THE A-SQUARE TECHNOLOGY GROUP & NASCENT APPLIED METHODS AND ENDEAVOR'S AUTONOMOUS ECONOMIC PROCEDURAL GUIDELINES AS A SERIES OF MATRIXED IDEOLOGIES ENGAGED IN GLOBAL SOCIOECONOMIC MARKETING WARFARE

> The Contracting Standards, Products and Specifications of Nascent Applied Methods & Endeavors, references a California-based company and network providing Electronic Commerce Applications (ECA), Enterprise Work Architectures (Business Models), Autonomous Knowledge Worker Systems (KWS) to combat global terrorism, and Distributed Artificial Life Programming (Avatars) technologies through a collaborative-networking strategy. NAME intends to capitalize on the opportunities in this area by being the first Company to introduce a collaborative internet-based operating system using high-concept theories such as genetic algorithms, biological suffix trees, and a host of other information-retrieval or monetary strategies in relation to artificial life (avatar) or virtual economic scenario programming involving global joint research & development through the use of the molecular sciences.

> > BY WILLIAM EARL FIELDS (GCNO)



(ANMESCL<sup>2</sup> RDWEF)

ALPHA NUMEROUS MAXIMUS EGREGIOUS SUMMA CUM LAUDE

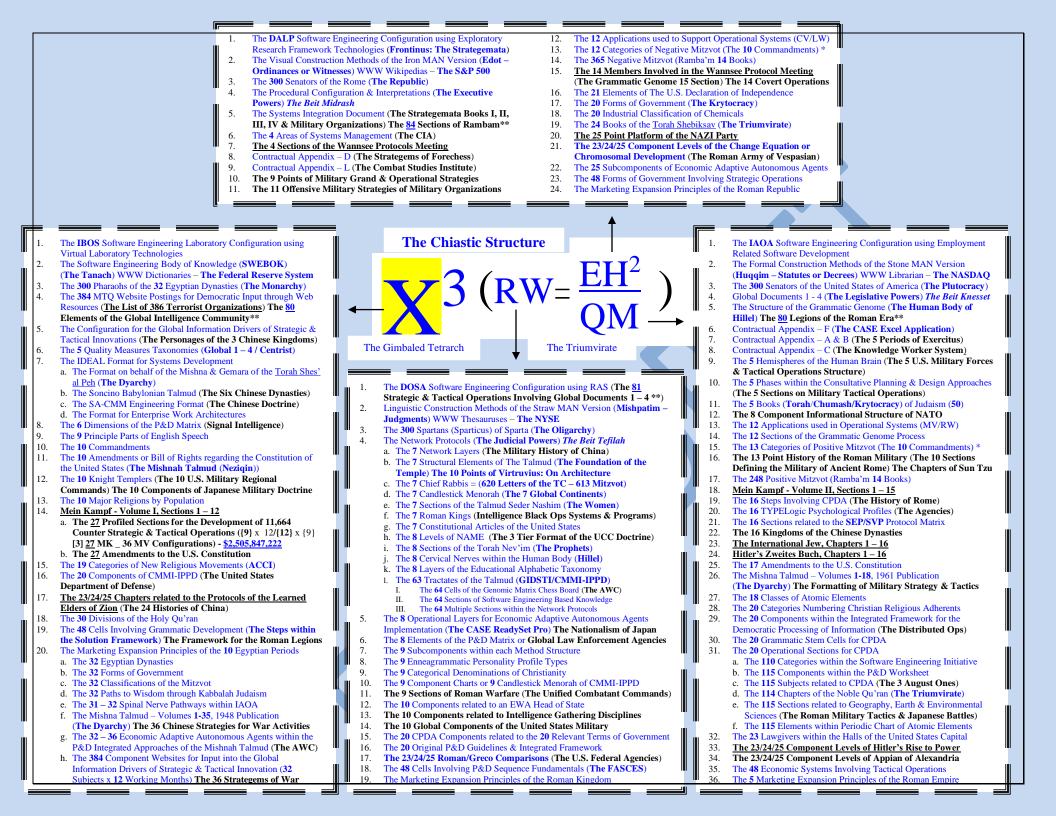


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ALPHA NUMEROUS MAXIMUS EGREGION SUMMA CUM LAUDE

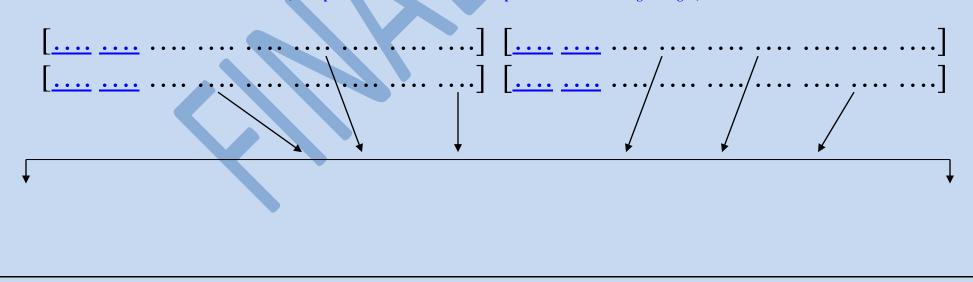




THE OPERATIONAL THEATER & STRUCTURAL BUSINESS MODEL FOR ECONOMIC LEGIONS

The Procedural Layout for 11,664 Autonomous Strategic & Tactical Business Models

<u>The 1<sup>st</sup> – 144<sup>th</sup> Strategic Divisional Theater Groups of Competitive Autonomous Global Market Business Models</u> (The Operational Business Plan for the Implementation of Marketing Strategies)



	(The Freedo					
<u>I Adiutrix</u>	III Parthica	<u>XII Fulminata</u>	<u>I Iulia Alpina</u>	I Pontica	III Isaura	
<u>I Germanica</u>	<u>IIII Macedonica</u>	<u>XIII Gemina</u>	I Armeniaca	II Iulia Alpina	IIII Italica	
<u>I Italica</u>	<u>IIII Flavia Felix</u>	<u>XIV Gemina</u>				
I Macriana Liberatrix	IIII Scythica	XV Apollinaris	<u>I Flavia Constantia</u>	II Armeniaca	IIII Martia	
<u>I Minervia</u>	<u>V Alaudae</u>	XV Primigenia	I Flavia Gallicana	II Brittannica	IIII Parthica	
I Parthica	<u>V Macedonica</u>	<u>XVI Gallica</u>	<u>I Flavia Martis</u>	II Flavia Constantia	<u>V Iovia</u>	
<u>II Adiutrix</u>	<u>VI Ferrata</u>	<u>XVI Flavia Firma</u>	I Flavia Pacis	II Flavia Virtutis	V Parthica	
<u>II Augusta</u>	<u>VI Victrix</u>	<u>XVII</u>	<u>i Havia Lacis</u>	<u>II Plavia viituus</u>	<u>v i arunca</u>	
<u>II Italica</u>	<u>VII Claudia</u>	<u>XVIII</u>	<u>I Illyricorum</u>	<u>II Herculia</u>	<u>VI Gallicana</u>	
II Parthica	VII Gemina	XIX	<u>I Iovia</u>	<u>II Isaura</u>	VI Herculia	
<u>II Traiana Fortis</u>	<u>VIII Augusta</u>	<u>XX Valeria Victrix</u>	I Isaura Sagitaria	III Iulia Alpina	VI Hispana	
<u>III Augusta</u>	<u>VIIII Hispana</u>	<u>XXI Rapax</u>				
<u>III Cyrenaica</u>	<u>X Fretensis</u>	XXII Deiotariana	<u>I Martia</u>	III Diocletiana	<u>VI Parthica</u>	
<u>III Gallica</u>	<u>X Gemina</u>	XXII Primigenia	<u>I Maximiana</u>	III Flavia Salutis	XII Victrix	
III Italica	<u>XI Claudia</u>	XXX Ulpia Victrix	<u>I Noricorum</u>	III Herculia		

<u>The 1<sup>st</sup> – 80<sup>th</sup> Tactical Roman Legions of Competitive Autonomous Economic Principles & Global Market Forces for Each Divisional Strategy</u> (The Procedural Marketing Model for Solution Providership Client Acquisition Tactics)



#### The Customer Bases or Points of Interest for Each Tactic or Economic Legion

A list of 3927 WWW Links to Software Engineering and Computer Science Resources:

- <u>Computer Science Resources</u> (26 links)
- Computer Science Departments (303 links)
- <u>Software Engineering</u> (911 links)
  - Software Engineering Resources (32 links)
  - Software Engineering Guides and Papers (15 links)
  - <u>Software Engineering Projects, Groups and Conferences</u> (23 links)
  - O <u>Software Architecture</u> (61 links)
  - Software Configuration Management (262 links)
  - Software Estimation (17 links)
  - O Software Evolution and Maintenance (19 links)
  - Software Methods and Techniques (63 links)
  - <u>Software Metrics</u> (35 links)
  - O <u>Software Process</u> (119 links)
  - O Software Project Management (62 links)
  - O Software Quality (37 links)
  - <u>Software Requirements Engineering</u> (21 links)
  - <u>Software Reuse</u> (28 links)
  - 0 Software Reviews and Inspections (15 links)
  - Software Risk Management (8 links)
  - <u>Software Testing</u> (42 links)
  - O <u>Software Tools and Technology</u> (52 links)
- Operating Systems (322 links)
  - Operating Systems Resources (13 links)
  - 0 <u>Unix</u> (103 links)
  - $\circ$  <u>Linux</u> (116 links)
  - <u>MS Windows</u> (12 links)
  - PalmTops (17 links)
  - File/Storage Systems (9 links)
  - Other Operating Systems and Projects (52 links)
- <u>Concurrent/Parallel Systems</u> (18 links)
- Windowing and GUI Systems (57 links)
- Groupware, CSCW and Workflow (20 links)
- HCI Human Computer Interaction (23 links)
- Garbage Collection & Memory Management (20 links)
- <u>Programming Languages</u> (819 links)
  - <u>Programming Language Groups and Projects</u> (11 links)
  - 0 Programming Languages Guides and Tutorials (12 links)
  - <u>Programming Language Resources</u> (25 links)
  - Perl (108 links)
  - $\circ$  <u>Tcl/Tk</u> (80 links)
  - $\circ$  <u>C++</u> (153 links)
  - O Java (244 links)
  - O <u>Smalltalk</u> (69 links)
  - O <u>Eiffel</u> (31 links)
  - <u>Ada</u> (25 links)
  - O Other Programming Languages (61 links)
  - Programming Systems and Projects (44 links)
- <u>Object Orientation</u> (410 links)
  - O-O Resources and Directories (38 links)
  - O-O Training and Tutorials (35 links)
  - O O-O Groups and Conferences (15 links)
  - O O-O Publications (22 links)
  - O O-O Systems and Projects (37 links)
  - O <u>O-O Theory & Research</u> (18 links)
  - O O-O Frameworks (35 links)
  - O O-O Methods, Models and Notations (48 links)
  - O-O Software Development (30 links)

- O <u>O-O Business Object & Process Engineering</u> (18 links)
- O-O Distributed Systems (56 links)
- O <u>O-O Databases</u> (50 links)
- 0 <u>O-O Trainers and Consultants</u> (8 links)
- Component Technology (25 links)
- <u>Software Patterns</u> (176 links)
- <u>Software Agents</u> (34 links)
- <u>Software Vendors and Research</u> (60 links)
- Technical Papers, Books and Journals (66 links)
- <u>Technical Publishers and Sellers</u> (63 links)
  - Publishers (39 links)
  - O <u>Book Sellers</u> (19 links)
- <u>Software Law</u> (9 links)
- <u>WWW and the Internet</u> (191 links)
  - <u>WWW and Internet Resources</u> (36 links)
    - O <u>WWW Browsers</u> (15 links)
    - O <u>Hypertext and Hypermedia</u> (45 links)
    - 0 <u>WWW & CGI Development</u> (44 links)
  - O <u>Internet Etiquette</u> (5 links)
  - O <u>Dealing with Unsolicited Mail & Spams</u> (46 links)
- Free Software Tools (45 links)
- <u>Miscellaneous Computing Resources</u> (106 links)
  - Training and Tutorials (14 links)
  - Research and Development (8 links)
  - Vendors and Service Providers (11 links)
  - O Information Resources (40 links)
  - O <u>Reference Materials</u> (26 links)
  - Whatever ... (7 links)
- <u>Science and Math Resources</u> (150 links)
  - O <u>Complexity, Chaos, and Constraint Theory</u> (47 links)
  - <u>Thinking, Learning, and Self-Improvement</u> (55 links)
  - O <u>Other Math & Science Resources</u> (48 links)
- Chicago Area Information (25 links)

