave society robs recipients of initiative, curiosity, problem solving ability and creativity. Young and old pay the same price. Needless handouts in any form extract a portion of the drive to succeed. Lax requirements for personal responsibility, duties, education, social behavior, and similar areas, lower expectations of both community and self. The stimulus of even daily decisions is reduced and erosion of mental powers is not far behind.

Retirement is a prime example of what can occur when the competitive environment to earn one's way is removed. I have watched several past co-workers who substituted golf clubs for problem solving and declined rapidly in thinking abilities they once exercised hourly. The half-life of experience is consumed quickly in this electronically-driven world. Re-entry to the working environment is overwhelming. Brain-power is lost. Use it or lose it.

The movie, Apollo 13, chronicled the moon-shot flight which nearly ended in disaster for the 3-man crew. The reenactment showed one crisis in which the purging system to remove carbon dioxide from the space craft was failing. The only filters on board were square and the receptor in the equipment was round.

A ground crew team was assembled within minutes and given the challenge to inventory items on board the space craft, design a fix for the problem using those items, and relay the answer to the crew within precious minutes.

I could empty 20 street corners of dudes with caps on backwards, pant cuffs sagging over shoes and brushing the ground, gang jackets hanging open to show gold chains; put them in a room for seven years and they still would not have figured out that carbon dioxide is not a rock band.

We need genius, innovation, competence, dedication, effectiveness and efficiency to offset the non-productive segments of society until those same qualities are infused throughout it.

TEAM LEADERSHIP

Team leadership is not cheerleading. It is not ritualistic filling of flip charts and keeping folks "on track". It is not appeasing those responsible for the status quo.

A leader must be prepared to show the way, if a team flounders. A leader must stop a lemming phenomenon into dead ends of study. To do that, a leader must have expertise in the area of study. It comes with preparation which includes intense homework and experience.

Stay out of areas in which you are totally ignorant.

Team leadership requires technical, human relations, VE/VA knowledge and application, management and strategic skills much above average. It demands folks totally dedicated to produce highest quality efforts, who place client first and a passion to pursue sound change that eliminates waste.

A team leader must ensure a professional and objective study and exercise diplomacy at all times. However, when recommendations produce confrontation, it is the team leader's role to lead the charge for implementation.

I have seen too many excellent studies totally disregarded for capricious "reasons" that go unchallenged. Client interests and the talent and effort of teams cannot be wasted without passionate argument for the recommendations. It denigrates the reputation of the team, leader and the VE/VA profession.

Excellent results demand unwavering use of the VE/VA job plan and techniques. A leader must accept the "buck stops here" role and take the heat to protect both the team and client's interests.

TEAM ASSEMBLY

Eighty percent of work is done by 20 percent of the people. The odds of obtaining a full team from that 20 percent are extremely slim. Understandably, management wants to focus its producers on its priorities. Until VE/VA is a top priority, the problem will persist. Being among the 20 percent does not guarantee top thinking. Never confuse activity with productivity and never confuse productivity with personal growth. Search for thinkers.

A team leader must have substantial input for team selection. It is important to know candidates well. Co-workers and immediate supervisors are best sources for evaluation of potential members. One must understand both capability and attitude of people. Super ability attached to a lousy attitude is best left alone.

If personal interviews are not possible, it is imperative a team leader prepare guidance to those assembling the team as to disciplines and expertise required, time required for each, the core team disciplines and those who will be used part-time or as advisers. The summary should stress the importance of cooperative and supportive attitudes in all members.

Examine volunteers for study teams warily. For most, it is a lifeline to escape monotony and exercise their abilities freely. For some, it is an opportunity to infiltrate and sabotage the effort. The latter may see it as "defending their interests" but the net effect is the same. Whatever their stated motive, preclude road blocks from a team.

Those responsible for configuring the study item must be given full opportunity to present the rationale for their concept. This must be done prior to beginning the formal study. Do not use principle architects of the item as full-time team members. It is rarely possible a parent of a project can objectively view its dissection and reconstruction without causing great turmoil for the effort. That is human response.

They must be excluded from occasional visits to map directions the study takes. These visits often produce pre-programmed attacks on proposals during the presentation. Their opportunity for a fair and full rebuttal is given at presentation.

A project manager should attend full-time as an information source and buy-in insurance.

A team must be ready for a variety of responses from the reviewers and respond to them in kind, reason with reason, confrontation with argument, peace with peace.

I have led over 375 VE/VA studies and have many reasons for small teams. Maintaining focus is more efficient. Synergism is higher. It is easier to obtain the services of a few folks than a mob. If one selects carefully, five minds are plenty and there are no ties in voting.