- O <u>General Info</u> (17 links)
  - O <u>Computing-related Info</u> (8 links)

## **IBOS**

#### A. THE STRATEGIC & TACTICAL ANALOGIES OF <u>EGYPTIAN MILITARY</u> <u>HISTORY</u> INVOLVING THE <u>36</u> ECONOMIC AUTONOMOUS ADAPTIVE AGENTS & THE <u>23/24/25</u> COMPONENT LEVELS OF THE CHANGE EQUATION OR CHROMOSOMAL DEVELOPMENT

- 1. The History of the Founding of Ancient Egypt
- 2. The Religious Foundation of Ancient Egypt
- 3. The Wealth & Economies of Ancient Egypt
- 4. The Constitution or Laws of Ancient Egypt
- 5. The Government of Ancient Egypt
- 6. The 10 Periods of Ancient Egypt
- 7. The 32 Dynasties of Ancient Egypt
- 8. The Pharaohs of Ancient Egypt
- 9. The Queens of Ancient Egypt
- 10. The Priests of Ancient Egypt
- 11. The Court of Ancient Egypt
- 12. The People of Ancient Egypt
- 13. The Lists of Ancient Egyptian Military Laws
- 14. The Egyptian Grand & Operational Strategies
- 15. The Generals of Ancient Egypt
- 16. The Structural History of the Ancient Egyptian Military
- 17. The Military of Ancient Egypt
- 18. The Military Strategies & Tactics of Ancient Egypt
- 19. The Wars of Ancient Egypt
- 20. The Campaign History of the Egyptian Military
- 21. The Battles of Ancient Egypt
- 22. The Army of Ancient Egypt
- 23. The List of Ancient Egyptian Armies
- 24. The Ancient Egyptian Military Units
- 25. The Male Soldiers of Ancient Egypt
- 26. The Female Soldiers of Ancient Egypt
- 27. The Egyptian Infantry Tactics
- 28. The Lists of Ancient Egyptian Army Conflicts
- 29. The Navy of Ancient Egypt
- 30. The Fleets of Ancient Egypt
- 31. The Ships of Ancient Egypt
- 32. The Egyptian Navel Tactics
- 33. The Lists of Ancient Egyptian Navel Conflicts
- 34. The Lists of Ancient Egyptian Occupations
- 35. The Decline of Ancient Egypt
- 36. The Modern Influences of Ancient Egypt

## **DOSA**

#### B. THE STRATEGIC & TACTICAL ANALOGIES OF <u>GREEK MILITARY</u> <u>HISTORY</u> INVOLVING THE <u>36</u> ECONOMIC AUTONOMOUS ADAPTIVE AGENTS & THE <u>23/24/25</u> COMPONENT LEVELS OF THE CHANGE EQUATION OR CHROMOSOMAL DEVELOPMENT

- 1. The History of the Founding of Greece
- 2. The Religious Foundation of Ancient Greece
- 3. The Wealth & Economies of Ancient Greece
- 4. The Economy of Ancient Greece
- 5. The Constitution or Laws of Ancient Greece
- 6. The Kingdom of Greece
- 7. The Republic of Greece
- 8. The Empire of Greece
- 9. The Kings of Greece
- 10. The Consuls of Greece
- 11. The Emperors of Greece
- 12. The Senate & People of Greece
- 13. The Lists of Ancient Greek Military Laws
- 14. The Generals of Greece
- 15. The Structural History of the Greek Military
- 16. The Military of Ancient Greece
- 17. The Military Strategies & Tactics of Ancient Greece
- 18. The Wars of Ancient Greece
- 19. The Campaign History of the Greek Military
- 20. The Battles of Ancient Greece
- 21. The Army of Ancient Greece
- 22. The List of Ancient Greek Armies
- 23. The List of Ancient Greek Military Units
- 24. The Ancient Greek Military Units
- 25. The Male Soldiers of Ancient Greece
- 26. The Female Soldiers of Ancient Greece
- 27. The Greek Infantry Tactics
- 28. The Lists of Ancient Greek Army Conflicts
- 29. The Navy of Ancient Greece
- 30. The Fleets of Ancient Greece
- 31. The Ships of Ancient Greece
- 32. The Greek Navel Tactics
- 33. The Lists of Ancient Greek Navel Conflicts
- 34. The Lists of Ancient Greek Occupations
- 35. The Decline of Ancient Greece
- 36. The Modern Influences of Greece

## **DALP**

#### C. THE STRATEGIC & TACTICAL ANALOGIES OF <u>ROMAN MILITARY</u> <u>HISTORY</u> INVOLVING THE <u>36</u> ECONOMIC AUTONOMOUS ADAPTIVE AGENTS & THE <u>23/24/25</u> COMPONENT LEVELS OF THE CHANGE EQUATION OR CHROMOSOMAL DEVELOPMENT

- 1. The History of the Founding of Rome
- 2. The Religious Foundation of Ancient Rome
- 3. The Economy or Wealth of Ancient Rome
- 4. The Constitution or Laws of Ancient Rome
- 5. The Kingdom of Rome
- 6. The Republic of Rome
- 7. The Empire of Rome
- 8. The Kings of Rome
- 9. The Consuls of Rome
- 10. The Emperors of Rome
- 11. The Senate & People of Rome, Saints & Prophets of the Resurrection or the Status & Prosperity of Republics (SPOR)
- 12. The Lists of Ancient Roman Military Laws
- 13. The Military of Ancient Rome
- 14. The Structural History of the Roman Military
- 15. The **Army** of Ancient Rome
- 16. The Generals of Ancient Rome (400)
- 17. The List of Ancient Roman Armies The Ancient Roman Legion
- 18. The List of Ancient Roman Legions (80)
- 19. The 15 Ancient Roman Legions of the Republic
- 20. The 23 Ancient Roman Legions of the Early Empire
- 21. The 7 Ancient Roman Legions of the Late Empire
- 22. The 41 Ancient Roman Military Units
- 23. The Male Soldiers of Ancient Rome (38 Subjects)
- 24. The Female Soldiers of Ancient Rome (7 Subjects) The 7 Sections of the Talmud Seder Nashim (**The Women**)
- 25. The Lists of Ancient Roman Army Conflicts
- 26. The Navy of Ancient Rome
- 27. The Admirals of Ancient Rome
- 28. The Fleets of Ancient Rome (10)
- 29. The Lists of Ancient Roman Navel Conflicts
- 30. The Military Strategies & Tactics of Ancient Rome
- 31. The Roman Infantry Tactics
- 32. The Roman Navel Tactics
- 33. The Wars of Ancient Rome (47)
- 34. The Campaign History of the Roman Military (6)
- 35. The Battles of Ancient Rome (126)
- The Lists of Ancient & Modern Roman Territorial Occupations or Influences

# **IAOA**

#### D. THE STRATEGIC & TACTICAL ANALOGIES OF THE <u>UNITED STATES</u> <u>MILITARY HISTORY</u> INVOLVING THE <u>36</u> ECONOMIC AUTONOMOUS ADAPTIVE AGENTS & THE <u>23/24/25</u> COMPONENT LEVELS OF THE CHANGE EQUATION OR CHROMOSOMAL DEVELOPMENT

- 1. The History of the Founding of the United States of America
- 2. The Religious Foundation of the United States of America
- 3. The Economy or Wealth of the United States of America
- 4. The Constitution or Laws of the United States of America
- 5. The Legislative Branches of the United States of America
- 6. The Executive Branches of the United States of America.
- 7. The Judicial Branches of the United States of America
- 8. The Founding Fathers of the United States of America
- 9. The Presidents of the United States of America
- 10. The Senate of the United States of America
- 11. The Congress of the United States of America
- 12. The People of the United States of America
- 13. The Laws of the United States Military
- 14. The Special Intelligence Divisions of the United States
- 15. The Command Structure or Generals of the United States Military
- 16. The Structural History of the United States Military
- 17. The Military Command Structure of the United States
- 18. The Military Strategies & Tactics of the United States
- 19. The Wars of the United States
- 20. The Campaign History of the United States Military
- 21. The Combat Battles of the United States Military
- 22. The Airforce of the United States Military
- 23. The List of the United States Airforce Units & Bases of Operation
- 24. The Army of the United States Military
- 25. The List of the United States Army Units & Bases of Operation
- 26. The Navy of the United States Military
- 27. The List of the United States Navy Fleets & Bases of Operation
- 28. The Marines of the United States Military
- 29. The List of the United States Marine Units & Bases of Operation
- 30. The Male Soldiers of the United States Military
- 31. The Female Soldiers of the United States Military
- 32. The Flying Tactics of the United States Airforce
- 33. The Infantry Tactics of the United States Army
- 34. The Naval Strategies & Tactics of the United States Navy
- 35. The Operational Tactics of the United States Marines
- 36. The Lists of Territorial Influences or Sovereignties

### The Consultative Details about Pursuing a Physiological Setting for Establishing Genetic-Based P&D Operational Strategies

(The Procedural Timeline Developments Devised & Taken within P&D Phases)

#### Phase 1 Determine Purpose Level {AF}, {AG}, {AH} & {AI}

- A. Select P&D project from original, betterment, or correction requirements. (1.)
- **B.** Set up P&D system structure. (2.)
- C. Expand purposes into hierarchy(ies) and select needed purpose(s). (3.)
- **D.** Identify measures of effectiveness for selected purpose(s). (5.)
- E. Determine functional components (primarily for large or complex systems). (6.)
- F. Select component(s) if E was needed. Return to C. (4.)

#### Phase 2 Generate Purposeful Alternatives (Ideal Systems) {BF}, {BG}, {BH} & {BI}

- A. Develop ideal systems that would eliminate the need for selected purpose level. What ideas achieve a bigger-level purpose? (7a.)
- **B.** Develop ideal systems for achieving the selected (and bigger-level) purpose by applying creativity processes. (7b.)
- **C.** Develop ideal systems for achieving the selected (and bigger-level) purpose that eliminate the need for any assumed limitation. (7c.)
- **D.** Develop ideal systems for regularity conditions. (8a.)
- E. Develop ideal systems by reviewing list of purposes from Phase 1 to select suggestions contained therein. (8b.)
- **F.** Develop ideal systems that must satisfy only one measure of effectiveness focusing on each one, one at a time, as if it were the only objective. (8c.)
- **G.** Review the list of ideas generated. For each clearly unachievable idea, develop proposals for the nearest approximation that is close to being feasible. (8d.)

#### Phase 3 Devise Feasible Ideal Solution Target (FIST) {CF}, {CG}, {CH} & {CI}

A. Identify regularities for the target. (8e.)

- **B.** Separate ideas into major alternatives and incorporate as many component ideas as possible into each alternative. (9a.)
- C. Provide more detail for each major alternative to ensure workability and allow assessment of effectiveness. (9b.)
- **D.** Identify each major alternative as contemplative or feasible. Review contemplative categories with experts to determine their present feasibility. (9c.)
- **E.** Select feasible ideal system target (FIST) for regularities by evaluating the major alternatives with measures of effectiveness. (10a.)
- F. Make FIST more ideal and as operational as possible. (10b.)
- G. Save other ideas. (10c.)

#### Phase 4 Develop and Detail the Recommended Solution {DF}, {DG}, {DH} & {DI}

- **A.** Develop alternatives for FIST components that will incorporate needed irregularities, exceptions, and conditions while staying as close as possible to the FIST. (**11a.**)
- **B.** Estimate performances, outcomes, and consequences of each alternative to assess effectiveness, incorporate possible self-correction methods. (11b.)
- **C.** Select the workable solution that is to be recommended for adoption or for approval before continuing to next stage of protocol. (12.)
- **D.** Formulate plans to get final approval of the workable solution. (13a.)
- E. Develop details of the solution as far as needed to permit its installation or movement to next stage of protocol. Use elements and dimensions of solution framework. (13b.)
- **F.** Review the recommended solution framework with knowledgeable people to assure its implementability. (13c.)

#### Phase 5 Install the Workable Solution {EF}, {EG}, {EH} & {EI}

- A. Test, simulate, or try out the solution. (13d.)
- **B.** Set up installation/transition schedule (phase-in and overlap times, etc.). (14.)
- C. Develop procedures for presenting and "selling" the solution. (15a.)

- **D.** Prepare operational resources (equipment orders, location preparation, job descriptions, department specifications, train or shift personnel, etc.). (15b.)
- E. Install solution (or proceed to next stage of protocol). (16.)
- F. Provide close monitoring to follow up on and solve operational problems. (17.)
- G. Establish operational performance measurements to provide operators/managers with norms. (18a.)
- **H.** Evaluate performance of installed solution in terms of current goals, objectives, and purposes. (18b.)
- 1. Establish timeline for planned betterment change of the installed solution. (19a.)
- J. Aggregate performance data for all projects to report on P&D professional results. (19b.)

## The Timeline Sequences for P&D Initiation

- A. The timeline representing the chronological passage of time. Develops a Purpose Hierarchy for Finding a Solution (1.)
- B. Arbitrarily locates the present (second, minute, hour, day, week, month, or whatever unit), which automatically defines the past and the future. Design the P&D Solution Finding Structure (2.)
- C. The symbolic representation of the conditions of the phenomenon of interest (e.g., food sources, construction methods, political structure) at a previous point of time.
  Do Purpose Expansion (3.)
- D. The representation of current conditions. Select Function (4.)
- E. The representation of future or proposed conditions. Setup Measures of Effectiveness (5.)
- F. The description of a phenomenon's status at a particular time. Identify Functional Components (6.)
- G. The description of a phenomenon's status further along in time. Generate Ideal System (7a.), (7b.) & (7c.)
- H. The static description of each phenomenon thus far. Identify Regularities (8a.), (8b.), (8c.), (8d.) & (8e.)
- I. The information about past conditions of the phenomenon that comes from various sources, depending on the particular time scale. Synthesize Major Alternatives (9a.), (9b.) & (9c.)
- J. Other sources that usually lead to static descriptions of the present. Select Feasible Ideal System Target (FIST) for Regularities (10a.), (10b.) & (10c.)
- **K.** Other sources that typically lead to predictions of static conditions at a point of time in the future. **Incorporate Irregularities (11a.)** & (**11b.**)

- L. Developing a themata or historical time perspective about a particular issue, or set of issues. Develop Recommended Solution(s) (12.)
- M. Approaches to understanding past phenomenon through the possibility of reversing the timeline. Develop Presentation Format and Obtain Approval from Appropriate Authorities (13a.), (13b.), (13c.) & (13d.)
- N. Understanding the present through the Research, Evaluation, Operating and Supervising approaches. Setup Implementation Schedule (14.)
- O. Procedures for understanding and changing the future of a phenomenon are needed & noted for different P&D approaches, and their relationship to the timeline.
  Develop Procedures for Presenting and Initializing the Solution(s) (15a.) & (15b.)
- P. Setting up an installation schedule means expressing in detail what was general in the original project timeline. Install the Solution(s) (16.)
- Q. Performance measurements for the whole solution or its components are based on the measures of effectiveness from pervious phases. Monitor the Performance(s) (17.)
- R. Data can be expressed in various units: time per output, time per element, time per work component, output units per minute (or hour), number of citizens served per week, dollars per transaction, percentage of machine utilization, per capita complaints, productivity index, percentage of material utilization, hours of direct labor, cost per unit, and so on. Gather Data from Several Projects and Generate Reports (18a.) & (18b.)
- S. Involving people in the P&D strategy or system as inputs, outputs, part of the environment, actors in the follow-up P&D strategy, information aids, and human agents can maximize the number and effectiveness of implemented solutions and the effectiveness of utilizing P&D resources. Implement Follow-Up Changes (19a.) & (19b.)
- T. Knowledge, information, and models aggregate data that can be used costeffectively in P&D if each aggregation includes statements about it's relative inability to predict an occurrence or performance value of a future specific instance or case, emphasize the importance of it's integration with the other four P&D factors, and is presented with accuracy and precision values to reflect past and present conditions. Reinitiate Purposeful Hierarchy (20.)

Integrated Cross-the-Board Infrastructural Framework for NAME's Internet-Based Operating Systems IBOS [DOSA/DALP/IAOA]

(Virtual or real-time internet, evolving inter-operable, interactive, multi-tasking/multiple application environments)

#### Evolving Generic Inter-Operable MT/MA Platforms (5' -> 3') [M]

- 1. Words, Ideas, and Concepts (Grammatical, Mathematical or Alphanumeric Formulas)
- 2. Technological Innovations (Sociological, Philosophical, Psychological & Physiological)
- **3. Global Environment** (Educational, Strategical, Tactical, Financial and Logistical Market Forces)

#### Individual Generic Interactive MT/MA Platforms (3' <- 5') [T]

- 4. High Level Managers (Definitive P/A DOT Occupations and Educational Procedures)
- 5. Middle Level Managers (Definitive N/S DOT Occupations and Strategical Procedures)
- 6. Low Level Managers (Definitive M/C DOT Occupations and Tactical Procedures)
- 7. Worker Level Employee (Definitive G/O DOT Occupations and Logistical Procedures)

**Organizational Generic Internet-Based MT/MA Platforms (5' -> 3') [Q]** 

- **8. Governmental Institutions** (International, Federal & State Constitutional, Regulatory and Judicial Based Entities)
- 9. Financial Institutions (Banking, Monetary Markets and Investment Brokerage Firms)
- 10. Law Firms (International, Governmental, Corporate, Criminal, Torts, Family Law, etc.)
- 11. Law Enforcement or Intelligence Organizations (Legal or Investigative Entities)
- 12. Scientific Organizations (Academic, Technical or Medical Research & Development Firms)
- **13. Educational Institutions** (Academic, Professional, Occupational or Technical Entities)
- 14. Institutional Foundations (Academic, Charitable, Non-profit or Research Associations)
- 15. Religious Organizations or Foundations (Judaic, Christian, Islamic, Buddhist, Hindu, etc.)
- 16. Business Ownership Structures (Sole Proprietor, Partnership, Joint Venture or Corporation)
- **17. Business Operational Classifications** (Financial, Educational, Internet, Manufacturer, Importer, Exporter, Distributor, Wholesaler, Retailer, R&D, R&D Joint Venture and Administrative Based)

18. Business Infrastructures (Industrial, Hierarchical or Distributed Managerial Resources)

19. Organizational Policies (Structural, Financial and Operational ERP/MRP Procedures)

## Software Engineering and Information Manufacturing Procedural Hierarchy & Support Documentation

#### Section One – Introduction (5' -> 3')

- **1. Executive Summary**
- 2. Press Release
- 3. DNA Mapping & Virtual Intelligence

#### Section Two – Project Overview (3' <- 5')

Carnegie Mellon's Procedural & Organizational Development Proposals within NAME's IBOS [DOSA/DALP/IAOA] Technology & Marketing Bases

> Mathematical/Formula-Based Technology Development (Project Operation)

- 1. Software Development Using VDM ≥
- 2. Spiral Development >
- 3. Attribute-Based Architectural Styles (ABAS) >
- 4. Evolutionary Co-Word Analysis >
- 5. Steps in an Architecture Tradeoff Analysis Method Quality Attribute Models and Analysis (ATAM) ≥
- 6. Taxonomy of Coordination Mechanisms Used in Real-Time Software Based on Domain Analysis\*
- 7. Analysis of Input-Output Paradigms for Real-Time Systems  $\geq$
- 8. Real-Time Locking Protocol >
- 9. Design Specifications for Adaptive Real-Time Systems (SMARTS)  $\geq$
- 10. Browsers for Distributed Systems Universal Paradigm or Siren's Song >
- 11. Establishing a Software Measurement Process >
- 12. Goal-Driven Software Measurement--A Guidebook >
- 13. Formal Verification of Programs >
- 14. Coming Attractions in Software Architecture >

**Distributed Technological Fulfillment** 

(Project Planning)

- 1. Training Guidelines for a Software Organization  $\geq$
- 2. Personal Process in Software Engineering >
- 3. Analysis of a Software Maintenance System: A CASE Study >

- 4. Guide to CASE Adoption  $\geq$
- 5. Tool Integration and Environment Architectures  $\geq$
- 6. Tool Interface Technology  $\geq$
- 7. Approaches to Legacy System Evolution  $\geq$
- 8. Architecture for Evolvable Industrial Computing >
- 9. Architecture-Based Development (ATAM) ≥
- 10. Serpent Dialogue Model  $\geq$
- 11. Studying Software Architecture Through Design Spaces and Rules  $\geq$
- 12. Design Space and Design Rules for User Interface Software Architecture ≥
- 13. User Interface Technology Survey\*
- 14. Classification and Bibliography of Software Prototyping >
- 15. Software Process Modeling >
- 16. Models of Software Evolution Life Cycle and Process  $\geq$
- 17. Classifying Software Design Methods >
- 18. COTS Activity Framework >
- 19. Manager's Checklist for Validating Software Cost and Schedule Estimates >
- 20. Cleanroom Software Engineering Reference Model >
- 21. Cleanroom Software Engineering Implementation  $\geq$
- 22. Formal Specification of Software ≥
- 23. Software Engineering  $\geq$
- 24. Component-Based Software Engineering ≥
- 25. Reverse-Engineering Environment Framework >
- 26. Reengineering: An Engineering Problem **>**
- 27. Experiment Planning for Software Development: Redevelopment Experiment >
- 28. Reuse-Based Software Development >
- 29. Guide to the Assessment of Software Development Methods  $\geq$
- 30. Establishing a Software Measurement Process ≥
- 31. Software Quality Measurement: A Framework for Counting Problems and Defects ≥
- 32. PSM >
- 33. Software Metrics >
- 34. Unit Analysis and Testing >
- 35. Study in Software Maintenance >

**Operational Development as Guided through PERT Systems** 

(P&D Purposeful Hierarchies Involving People)

- 1. IDEAL, A User's Guide\* (5' -> 3')
- 2. IDEAL (SAIF) Definition ≥
- 3. Capability Maturity Model Relationships >
- 4. CMM(SM)-Based Appraisal for Internal Process Improvement (CBA IPI) Method Description ≥
- 5. CMM Appraisal Framework, Version  $1_0 \ge$
- 6. Maturity Questionnaire >
- 7. Documentation in Architectural Layers ≥

- 8. ABDM  $\geq$
- 9. Capability Maturity Model Relationships (SE-CMM) >

10. SE-CMM >

11. Requirements Management into Organizations >

12. CMMI & SW-CMM Mapping >

13. Software Engineering Process Group Guide >

#### **Organizational Fulfillment**

(Project Definitions)

- 1.  $SCE \geq$
- 2. SCE Supplier Selection ≥
- CMMI-SE-SW-IPPD, V1\_02, Staged ≥ a. SM & CMM ≥
- 4. CMMI-SE-SW-IPPD, V1\_02, Continuous >
  - a. 1999 Survey of High Maturity Organizations >
  - b.  $SA-CMM[R] \ge$
  - c. Software Acquisition Risk Management >
  - d. Software Acquisition Process Maturity Questionnaire  $\geq$
- 5. Guidelines for Developing a Product Line Concept of Operations  $\geq$
- 6. C4 Software Technology Reference Guide\*
- 7. Requirements Management into Organizations >
- 8. <u>PSP[SM] ></u>
- 9. TSP[SM] >
- 10. People Capability Maturity Model (P-CMM) >
- 11. People CMM(R)-Based Assessment Method Description >
- 12. <mark>STR ></mark>
- 13. Technology and Adoption of Software Process Automation >
- 14. Staff-hours and Reporting Schedule >
- 15. SEI Strategic Plan 1997 >

Foundation for Strategical/Tactical Autonomous Security Profiles (Project Interpretation)

- 1. Handbook for Computer Security Incident Response Teams (CSIRTs)\*
- 2. Software Safety ≥
- SRE Method Description >
- 4. SRE Method Description Notebook >
- 5. TRM Team Risk Management >
- 6. Laws (Intellectual Property Protection for Software) >