The mind can concentrate on one thought for less than a minute. A group of 7 to 20 folks is not a team, it is a herd. Concentration and focus are not possible. Inefficiency is rampant. If a study is that complex break it into additional sequential or concurrent studies.

Two questions face team leaders and they involve ego and pragmatism. Does the leader believe she/he has inspirational powers to take any caliber team and produce superior results? Or, does the leader believe if management does not sufficiently value the study to staff the very best team, the study should be cancelled or limited in scope? I am of the latter persuasion.

Is it productive to mix one or two prime team members with some who are very average or even mentally unemployed? Do team members of average skills and self-confidence produce well in the presence of genius? When faced with quiet or withdrawn team members, do you address reasons or just run the team on fewer cylinders? Have you removed non-productive members from a team? What kind of energy do you exert to obtain the finest team for each study? Have you cancelled a study?

Answers to questions like these tell much about your concern for the responsibilities of team leadership and your own ranking as a leader.

Of course one uses best people every time they are available. One cannot focus on their input to the exclusion of others who may feel left out. Like any school class, progress is linked to the slowest members. A leader cannot allow team progress to be hindered by reluctant participants. If active participation is lacking, check the quiet member, the direction of the study and your leadership, in that order.

If the member is overwhelmed or the study has left the member's area of expertise, or you have not maintained a team environment alive, correct the problem.

People do not like to fail. When challenges are presented correctly, by clear definitions of goals and objectives and not in dollar amounts to be saved, they respond well.

A cost-saving goal has no place in VE/VA studies. It will exert unnecessary pressure to produce savings and result in cost-cutting efforts, not a value study.

If a team leader knows and follows VE/VA methodology and principles and frees teams from learned responses to practice creativity and innovation, savings are by-products and will happen.

The last criteria for team member selection is one of the most important: Does the potential member think in terms of the big picture or in nuts and bolts? If both, you have struck gold.

LEVEL OF STUDY

A FAST diagram structures an item in its existing state or concept. Objectives are displayed. Functions are derived from the item's components and used to answer How?, Why? and When? questions to relate functions to each other. A word picture of the concept results.

The Why? question drives functions and thoughts to continuously higher viewpoints in escalating importance. The How? question leads to technical details and eventually materials and tasks to make the solution work.

If the objective of the study is big picture solutions, the team must have right-hemisphere thinking abilities.

If the objective is to fix a problem within the big picture, the team must have left-hemisphere thinking abilities.

If the team members effectively alternate thinking from visionaries to craftspeople, try to clone them.

The summation of right/left hemispheric characteristics is on Figure 1.[3 4 5 6]

"Tongue-in-cheek" suggested sources for team members to demonstrate my premise is on Figure 2.

SUMMARY

Is it more important to maximize efficiency of a VE/VA study or produce a learning experience for each team member? We can dump a group of people together, call them a team, give them a pep talk on human relations and team dynamics, and cheerlead them through a VE/VA study that likely will improve the product. Is that sufficient to elevate and expand the image of our profession?

If we do not care enough about defending client's interests by demanding highest quality leaders, teams and results in every study, great or small, should we be surprised if some markets turn off and our growth slows?

A team leader must know and practice VE/VA methodology and techniques thoroughly and meticulously. If one doesn't know and trust the system enough to use it faithfully, try another field.

We are not social engineers. We are not baby-sitters for people being used as door stops or paper weights. When management tries to pack a team with non-productive people with time on their hands, it is the team leader's duty to sift through them with utmost care, use those mislabled and demand better for the rest. Find those with abilities who are treading water through no fault of their own and use them. Never, ever accept the brain-dead. Discard those who have been in neutral gear for a career. Fight for the best you can obtain.

There is no room for political correctness, on-the-study training in creative thinking or social engineering in team structuring. There are myriad education programs throughout the world to teach thinking, innovation and creativity.

If the under-challenged segments of the world are to become productive members of the world family, they must succeed in thinking big and bigger. Technology transfer via satellite and laptop does not replace thinking. It will take generations and self-will to do that.

Out job is to solve problems now. It depends on these few factors.

Team selection is critical to success of a study. A multi-diciplined team must be staffed with the finest minds we can muster. We need people who are skilled in thinking in big picture modes or details, or both, to match the direction studies are aimed. Brains must be mated to personalities that are confident and open to the give and take creativity demands. Hides must be thick against criticism but porous to ideas. Response in resistance to change must be firm and forceful.

We find these characteristics in those born from the Mother of Invention and the Father of Success. How well a team leader finds and uses them will make the VE/VA world the solution system the world needs.

Lead winners; produce winning results; and the future is ours.