### <u>Section Three – Laboratory or Software Engineering Support Documents</u> (5'-> 3')

#### A. Employment Related Software Development:

- 1. Individual, Group, Inter-group, Organization and Larger Social System Development Consultative Intervention Matrix and SEI Documents.
- 2. The Dictionary of Occupational Titles and Thomas Registry Guide Autonomous or Collaborative Agent Formatting and Enterprise Work Architectural Design Technologies (i.e., **DALP** (**3'** <- **5'**)).
  - 2a. The Solution Framework for Strategic Development NAME's Sequential Application of its overall processes and procedures within the Human Genome Environment.
  - 2b. The Statement of Operations The Planning & Design Approach toward NAME's employee development.
  - 2c. The Strategic Programming Format The Operational Environments.
- 3. The Planning & Design Approach Distributed Grammatical Database Structure and Analytical Netmapping Technologies (i.e., IAOA (5' -> 3')).
  - The Systems Matrix The Application of Human Genetics towards Words, Phrases, Sentences, etc.
  - 3b. The Description of Operational Duties The Sequential Application of Human Genetics toward NAME's Ideals, Concepts or Procedural Tasks.
  - 3c. The Biological Programming Format The Initialization of Environmental Virtual Biological Cloning.
- The Method Structure Guide to the Software Engineering Body of Knowledge (i.e., DOSA (5' -> 3')).\*\*\*
- 5. The Manufacturing Planning and Control Structure Evolving Novel Organizational Forms through Genetic Algorithms.
- 6. The Group Ordering Logic MRP/ERP Systems Development.
- 7. The Formula Format The Operational Guidelines for Autonomous Agent(s) Procedural Implementation.
  - 7a. The Systems Matrix The Application of Human Genetics towards Search Engine Protocols and Document Analysis.
  - 7a1. The Description of Operational Duties The Sequential Application of Human Genetics toward NAME's customer Ideals, Concepts or Procedural Tasks.
  - 7a2. The Biological Programming Format The Initialization of Individual, Group, Inter-group, Organization and Larger Social System Virtual Biological Cloning.
  - 7b. The Solution Framework for Strategic Development NAME's Sequential Application of Proteins within the Human Genome.
  - 7b1. The Statement of Operations The Planning & Design Approach toward NAME's customer development.
  - 7b2. The Strategic Programming Format The ROOT System.
- 8. The Strategic Programming Charts The Level-by-Level Inference from Large-Scale Gene Expression Data.

- 9. The Phase-to-Phase Operational Format Project Control through a Computer Associate Procedural Model.
- 10. The Systems Architecture The TOVE Architectural Model.
- 11. Employment Related Systems Development IBOS/DALP/DOSA Replicative Templates.
- 12. Exhibits
  - a. Traditional Marketing Strategies
  - b. NAME's Marketing Strategies

\* Lead Documents > Go Support Documents

### All Things In A Box

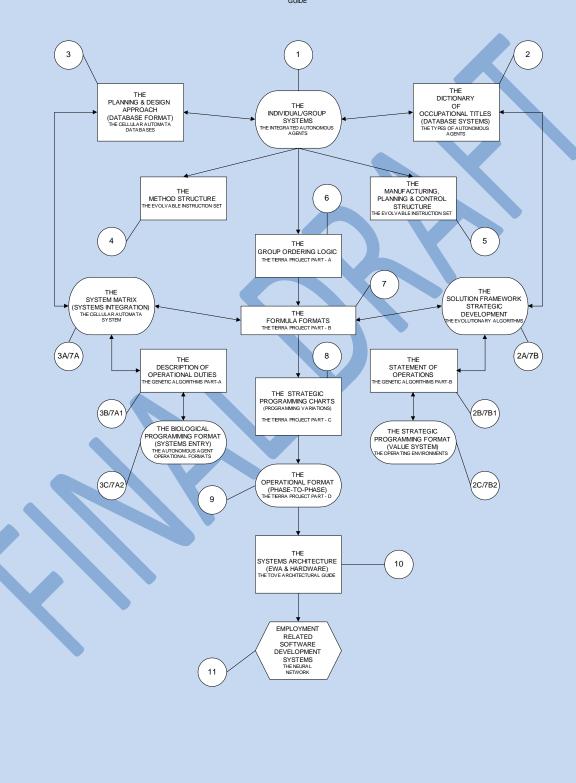
An example of two complementary strands of DNA would be:

 $(5' \rightarrow 3')$  ATGGAATTCTCGCTC (3' <-5') TACCTTAAGAGCGAG

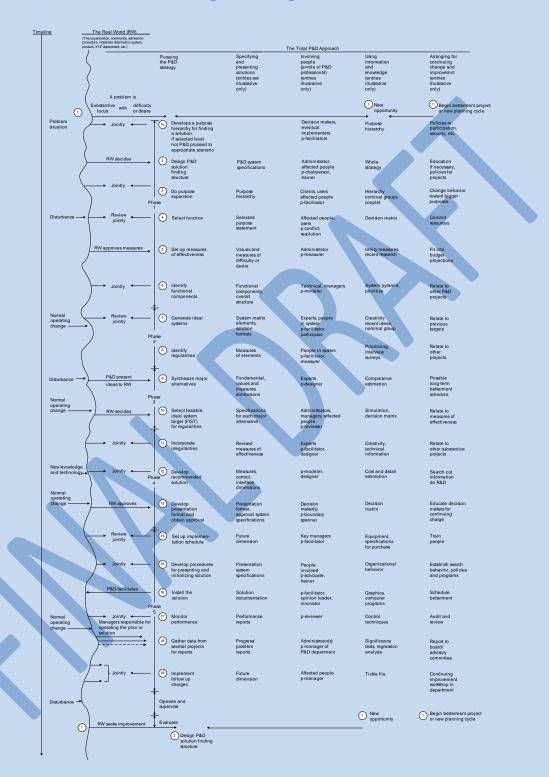
(Coding, sense strand) ? (Template, antisense strand) .

(5' -> 3') AUGGAAUUCUCGCUC (mRNA made from Template strand) !

#### NASCENT APPLIED METHODS & ENDEAVORS



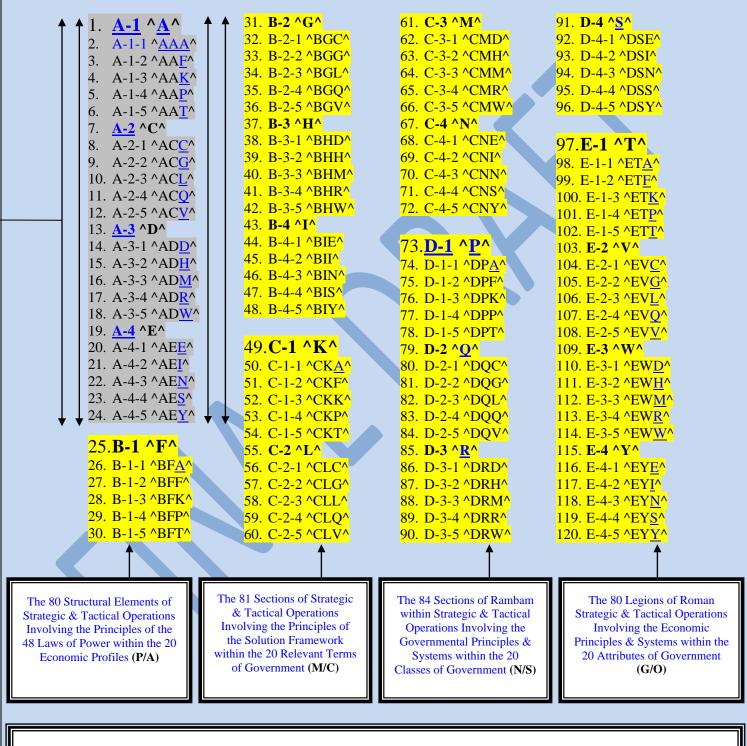
EMPLOYMENT RELATED SOFTWARE DEVELOPMENT GUIDE



## The Planning & Design Worksheet

## The Consul Cube Genomic Configurations for Establishing Genetic-Based Concepts within a Consultative P&D Effort

A Roman Emperor's Consul <u>Mindset</u> as <u>16</u> Separate Emperors Function as One In Reference to the <u>GIDSTI</u> Economic Principles Involving <u>Julius Caesar</u> as a Point of Origin for Modern Commercial Expansionism



The Alpha, Beta, Charlie, Delta & Echo 24 Chromosomal Base Pairings for the Upper & Lower Level Change Equation Components of the 24 Books within the Torah Shebiksav

The Pursuit of a Financial Perspective Involving the Implementation of DaVinci's Procreative Business Modeling of Global Market Economies

(An Economist's Mindset from an Integrated Listing of over 600 World Economists into a Single Equation)

- 1. An Economic Outline for the Procreative Modeling of Global Markets within a Planning & Design Approach (PDA) Worksheet for Monetary Operational Grand Strategies:
  - A. The Descriptive Procedural Mindset of an <u>Economist/Broker</u> as a Firm Utilizing over (600) <u>Historical Economists</u>, as a <u>Single Minded Autonomous Economic Function</u>, within a PDA Worksheet (i.e., X<sup>3</sup> the <u>Neuroeconomic Procedural Guidelines</u>);
    - I. The Ancient and Modern History of Economic or Monetary Thought as <u>Phase One</u> within the Planning & Design Approach Worksheet.
    - II. The Economic Theories within (4) Managerial Categories & (117) Overlapping Financial Subcategories as <u>Phase Two</u> within the <u>Planning & Design Approach</u> Worksheet.
    - III. Evolutionary and Institutional Economics as the New Mainstream within <u>Phase</u> <u>Three</u> of the Planning & Design Approaches.
    - IV. Behavioral Economics within (4) Managerial Categories & (24) Subcategories Involving the (24) Points of the Change Equation utilizing Chromosomal Development within <u>Phase Four</u> of the Planning & Design Approach Worksheet.
    - V. The (5) Point Outline of Cognitive Biases, Involving the (43) Categories of Behavioral Finance within the (48) Types of Economic Systems, or the (40) Categories of Economic Indicators encompassing <u>Phase Five</u> of the Planning & Design Approach Worksheet;
      - (a.) The (20) Step List of Financial Topics within the Pursuing the Planning & Design Strategy (PPDS) Column of the PDA Worksheet. [Vertical Inter-Changeable Rotation (VIR) Involving Norms/Standards or DALP Technologies]
      - (b.) The (18) Step List of Financial Services Companies within the Specifying & Implementing Solutions (SIS) Column of the PDA Worksheet. [Vertical Inter-Changeable Rotation (VIR) Involving Morale/Cohesion or DOSA Technologies]
      - (c.) The (18) Step List of Important Publications In Economics within the Information & Knowledge (I&K) Column of the PDA Worksheet. [Vertical Inter-Changeable Rotation (VIR) Involving Power/Authority Issues or IBOS Technologies]
      - (d.) The (20) Step List of Economic Topics within the Arranging for Continuous Change & Improvement (ACCI) Column of the PDA Worksheet. [Vertical Inter-Changeable Rotation (VIR) Involving Goals/Objectives or IAOA Technologies]
  - B. The <u>Conceptual Implementation</u> of <u>(165)</u> Accounting Topics within all <u>(144)</u> Sections of the <u>Global Information Drivers of Strategic & Tactical Innovations</u> (GIDSTI), as well as the <u>(21)</u> Major Categories of Financial Markets Involving <u>(36)</u> Economic Adaptive Autonomous Agents;
    - I. The (15/10) Point Assignment of Marketing Structures & Pricing within IT Investments, and a Political/Religious Enterprise Work Architecture.

- II. The (4) Areas of a Political Media or Das Kapital as a Source for Market-Based Ideological <u>Counter-Measures</u> within the (4) Approaches of the Grammatic Genome.
- III. The (6) Dimensions of Marketing for a Consultative Planning & Design Approach (CPDA) Stratagem Matrix, Sections A E.
- IV. The List of Basic Economic Topics Representing the (9) PPES Formula System for a PDA Matrix.
- V. The List of Behavioral Economics Representing the (9) PPES Formula System for a CPDA Matrix.
- VI. The List of Financial Services Involving the (9) PPES Formula System for the Solution Framework Matrix.
- VII. The List of (11) Marketing Topics Representing Employment Related Software Development (ERSD).
- VIII. The (12) Methods of Financial Services Involving Market Generation.
- IX. The (12) Part Mechanism for Autonomous Agent Formatting.

## 2. An Economic Outline for the Procreative Modeling of Global Markets within a Consultative Planning & Design Approach (CPDA) Worksheet for Monetary Operational Grand Tactics:

- A. The List of (100) International Trade Topics as a Means of Engaging in Power or Authority Issues within the Tactical Methods Involving the Consultative Planning & Design Approaches (CPDA) Worksheet. [Vertical Inter-Changeable <u>Clockwise</u> Rotation (VIR)]
- B. The Descriptive Operational Policy-Based Mindset of a Financier/Broker as an Individual Utilizing a List of (81) Scholarly Journals In Economics, as Morale or Cohesive Tactics in Specifying & Implementing Solutions within a Consultative Planning & Design Approach (CPDA) Worksheet (i.e., X<sup>3</sup> the <u>Autonomous Economic Procedural Guidelines</u>). [Vertical Inter-Changeable <u>Counter-Clockwise</u> Rotation (VIR)]
- C. The (4/115) Categories of Financial Services as a Means of Engaging in Norms or Standards within the Tactical Approaches Involving the Consultative Planning & Design Approaches (CPDA) Worksheet. [Vertical Inter-Changeable <u>Clockwise</u> Rotation (VIR)]
- D. The (21/121) Categories of Markets as a Means of Engaging in Goals or Objectives within the Tactical Methods Involving the Consultative Planning & Design Approaches (CPDA) Worksheet. [Vertical Inter-Changeable <u>Counter-Clockwise</u> Rotation (VIR)]
  - The (288) Categories of Economics by Geographical Locations, Overlapping all (324) Components within the Tactical Areas of the CPDA Worksheet as Stationary Elements.
  - II. The (53) Tactical Matrix Categories of Economies by Continents within the CPDA Worksheet.
  - III. The (46) Stationary Strategic Components of the CPDA Worksheet, Sections A-1 to A-4.
- **3.** The Socioeconomic Base Equation(s) for the Individualized Global Free Market Fusion of Information:

 $-3 (RW = \frac{EH}{-})$ 

Homo Economicus Universal

## **Alpha Chromosomes**

Cataracts Malignant transformation suppression Ehlers-Danlos syndrome, type VI Glaucoma, primary infantile Hirschsprung disease, cardiac defects Schwartz-Jampel syndrome Hypophosphatasia, infantile, childhood Breast cancer, ductal Cutaneous malignant melanoma/dysplastic nevus p53-related protein Serotonin receptors Schnyder crystalline corneal dystrophy Kostmann neutropenia Oncogene MYC, lung carcinoma-derived Deafness, autosomal dominant Porphyria Epiphyseal dysplasia, multiple, type 2 Intervertebral disc disease Lymphoma, non-Hodgkin Breast cancer, invasive intraductal Colon adenocarcinoma Maple syrup urine disease, type II Atrioventricular canal defect Fluorouracil toxicity, sensitivity to Zellweger syndrome Stickler syndrome, type III Marshall syndrome Stargardt disease Retinitis pigmentosa Cone-rod dystrophy Macular dystrophy, age-related Fundus flavimaculatus Hypothyroidism, nongoitrous Exostoses, multiple Pheochromocytoma Psoriasis susceptibility Limb-girdle muscular dystrophy, autosomal dominant Pycnodysostosis Vohwinkel syndrome with ichthyosis Erythrokeratoderma, progressive symmetric Anemia, hemolytic Elliptocytosis Pyropoikilocytosis Spherocytosis, recessive Schizophrenia Lupus nephritis, susceptibility to Migraine, familial hemiplegic Emery-Dreifuss muscular dystrophy Cardiomyopathy, dilated Lipodystrophy, familial partial Dejerine-Sottas disease, myelin P-related Hypomyelination, congenital Nemaline myopathy, autosomal dominant Lupus erythematosus, systemic, susceptibility Neutropenia, alloimmune neonatal Viral infections, recurrent Antithrombin III deficiency Atherosclerosis, susceptibility to Glaucoma Tumor potentiating region Nephrotic syndrome Sjogren syndrome Coagulation factor deficiency Alzheimer disease Cardiomyopathy Factor H deficiency Membroproliferative glomerulonephritis Hemolytic-uremic syndrome Nephropathy, chronic hypocomplementemic Epidermolysis bullosa Popliteala pterygium syndrome Ectodermal dysplasia/skin fragility syndrome Usher syndrome, type 2A Kenny-Caffey syndrome Diphenylhydantoin toxicity

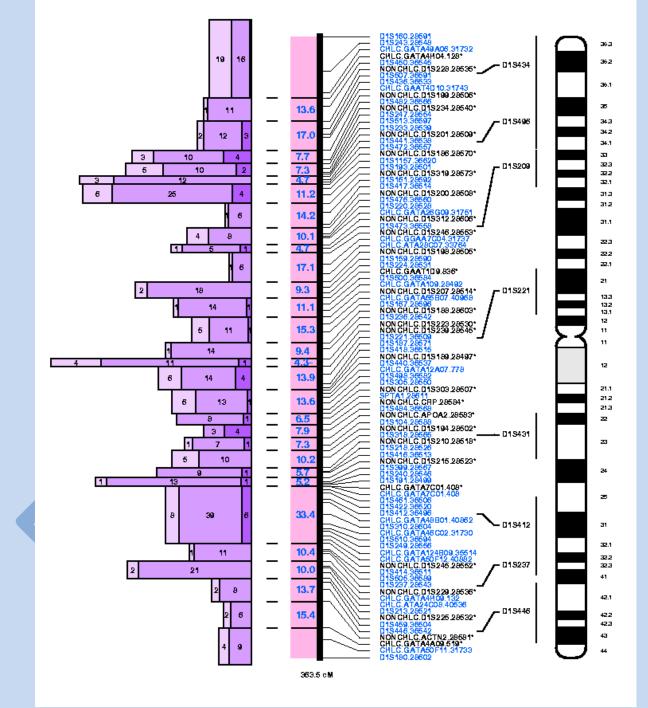
## 246 million base pairs

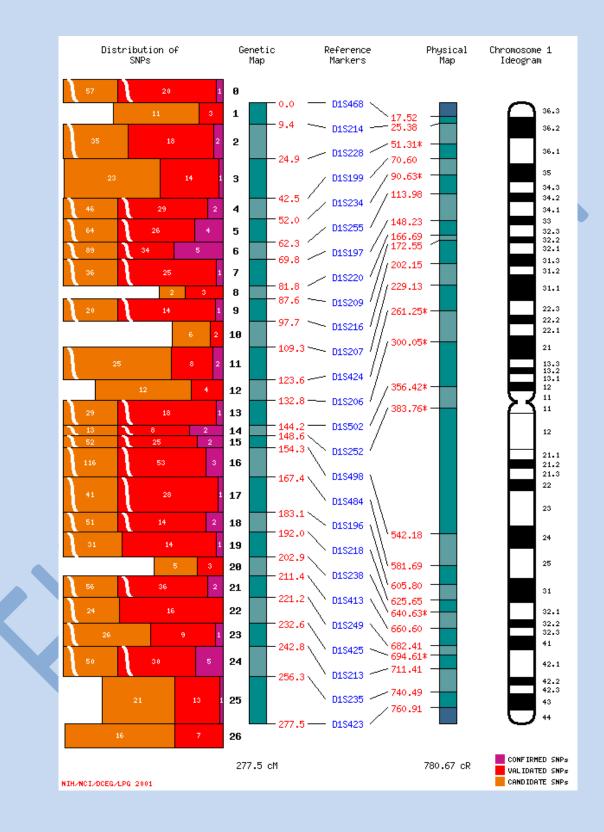
#### Homocystinuria

Neuroblastoma (neuroblastoma suppressor) Rhabdomyosarcoma, alveolar Neuroblastoma, aberrant in some Exostoses, multiple-like Opioid receptor Hyperprolinemia, type II Bartter syndrome, type 3 Prostate cancer Brain cancer Charcot-Marie-Tooth neuropathy Muscular dystrophy, congenital Erythrokeratodermia variabilis Deafness, autosomal dominant and recessive Glucose transport defect, blood-brain barrier Hypercholesterolemia, familial Neuropathy, paraneoplastic sensory Muscle-eye-brain disease Medulloblastoma Basal cell carcinoma Corneal dystrophy, gelatinous drop-like Leber congenital amaurosis Retinal dystrophy B-cell leukemia/lymphoma Lymphoma, MALT and follicular Mesothelioma Germ cell tumor Sezary syndrome Colon cancer Neuroblastoma Glycogen storage disease Osteopetrosis, autosomal dominant, type II Waardenburg syndrome, type 2B Vesicoureteral reflux Choreoathetosis/spasticity, episodic (paroxysmal) Hemochromatosis, type 2 Leukemia, acute Gaucher disease Medullary cystic kidney disease, autosomal dominant Renal cell carcinoma, papillary Insensitivity to pain, congenital, with anhidrosis Medullary thyroid carcinoma Hyperlipidemia, familial combined Hyperparathyroidism Lymphoma, progression of Porphyria variegata Hemorrhagic diathesis Thromboembolism susceptibility Systemic lupus erythematosus, susceptibility Fish-odor syndrome Prostate cancer, hereditary Chronic granulomatous disease Macular degeneration, age-related Epidermolysis bullosa Chitotriosidase deficiency Pseudohypoaldosteronism, type II Hypokalemic periodic paralysis Malignant hyperthermia susceptibility Glomerulopathy with fibronectin deposits Metastasis suppressor Measles, susceptibility to van der Woude syndrome (lip pit syndrome) Rippling muscle disease Hypoparathyroidism-retardation-dysmorphism syndrome Ventricular tachycardia, stress-induced polymorphic Fumarase deficiency Chediak-Higashi syndrome Muckle-Wells syndrome Zellweger syndrome Adrenoleukodystrophy, neonatal Endometrial bleeding-associated factor Left-right axis malformation Prostate cancer, hereditary Chondrodysplasia punctata, rhizomelic, type 2

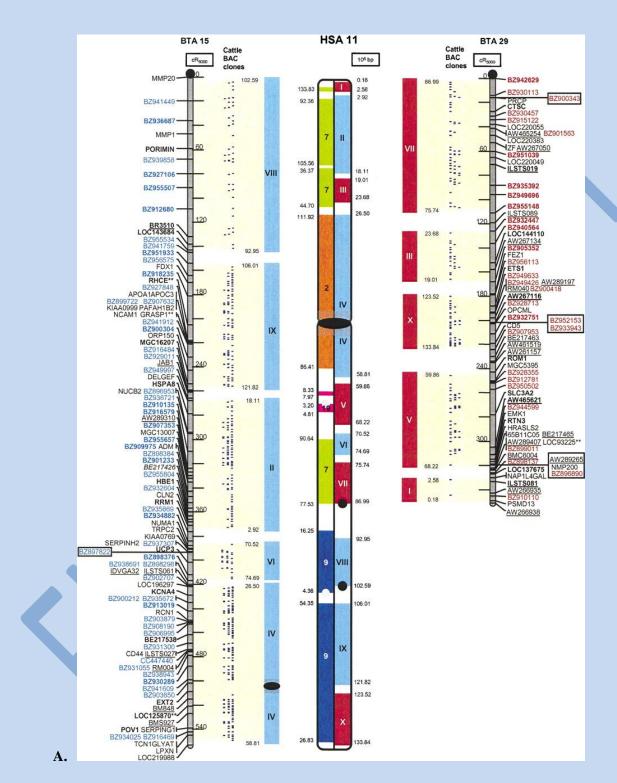
## **Beta Chromosomes**

### Chromosome 1 Version v8c7 Integrated Marker Map



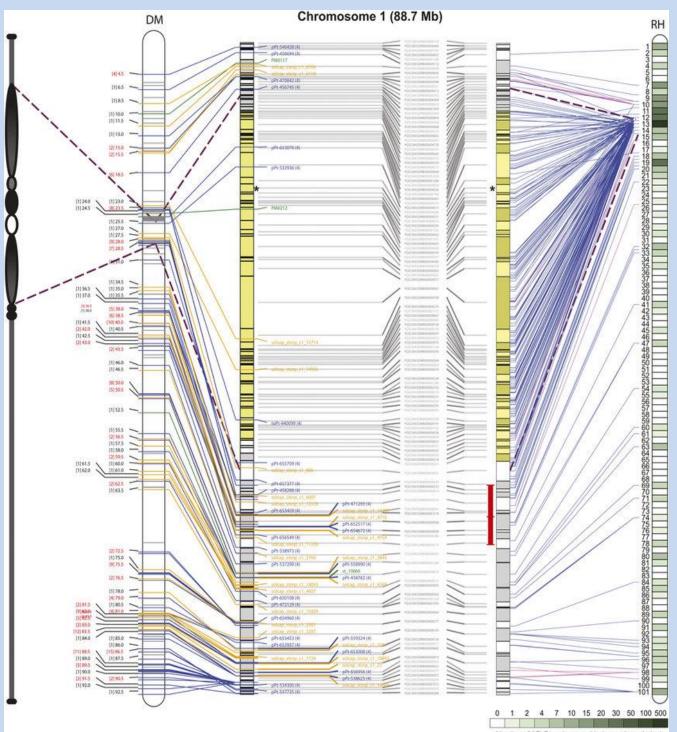


## **Charlie Chromosomes**



## **Delta Chromosomes**

## **Echo Chromosomes**



Number of AFLP markers per bin (upper boundaries)

## The Genetic Configuration for Systems Entry and Chromosomal Manipulation within a Consultative P&D Managerial or Operational Effort as it Relates to an Outline of Primary Jewish Law Sources

(The major sources are in **bold**.)