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THE CORRELATION OF LEFT/RIGHT BRAIN HEMISPHERIC PREFERENCE, FAST DIAGRAMS, AND VE/VA TEAM COMPOSITION
BY WILLIAM L. KELLY, PE, CVS, F-SAVE

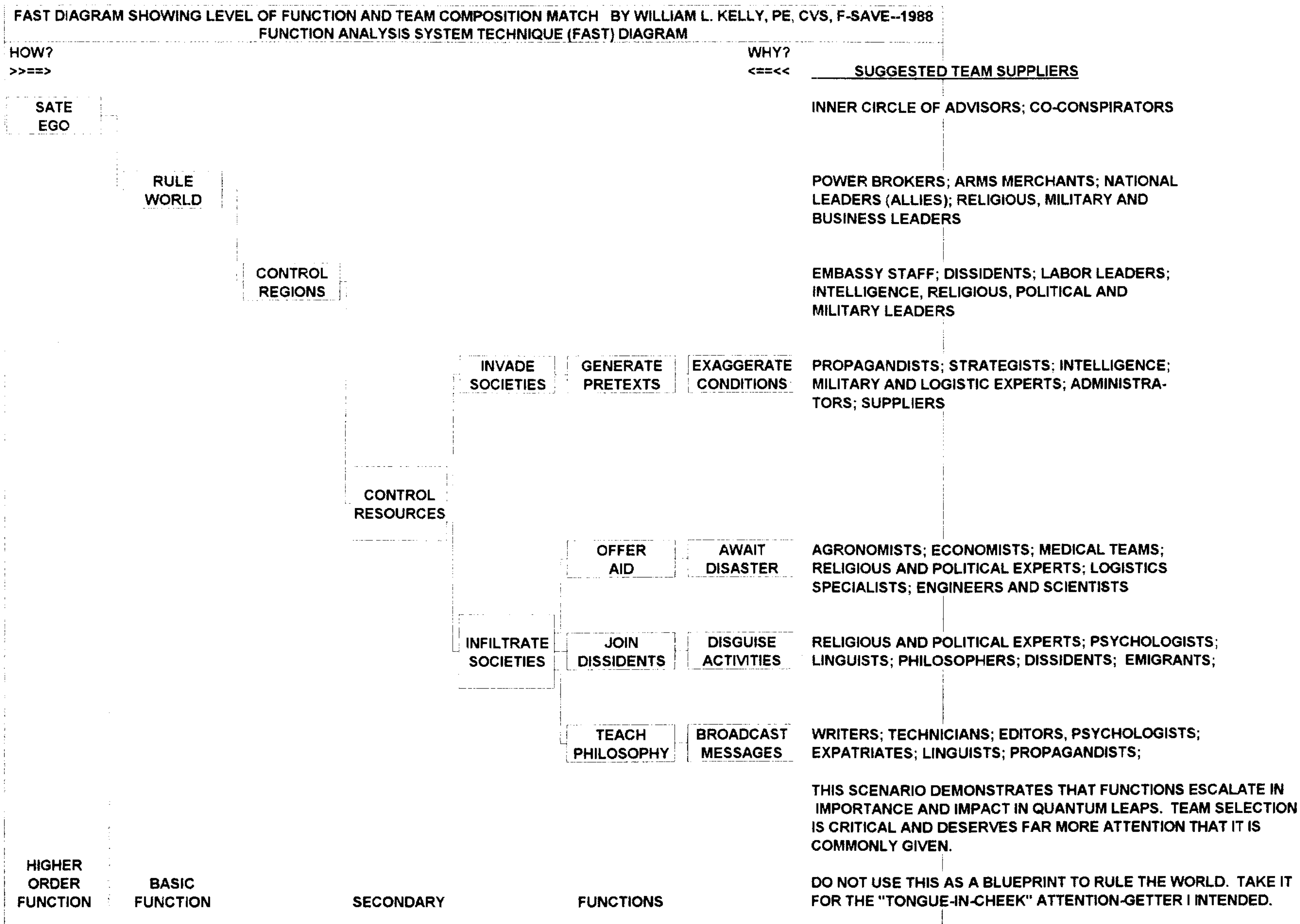
WHY ARE WE DOING THIS LEADS TO HIGHER CONCEPTS.

HOW WILL WE DO THIS LEADS TO MAKE IT WORK IDEAS.