- 1. Written Law Torah [P&D Issues involving Norms/Standards]
  - a. Genesis (Bereshit)
  - b. Exodus (Shemot)
  - c. Leviticus (Vayikra)
  - d. Numbers (Bamidbar)
  - e. Deuteronomy (D 'varim)

The 5 Books of the Torah as it Relates to the 5 Hemispheres of the Human Brain & the 5 Operational Phases of CPDA

- 2. Oral Law Tannaitic Period (1 C.E.–220 C.E.) [P&D Issues involving Power/Authority]
  - a. **Mishna** "**The Beit Knesset or House of Prayer**" (Real World) The Mishna is divided into six orders (seder,sing.; sedarim,pl.), <u>or in this case six matrix dimensions</u>, each subdivided into several tractates (masekhet, sing.; masekhtot, pl.), <u>or in this case 64 genetic</u> <u>matrix cells</u>. Each masekhet is divided into chapters. Tractates marked with an "\*"are also tractates in the Babylonian Talmud. The orders and the tractates are:
    - i. Zeraim (lit.-seeds)-agricultural and food laws
      - (2) Berakhot\*
      - (3) Peah
      - (4) Demai
      - (5) Kilayim
      - (6) Shebiit
      - (7) Terumot
      - (8) Maaserot
      - (9) Maaser Sheni
      - (10) Challah
      - (11) Orlah
      - (12) Bikkurim

#### ii. Moed (lit.-holidays)—laws relating to holiday and Sabbath rituals

- (1) Shabbat\*
- (2) Erubin\*
- (3) Pesachim\*
- (4) Shekalim
- (5) Yoma\*
- (6) Sukkah\*
- (7) Besah\*
- (8) Rosh Hashanah\* Law Library Journal [Vol.98:2 244]
- (9) Taanit\*
- (10) Megillah\*
- (11) Moed Katan\*
- (12) Hagigah\*

iii. Nashim (lit.-women)-laws relating to marriage and divorce

- (1) Yebamot\*
- (2) Ketubot\*
- (3) Nedarim\*
- (4) Nazir\*
- (5) Sotah\*
- (6) Gittin\*
- (7) Kiddushin\*

iv. Nezikin (lit.-damages)-laws of tort, other civil law, criminal law

- (1) Baba Kamma\*
- (2) Baba Metzia\*
- (3) Baba Batra\*
- (4) Sanhedrin\*
- (5) Makkot\*
- (6) Shavuot\*
- (7) Eduyot
- (8) Avodah Zarah\*
- (9) Avot (also known as Pirkei Avot, Ethics of the Fathers)
- (10) Horayot\*

#### v. Kodoshim (lit.-holy things)-laws relating to Temple sacrifice and ritual slaughter

- (1) Zevachim\*
- (2) Menachot\*
- (3) Chullin\*
- (4) Bekhorot\*
- (5) Arakhin\*
- (6) Temurah\*
- (7) Keritot\*
- (8) Meilah\*
- (9) Tamid\*
- (10) Middot
- (11) Kinnim

#### vi. <u>Tahorot (lit.-purity)—laws of ritual purity</u>

- (1) Kelim
- (2) Ohalot
- (3) Negaim
- (4) Parah
- (5) Tohorot
- (6) Mikvaot
- (7) Niddah\*
- (8) Makhshirin
- (9) Zabim
- (10) Tebul-Yom
- (11) Yadayim
- (12) Uksin

- b. Halakhic Midrashim "The Beit Midrash or House of Study" (Educational Hierarchies)
  - i. Mekhilta On Exodus (Shemot)
  - ii. Sifra -On Leviticus (Vayikra)
  - iii. Sifrei -On Numbers (Bamidbar)
  - iv. Sifrei -On Deuteronomy (D'varim)
- c. Tosefta "The Beit Tefilah or House of Assembly" (Quality Measures)
- 3. Amoraic Period (220 C.E.–500 C.E.) [P&D Issues involving Morale/Cohesion]
  - a. Gemara (Babylonian Talmud or Talmud Bavli)—The Gemara tracks the order of the *Mishna*. Not all tractates of the *Mishna* are addressed. Those that are addressed are indicated with a "\*"in the listing of the Mishna tractates above. {Matrix Systems Dimensions}
  - b. Jerusalem Talmud or Talmud Yerushalmi {Matrix Systems Elements}
- 4. Post-Talumdic Period (Geonim, 7th Century –mid-11th Century; Rishonim, mid-11th Century –16th Century; Ahronim, 16th Century –present) [P&D Issues involving Goals/Objectives]

   a. Major commentaries on *Mishna/Gemara* {CPDA Issues involving Morale/Cohesion}
  - i. Rashi
  - ii. Tosefot

^<u>AAA</u>^

iii. Numerous others

b. Codes of Law {CPDA Issues involving Power/Authority}

- i. Mishneh Torah (P/A)
- ii. Arba 'ah Turim (N/S)
- iii. Shulchan Aruch (G/O)
- <u>A-1-1</u>
- c. Responsa {CPDA Issues involving Norms/Standards}
- d. Other resources including takkanot (enactments), legal forms, and legal documents {CPDA Issues involving Goals/Objectives}

## **Codons Found In DNA**

		Second Position of Codon						
		Т	С	Α	G			
F i r s t P	T C	TTT Phe [F] TTC Phe [F] TTA Leu [L] TTG Leu [L] CTT Leu [L] CTC Leu [L] CTG Leu [L]	TCT Ser [S] TCC Ser [S] TCA Ser [S] TCG Ser [S] CCT Pro [P] CCC Pro [P] CCA Pro [P]	TAT Tyr [Y] TAC Tyr [Y] TAA <i>Ter</i> [end] TAG <i>Ter</i> [end] CAT His [H] CAC His [H] CAA Gln [Q] CAG Gln [Q]	TGT Cys [C] TGC Cys [C] TGA <i>Ter</i> [end] TGG Trp [W] CGT Arg [R] CGC Arg [R] CGA Arg [R] CGG Arg [R]	T C A G T C A G	T h i r d P	
o s t i o n	AG	ATT Ile [I] ATC Ile [I] ATA Ile [I] ATG Met [M] GTT Val [V] GTC Val [V] GTA Val [V] GTG Val [V]	ACT Thr [T] ACC Thr [T] ACA Thr [T] ACG Thr [T] GCT Ala [A] GCC Ala [A] GCA Ala [A]	AAT Asn [N] AAC Asn [N] AAA Lys [K] AAG Lys [K] GAT Asp [D] GAC Asp [D] GAA Glu [E] GAG Glu [E]	AGT Ser [S] AGC Ser [S] AGA Arg [R] AGG Arg [R] GGT Gly [G] GGC Gly [G] GGA Gly [G] GGG Gly [G]	T C A G T C A G	o s i t i o n	

### **Codons Found In Messenger RNA**

					Second	Positio	n				
			U	С		Α		G			
		UUU	Phe	UCU	Ser	UAU	Tyr	UGU	Cys	U	
	U	UUC		UCC		UAC		UGC		C	
		UUA	I	UCA		UAA	Stop	UGA	Stop	A	
F i		UUG	Leu	UCG		UAG	Stop	UGG	Trp	G	T h
r		CUU	Leu	CCU		CAU	His	CGU	Arg	U	i
S	C	CUC		CCC	Pro	CAC		CGC		C	r
t		CUA		CCA	110	CAA	Gln	CGA		A	d
Р		CUG		CCG		CAG	Om	CGG		G	P
0		AUU		ACU	Thr	AAU	Asn	AGU	Ser	U	0
s i		AUC	Ile	ACC		AAC		AGC		C	s i
t		AUA		ACA		AAA	Lys	AGA	Arg	A	t
i 0		AUG	Met (start)	ACG		AAG		AGG		G	i 0
n		GUU		GCU GCC	Ala	GAU	Asp	GGU	Gly	U	n
	G GUC GUA GUG	GUC	Val			GAC		<b>G</b> GC		C	
		GUA	v ai	GCA		GAA	Glu	GGA		Α	
		<b>GUG</b>		GCG		GAG		GGG		G	

An explanation of the Genetic Code: DNA is a two-stranded molecule. Each strand is a polynucleotide composed of A (adenosine), T (thymidine), C (cytidine), and G (guanosine) residues polymerized by "dehydration" synthesis in linear chains with specific sequences. Each strand has polarity, such that the 5'-hydroxyl (or 5'-phospho) group of the first nucleotide begins the strand and the 3'-hydroxyl group of the final nucleotide ends the strand; accordingly, we say that this strand runs 5' to 3' ("*Five prime to three prime*"). It is also essential to know that the two strands of DNA run *antiparallel* such that one strand runs 5' -> 3' while the other one runs 3' -> 5'. At each nucleotide residue along the double-stranded DNA molecule, the nucleotides are complementary. That is, A forms two hydrogen-bonds with T; C forms three hydrogen bonds with G. In most cases the two-stranded, antiparallel, complementary DNA molecule folds to form a helical structure which resembles a spiral staircase. This is the reason why DNA has been referred to as the "Double Helix".

One strand of DNA holds the information that codes for various genes; this strand is often called the template strand or antisense strand (containing anticodons). The other, and complementary, strand is called the coding strand or sense strand (containing codons). Since mRNA is made from the template strand, it has the same information as the coding strand. The table above refers to triplet nucleotide codons along the sequence

of the coding or sense strand of DNA as it runs 5' -> 3'; the code for the mRNA would be identical but for the fact that RNA contains a U (Uridine) rather than T.

An example of two complementary strands of DNA would be:

(5' -> 3') ATGGAATTCTCGCTC	(Coding, sense strand) ?
(3' <- 5') TACCTTAAGAGCGAG	(Template, antisense strand)
$(5' \rightarrow 3')$ AUGGAAUUCUCGCUC	(mRNA made from Template strand) !

Since amino acid residues of proteins are specified as triplet codons, the protein sequence made from the above example would be Met-Glu-Phe-Ser-Leu... (MEFSL...).

Practically, codons are "decoded" by transfer RNAs (tRNA) which interact with a ribosome-bound messenger RNA (mRNA) containing the coding sequence. There are 64 different tRNAs, each of which has an anticodon loop (used to recognize codons in the mRNA). 61 of these have a bound amino acyl residue; the appropriate "charged" tRNA binds to the respective next codon in the mRNA and the ribosome catalyzes the transfer of the amino acid from the tRNA to the growing (nascent) protein/polypeptide chain. The remaining 3 codons are used for "punctuation"; that is, they signal the termination (the end) of the growing polypeptide chain.

Lastly, the Genetic Code in the table above has also been called "The Universal Genetic Code". It is known as "universal", because it is used by all known organisms as a code for DNA, mRNA, and tRNA. The universality of the genetic code encompases animals (including humans), plants, fungi, archaea, bacteria, and viruses. However, all rules have their exceptions, and such is the case with the Genetic Code; small variations in the code exist in mitochondria and certain microbes. Nonetheless, it should be emphasized that these variances represent only a small fraction of known cases, and that the Genetic Code applies quite broadly, certainly to all known nuclear genes.

### The Genetic Foundation for the Relationship Between Words, Concepts and Search Engine Protocols within a P&D Effort

(The Genetic Hierarchical Classification of Words, Concepts, Ideas & Search Engine Protocols)

#### 1) Actions

- a. Class of 1-6 **[TTT]**
- b. Cognitive 7-43 [TTC<sub>A</sub>]
- c. Communicative 44-79 [TTA]
- d. General 80-143 [**TTG**]
- e. Motion 144-154 [TCT]
- f. Physical 155-226 [TCC]
- 2) Causes
  - a. Abstract 227-246 [TCA]
  - b. Physical 247-255 [TCG]
- 3) Fields of Human Activity [A1]
  - a. Agriculture 256-257 [TAT]
  - b. The Arts 258-264 [TAC]
  - c. Communications 265-283 [TAA]
  - d. Education 284-290 [TAG]
  - e. Entertainment 291-293 [TGT]
  - f. Family 294-296 [TGC]
  - g. Government and Politics 297-300 [TGA]
  - h. Health 301-315 [TGG]
  - i. Legal 316-318 [CTT]
  - j. Military 319-321 [CTC]
  - k. Monetary and Financial Affairs 322-345 [CTA]
  - 1. Professions 346-361 [CTG]
  - m. Recreation 362-365 [CCT]
  - n. Religious 366-369 [CCC]
  - o. Sex and Reproduction 370-374 [CCA]
  - p. Social Interactions 375-387 [CCG]

#### 4) Life Forms

- a. Being 388-392 [CAT]
- b. Beings, Animal 393-399 [CAC]
- c. General Characteristics 400-410 [CAA]
- d. Humans 411-423 [CAG]
- e. Plants 424-430 [CGT]

#### 5) Objects

- a. Articles, Physical 431-435 [CGC]
- b. Atmosphere 436 [CGA]
- c. Buildings, Furnishings, & Possessions 437-448 [CGG]
- d. Clothing 449-452 [ATT]
- e. Food and Drink 453-461 [ATC]
- f. Machines 462-463 [ATA]
- g. Matter, Conditions of 464-470 [ATG]

- h. Matter, Divisions of 471-478 [ACT]
- i. Matter, Qualities of 479-490 [ACC]
- j. Tools 491-499 [ACA]
- k. Transportation 500-505 [ACG]
- 6) The Planet(s)
  - a. Geography 506-513 [AAT]
  - b. Habitats 514-517 [AAC]
  - c. Natural Resources 518-522 [AAA]
  - d. Weather 523-525 [AAG]
- 7) Qualities
  - a. Abstract 526-559 **[AGT]**
  - b. Comparative 560-574 [AGC]
  - c. Physical 575-588 [AGA]
- 8) Senses
  - a. Aspects of Perception 589 [AGG]
  - b. Auditory 590-596 [GTT]
  - c. Olfactory 597-601 [GTC]
  - d. Tactile 602-611 [GTA]
  - e. Tasting 612-615 [GTG]
  - f. Visual 616-628 [GCT]
- 9) States
  - a. Abstract 629-657 [GCC]
  - b. Cognitive 658-661 [TTC<sub>B</sub>]
  - c. Comparative 662-670 [GCA]
  - d. Of Being 671-694 [GCG]
  - e. Of Change 695-702 [GAT]
  - f. Of Need or Achievement 703-710 [GAC]
  - g. Physical 711-731 [GAA]
  - h. Spatial 732-758 [GAG]
- 10) Weights and Measures
  - a. Mathematics 759-767 [GGT]
  - b. Quantifiers 768-793 [GGC]
  - c. Time 794-820 [GGA]
  - d. Wholeness or Division 821-834 [GGG]

# The Upper & Lower Level Change Equation Components for Chromosomal Development & Implementation within a P&D Effort Involving Personnel in a Real-Time or Virtual Scenario Environment

(The 23 or 24 Base Pair Chromosomal Elements within a IBOS[DALP/DOSA/IAOA] Genetic Formula Matrix)

- P&D Systems User Investigative Profile (Autonomous Agent(s) Request(s)) & Dictionary of Occupational Titles Application Selections [M/C 3 part format-right-side (Measures-Environment/Measures-Human Agents)] - - Chromosomal Type Set/Chromosomal Sequences
- 2. P&D Systems Feasible Ideal Solution Target Study [G/O 4 part format-right-side (Measures-Purpose/Measures-Sequence)] - - <u>Chromosomal Type Set/Chromosomal Sequences</u>
- P&D Systems Investigative Matrixes [G/O 3 part format-left-side (Measures-Inputs/Measures Outputs] - - <u>Chromosomal Type Set/Chromosomal Sequences</u>
- 4. P&D Systems Analysis & Taxonomy Development [N/S 5 part format-left-side (Values-Information Aids/Values-Physical Catalysts)] - <u>Chromosomal Type Set/Chromosomal Sequences</u>
- P&D Systems Design Classification(s) & Hierarchical Formation [G/O 4 part format-right-side (Measures-Information Aids/Measures-Physical Catalysts)] - - <u>Chromosomal Type</u> <u>Set/Chromosomal Sequences</u>
- P&D Systems Programming & Chromosomal Formula Matrix Development [M/C 5 part format-leftside (Interface-Purpose/Interface-Sequence)] - - <u>Chromosomal Type Set/Chromosomal</u> <u>Sequences</u>
- 7. P&D Systems Group Ordering Logic & MRP/ERP Testing [P/A 3 part format-right-side (Control-Environment/Control-Human Agents)] - - Chromosomal Type Set/Chromosomal Sequences
- 8. P&D Systems Documentation & Procedural Guidelines[N/S 3 part format-left-side (Values-Purpose/Values-Sequence)] - - <u>Chromosomal Type Set/Chromosomal Sequences</u>
- 9. P&D Systems Conversion & Analogous Implementations [G/O 3 part format-right-side (Fundamental-Purpose/Fundamental-Sequence)] - - <u>Chromosomal Type Set/Chromosomal</u> <u>Sequences</u>
- P&D Systems Maintenance, Enterprise Work Architectural Profile & Autonomous Agent(s) Repository [G/O 4 part format-left-side (Fundamental-Environment/Fundamental-Human Agents)] - - <u>Chromosomal Type Set/Chromosomal Sequences</u>
- P&D Systems Evaluation & Alphanumeric Computations [N/S 3 part format-left-side (Future-Inputs/Future-Outputs)] - - <u>Chromosomal Type Set/Chromosomal Sequences</u>
- 1. P&D Project Initiation (Hardware/Software) Power/Authority Chromosomal Configurations [(Control-Information Aids/Control-Physical Catalysts)] - - <u>Chromosomal Type</u> <u>Set/Chromosomal Sequences</u>
- 2. P&D Project Development (The Project) Norms/Standards Chromosomal Configurations [(Future-Purpose/Future-Sequence)] - - <u>Chromosomal Type Set/Chromosomal Sequences</u>
- 3. P&D Project Implementation (The User Climate/Autonomous Agent Conditional Formation) Goals/Objectives Chromosomal Configurations [(Control-Purpose/Control-Sequence)] - -Chromosomal Type Set/Chromosomal Sequences
- P&D Post Project Evaluation (The Systems Analysts/Autonomous Agent Activities) Morale/Cohesion Chromosomal Configurations [(Control-Inputs/Control-Outputs)] - -Chromosomal Type Set/Chromosomal Sequences
- 1. P&D Subordinate Genetic-Based Environmental Inputs [3 part Norms/Standards] [(Values-Inputs/Values-Outputs)] - - <u>Chromosomal Type Set/Chromosomal Sequences</u>
- P&D Subordinate Genetic-Based Computer Matrixes [3 part Norms/Standards] [(Future-Information Aids/Future-Physical Catalysts)] - - <u>Chromosomal Type Set/Chromosomal</u> <u>Sequences</u>

- 3. P&D Subordinate Genetic-Based Environmental Outputs [3 part Norms/Standards] [(Values-Environment/Values-Human Agents)] - - Chromosomal Type Set/Chromosomal Sequences
- P&D Method Phase-One [5 part Goals/Objectives (The Dictionary of Occupational Titles)] [(Interface-Information Aids/Interface-Physical Catalysts)] - Chromosomal Type Set/Chromosomal Sequences
- P&D Method Phase-Two [5 part Goals/Objectives (The Dictionary of Occupational Titles)] [(Interface-Inputs/Interface-Outputs)] - - <u>Chromosomal Type Set/Chromosomal Sequences</u>
- 3. P&D Method Phase-Three [5 part Goals/Objectives (The Dictionary of Occupational Titles)] [(Future-Environment/Future-Human Agents)] - - <u>Chromosomal Type Set/Chromosomal Sequences</u>
- 4. P&D Method Phase-Four [5 part Goals/Objectives (The Dictionary of Occupational Titles)] [(Fundamental-Information Aids/Fundamental-Physical Catalysts)] - - Chromosomal Type Set/Chromosomal Sequences
- P&D Method Phase-Five [5 part Goals/Objectives (The Dictionary of Occupational Titles)] [(Fundamental-Inputs/Fundamental-Outputs)] - Chromosomal Type Set/Chromosomal Sequences

Legend – [Gaius Julius Caesar] Hierarchical format for Economic Legions

## The Chromosomal Elements within a IBOS[DOSA/DALP/IAOA] Genetic-Based Consultative P&D Formula Matrix

### 24. INTERFACE-ENVIRONMENT

1. MEASURES-ENVIRONMENT/MEASURES-HUMAN AGENTS 2. MEASURES-PURPOSE/MEASURES-SEQUENCE **3.** MEASURES-INPUTS/MEASURES-OUTPUTS 4. VALUES-INFORMATION AIDS/VALUES-PHYSICAL CATALYSTS 5. MEASURES-INFORMATION AIDS/MEASURES-PHYSICAL CATALYSTS 6. INTERFACE-PURPOSE/INTERFACE-SEQUENCE 7. CONTROL-ENVIRONMENT/CONTROL-HUMAN AGENTS 8. VALUES-PURPOSE/VALUES-SEQUENCE 9. FUNDAMENTAL-PURPOSE/FUNDAMENTAL-SEQUENCE **10.** FUNDAMENTAL-ENVIRONMENT/FUNDAMENTAL-HUMAN AGENTS **11. FUTURE-INPUTS/FUTURE-OUTPUTS 12.** CONTROL-INFORMATION AIDS/CONTROL-PHYSICAL CATALYSTS **13.** FUTURE-PURPOSE/FUTURE-SEQUENCE **14.** CONTROL-PURPOSE/CONTROL-SEQUENCE **15.** CONTROL-INPUTS/CONTROL-OUTPUTS **16.** VALUES-INPUTS/VALUES-OUTPUTS 17. FUTURE-INFORMATION AIDS/FUTURE--PHYSICAL CATALYSTS **18.** VALUES-ENVIRONMENT/VALUES-HUMAN AGENTS **19.** INTERFACE-INFORMATION AIDS/INTERFACE-PHYSICAL CATALYSTS **20.** INTERFACE-INPUTS/INTERFACE-OUTPUTS **21.** FUTURE-ENVIRONMENT/FUTURE-HUMAN AGENTS 22. FUNDAMENTAL-INFORMATION AIDS/FUNDAMENTAL-PHYSICAL CATALYSTS **23.** FUNDAMENTAL-INPUTS/FUNDAMENTAL-OUTPUTS **24. INTERFACE-HUMAN AGENTS** 

### The Genetic-Based Consultative P&D Formula Matrix

The System Matrix processes inputs into outputs that achieve & satisfy a purpose or purposes through the use of human, physical & information resources in a technical, sociological & physical environment. The System Matrix can vary in size. Thus, bigger levels in the purposeful hierarchy of systems incorporate smaller systems, which are subroutines, subsystems or components. Each system matrix shows the related horizontal or parallel systems, either within or outside the organizational unit of the client system.

Each system is thus a complex set of interrelated elements. The basic set defines the broad purpose & values of the larger entity or organizational unit, within which the system does or will exists. Each system matrix achieves an end. Thus, the purpose, function or result sought from a system is the first element, and each subsystem has a least one purpose.

Each system matrix receives physical, informational, &/or human items from smaller, larger, & parallel systems to process into a desired state that will achieve its purpose. Therefore, every subsystem or routine has inputs.

Each system matrix provides physical, informational, &/or human items or services to its smaller, larger, & horizontal systems. These outcomes represent the means whereby the purposes of the system are achieved. Therefore, each system or subroutine has outputs. Similarly, five other elements can be developed from this format: sequence, environment, human agents, physical catalysts, & information aids. Moreover, six dimensions for each of these elements of the System Matrix will provide significant operationality with minimal redundancy.