RIGHT HEMISPHERE RISES TO REASONS — HEMISPHERIC INTERFACE — LEFT HEMISPHERE DESCENDS TO DETAILS

RIGHT HEMISPHERE CHARACTERISTICS		LEFT HEMISPHERE CHARACTERISTICS	
CONVERGENT, INDUCTIVE	"brings together" "leads on to logical conclusions"	DIVERGENT, DEDUCTIVE	"vary from norm - deviate" "infer from logic"
HOLISTIC	"a reality independent of and greater than the sum of its parts"	FOCUS ON DETAIL	"any of the small parts that go to make up something; item"
GESTALT	"all experience consists of a gestalten, and that the response on an organism to a situation is a complete and unanalyzable whole rather than the sum of the responses to specific elements in the situation:	SEQUENCING	"to arrange in a sequence" which is "the following of one thing after another in chronological, causal or logical order"
INTUITIVE	"intuition: the direct knowing or learning of something without the conscious use of reasoning; immediate apprehension or understanding'	TIME ORIENTED	"to arrange with reference to" time
SYNTHESIS	"putting together of parts or elements so as to form a whole" "a whole made up of parts or elements put together"	RATIONAL	"based on or derived from reasoning" "often connotes the absence of emotionalism"
PERCEIVES PATTERNS	"awareness, comprehension. . insight or intuition" "an arrangement of form; disposition of parts or elements"	CAUSE AND EFFECT	"anything producing an effect or result" "a situation, event or agent" "anything brought about by a cause or agent, result"
RECOGNIZE COMPLEX FIGURES	"complex: a group of interrelated ideas, activities, etc., that form or are viewed as forming, a single whole"	LOGICAL	"necessary or to be expected because of what has gone before; that follow as reasonable"
VISUAL/ SPATIAL	"occurring as a mental image, or vision" "of space" "happening in space"	MATH calculate"	"compute: to determine (a number, amount, etc.) by reckoning;
ARTISTIC/ SYMBOLIC	"Keenly sensitive to aesthetic values" "an object used to represent something abstract"	LANGUAGE	WHICH INCLUDES:
TIMELESS	"restricted to no specific time" "always valid, true, or applicable"	READING	"to get the meaning of (something written, embossed, etc.) by using the eyes or for Braille, the finger tips, to interpret its characters or signs"
		WRITING	"to communicate in writing"
		SPEAKING	"expression or communication of thoughts and feelings by spoken words"

FIGURE 1



FAST DIAGRAM SHOWING LEVEL OF FUNCTION AND TEAM COMPOSITION MATCH BY WILLIAM L. KELLY, PE, CVS, F-SAVE--1988
FUNCTION ANALYSIS SYSTEM TECHNIQUE (FAST) DIAGRAM
HOW?
>>==>
WHY?
<==<<
SUGGESTED TEAM SUPPLIERS
SATE EGO
INNER CIRCLE OF ADVISORS; CO-CONSPIRATORS
RULE WORLD
POWER BROKERS; ARMS MERCHANTS; NATIONAL LEADERS (ALLIES); RELIGIOUS, MILITARY AND BUSINESS LEADERS
CONTROL REGIONS
EMBASSY STAFF; DISSIDENTS; LABOR LEADERS; INTELLIGENCE, RELIGIOUS, POLITICAL AND MILITARY LEADERS
INVADE SOCIETIES
GENERATE PRETEXTS
EXAGGERATE CONDITIONS
PROPAGANDISTS; STRATEGISTS; INTELLIGENCE; MILITARY AND LOGISTIC EXPERTS; ADMINISTRA-TORS; SUPPLIERS
CONTROL RESOURCES
OFFER AID
AWAIT DISASTER
AGRONOMISTS; ECONOMISTS; MEDICAL TEAMS; RELIGIOUS AND POLITICAL EXPERTS; LOGISTICS SPECIALISTS; ENGINEERS AND SCIENTISTS
INFILTRATE SOCIETIES
JOIN DISSIDENTS
DISGUISE ACTIVITIES
RELIGIOUS AND POLITICAL EXPERTS; PSYCHOLOGISTS; LINGUISTS; PHILOSOPHERS; DISSIDENTS; EMIGRANTS;
TEACH PHILOSOPHY
BROADCAST MESSAGES
WRITERS; TECHNICIANS; EDITORS, PSYCHOLOGISTS; EXPATRIATES; LINGUISTS; PROPAGANDISTS;
THIS SCENARIO DEMONSTRATES THAT FUNCTIONS ESCALATE IN IMPORTANCE AND IMPACT IN QUANTUM LEAPS. TEAM SELECTION IS CRITICAL AND DESERVES FAR MORE ATTENTION THAT IT IS COMMONLY GIVEN.
DO NOT USE THIS AS A BLUEPRINT TO RULE THE WORLD. TAKE IT FOR THE "TONGUE-IN-CHEEK" ATTENTION-GETTER I INTENDED.
HIGHER ORDER FUNCTION
BASIC FUNCTION
SECONDARY
FUNCTIONS

FIGURE 2