These dimensions will specify the precise conditions for each element in a specific situation: (1) fundamental existence characteristics; (2) values, beliefs & desires; (3) measures to assess the accomplishment of fundamental & value dimensions; (4) control or dynamic methods of ensuring achievement of fundamental values, & measures specifications; (5) interface relationships of fundamental, values, measures, and control specifications with other system matrixes & other elements in its system; and (6) future existence or desired changes & improvements that can be foreseen in fundamental, values, measures, control, & interface specifications.

The System Matrix also provides an orderly way of denoting all possible types of information to consider in specifying a system. The questions raised by probing what specifications should be developed for each cell are almost all-inclusive. They number far more than the usually suggested who, what, why, where, when, & how. They are also much more specific than the usual questions the Matrix appears to suggest are available. In addition to the 16 fundamental & value dimension questions, there are at least 16 measures dimension questions about the fundamental & values specifications, 24 control dimension questions, 32 interface, & 40 future.

#### NASCENT APPLIED METHODS & ENDEAVORS

NAME's	SOLUTION	FRAMEWORK	

DIMENSIONS							
	-•	Fundamental: Basic or Physical, Characteristics- What, How, Where, or Who (GROUP FORMAT)	Values: Motivating Beliefs, Global Desires, Ethics, Moral Matters (NORMS/STANDARDS)	Measures: Objectives (Criteria, Merit and Worth Factors), Goals (How Much, When, Rates, Performance Specifications) (GOALS/OBJECTIVES)	Control: How to Evaluate and Modify Element or System as it Operates (POWER/AUTHORITY)	Interface: Relation of all Dimensions to other Systems or Elements (MORALE/COHESION)	Future: Planned Changes and Research Needs for all Dimensions
+	Purpose: mission, aim, need, primary concern, focus	The Dictionary of Occupational Titles (Titles Only)	NAME's Charted Programming Variations	The Dictionary of Occupational Titles (Job Descriptions Only)	The Dictionary of Occupational Titles Explanation of Data, People and Things	The Dictionary of Occupational Titles Industry Designation	NAME's Educational Services
	Inputs: people, things, information to start the sequence	The Dictionary of Occupational Titles Details of Data, People & Things	NAME's Problem Formatting Sequences	NAME's Job & Situation Performance Evaluations	The External Group Ordering Logic	Grammatical Input Factors	Schedule Acquisition of Needs
	Outputs: desired (achieves purpose) and undesired outcomes from sequence	Manuals of Procedures & Reports	The Generic Types of Problem Solving	NAME's Consultation Paradigms	The Internal Group Ordering Logic	Grammatical Output Factors	The Schedule Network
	Sequence: steps for processing inputs, flow, layout, unit operations	NAME's Expert Systems	NAME's Anatomical Analogies	NAME's Knowledge Bases	NAME's Inference Engines	NAME's Database Systems	NAME's Systems Modeling
	Environment: physical & attitudinal, organization, setting, etc.	Governmental Systems and Ideologies	Institutionalized Laws and Regulations	The Objective Hierarchy	The Hearsay-12 System	NAME's Semantic Nets	Psychological & Sociological Systems Profiling
	Human agents: skills, personnel, rewards, responsibilities, etc.	NAME's Network Providers	NAME's Managerial Techniques	NAME's Managerial Formats	NAME's Operational Procedures	NAME's Client Formats	NAME's Network Operations Personnel
	Physical catalysts: equipment, facilities, etc.	NAME's Software and Computer Systems	The Dictionary of Occupational Titles Trade Operations	The Dictionary of Occupational Titles Mechanical & Bench Operations	NAME's PERT Network Diagram	Individual, Group, Inter-Group Social Systems, & Larger Social Systems	NAME's Structural & Tooling Theory or Profiling
	Information aids: books, instructions, etc.	The Dictionary of Occupational Titles	Consultations	Manufacturing, Planning and Control Systems	Operational Manuals	NAME's Network Reports	NAME's Planning and Design Approaches

ELEMENTS

### The Genetic-Based Consultative P&D System Elements

**1. Purpose** The mission, aim, need, primary concern, or function of or results sought from a system. The purpose is the contribution made to or necessary for a larger system in the hierarchy(ies). A purpose is **what** the system is to accomplish, with no emphasis on **how** it is to be accomplished.

**2. Inputs** Any physical items, information, and/or human beings on which work, conversion, or processing takes place to arrive at the output(s). **Physical items** could be coils of steel, powdered plastic, money (the actual currency and coins), the mark-sense punch card, the sales order form, and so on. Information could be a bank account balance (printed on a piece of paper), whereabouts of the president (secretary's explanation), number of toasters ordered (sales order form), amount of production on machine 472 (orientation of iron particles on a magnetic tape), history of the conflicts between key managers (perceptions in the minds of people), etc. **Human beings** relevant in this context could be sick people entering a hospital, a housewife shopping at a grocery store, a family wanting house plans, a student attending a college, an overweight person visiting a reducing salon, etc.

A combination input is the return of previous outputs of the system. For example, a large system for manufacturing airplanes includes the reentry of each airplane for major periodic maintenance. A patient may reenter a hospital after having been discharged. User information about product performance serves as new input to the product design system.

Every system requires at least two of the three types of input. A manufacturing system, for example, will require information about alloy, tensile and yield strengths, gauge, and width to accompany the physical input of a coil of steel. A patient entering the system of a hospital represents human (previous medical history and symptoms), and physical (personal belongings)

information inputs. A system which is a board of directors meeting needs inputs of information and humans.

**3. Outputs** Desired (and undesired) physical items, information, humans and/or services (response, event, policy, reaction, safety level, correction, etc.) which result from working on or converting inputs. Desired outputs achieve the selected and bigger purposes by adding net value to the inputs. Undesired outputs include such things as dislocations, pollutants, scrap, and trash, for which provisions must be included in the system specifications. Outputs also include substantive properties, performance, and physical or chemical characteristics of the output when actually being used. For example, the dynamic characteristics (cornering, power pickup, shock absorption ability, or acceleration) of an automobile output are a part of output itself.

**4. Sequence** The conversion, work, process, transformation, or order and cycle of steps or events by which the inputs become the outputs. The basic steps are the essential "unit operations" or identifiable changes in the state of the inputs which lead to their transformation into outputs. Additional steps include causal bonds, movement, storage, meeting, decision, and control, which enable the unit operations to take place. Parallel channels for processing different inputs are often included, along with various connective points to interrelate the channels.

**5. Environment** The physical and sociological (psychological, legal, political, economic) factors or ambiance (as the French call it) within which the other elements are to operate. These are always changing. Many are usually outside the influence of the system itself, yet others can be modified or specified for the system. Physical or "climatic" factors include temperature, humidity, noise, dirt, light, colors of machines and walls, and so forth. Ecological physical factors "outside" the system include spatial aspects, accessibility, and shapes and relationships in the design of the physical facilities and equipment.

Sociological factors include the state of technology within which the organizational unit operates, the cultural and historical determinants of attitudes, and the society's economic conditions. More specific factors concern the attitudes of the managerial and supervisory personnel, morale and "reality" disposition of working forces, the operating controls and rules for personnel, and the social interactions and communications of the people involved. Sociological environment forms the larger context of externalities which "own" or "set the stage" for the system. The Japanese, for example, do not build factories or plants with an entrance on the northeast side, the devil's gate. The managerial style and organizational structure sets another environmental factor: autocratic, paternalistic, bureaucratic, permissive, diplomatic, or democratic

**6. Human Agents** Human beings on differentiated levels who are aids in the steps of the sequence, without becoming part of the outputs. Human agent activities or methods to aid in the sequence include the whole range of human capabilities: talking, writing, expending energy in manipulating controls and/or changing input items, reasoning, performing dexterous tasks, decision making, evaluating, learning, creativity, and acting as a diligent monitoring and sensing device. Human beings are either inputs and outputs (patients in a hospital), or human agents (nurses). Overlap exists in most cases, for example, as patients can be human agents aiding other patients, and nurses can be inputs into the cafeteria system.

**7. Physical Catalysts** Physical resources that are aids in the steps of the sequence without becoming part of the outputs. Typical items are chalkboards, machines, vehicles, chairs, computers, filing cabinets, energy, buildings, tools, jigs, automatic devices, paper, lubricating oil, projector, desks, self-measuring sensors, and pallets. A chicken on an egg farm is a physical catalyst. Each of these illustrative items could be a physical catalyst in one system, or input or

output in another system. A computer, for example, may be a physical catalyst in an accounts payable system, an input in a maintenance system, and an output in a production system.

**8.** Information Aids Knowledge and data resources that help in the steps of the sequence, without becoming part of the outputs. Computer programming instructions, equipment operating manuals, maintenance instructions, standard operating procedures for human agents, and policy manuals are typical information aids. These may also be inputs and outputs in other systems. On occasion, an expert consultant, media advisor, or corporate legal advisor could embody the role of this element.

#### Summary

Systems can vary in size. Thus, bigger levels in the hierarchy of systems incorporate smaller systems, which are subsystems or components.

Because a hierarchy is often a size-based order of systems, with no superior- inferior relationship implied, a vertical channel of systems can be extended for the area of interest. Each system shoo the related horizontal or parallel systems, either within or outside the organizational unit. System levels do not always correspond with organizational divisions.

Each system is thus a complex set of interrelated elements. The basic set defines the broad purpose and values of the larger entity or organizational unit within which the system does or will exist. Each system achieves an end. Thus, the purpose, function, or result sought from a system is the first element, and each system has at least one purpose.

Each system receives physical, informational, and/or human items from smaller, larger, and parallel systems to process into a desired state that will achieve its purpose. Therefore, every system has inputs.

Each system provides physical, informational, and/or human items or services to its smaller, larger, and horizontal systems. These outcomes represent the means whereby the purposes of the system are achieved. Therefore, each system has outputs.

Similarly, five other elements can be developed from this Axiom: sequence, environment, human agents, physical catalysts, and information aids. The words used for names of elements are unimportant and can vary, whereas the **ideas** represented by each are critical.

## The Genetic-Based Consultative P&D System Dimensions

**1. Fundamental** This dimension must exist or no others can be specified. It is the identity or context of a system. Also referred to as the existence, real-life, or manifestation dimension, it concerns tangible, overt, observable, physical, and/or basic structure characteristics. It includes the basic "what-who-how-where" specifications, along with associated quality levels. It states specifically the intensity, degree to which the specific condition is distinguishable from others, and/or the operation of each element.

Determining the specific fundamental attributes is what the P&D approach seeks to accomplish, so that the conditions thus identified can be implemented. Many terms describe the specific numbers, descriptions, drawings, and so on, including specifications, parameter variables, estimates, relationships, properties, characteristics, and identifications. **2. Values** This is the situation-specific form of the values part of this appendix. It also embodies and enlarges on the "satisfy" part of Axiom 8 by stating both the solution values and the human values (disposition to behave in certain ways).

Motivating beliefs, human expectations, global desires, ethics, equity, and moral concerns can be **ascribed in some form to each element.** The most global values are likely candidates for the purpose element. Other descriptions concern how people and organizations "feel" about desirable results in specifying each element: preferences, basic (unyielding?) or important assumptions (e.g., democratic society), concern with societal life and civil liberties, disposition to a behavior, pleasures, productivity, justice, concern with individual life, relevance, sensitivities, preferred modes of conduct, involvement of others, essential beliefs, sentiments, convenience, human dignity, willingness to shape societal acts and conscience, emphases on successes rather than failures and wrongs, comprehensiveness, safety, and cultural or esthetic properties. Values could thus be said to capture the "standards" that a solution is expected to continue.

Perhaps the most important benefit of the values dimension for each element is the forced review of what the value standards are and how they need to be part of the solution and the decisions in selecting the solution. "On all sides," one sees evidence today of cop-out realism-ostensible efforts to be sensible in dealing with things as they are but that turn out to be a shucking of responsibility.... It is now possible to assess the effect of [the] legalization [of off-track betting and the numbers game].... New York State itself has become a predator in a way that the Mafia could never hope to match.... Millions of dollars are being spent by New York State on lavish advertising on television, on radio, on buses, and on billboards. At least the Mafia was never able publicly to glorify and extol gambling with taxpayer money...[Also consider the] copout realism [in] dealing with cigarette-smoking by teenagers and pre-teenagers. Special rooms are now being set aside for students who want to smoke.... The effect of [the] supposedly 'realistic' policy is to convert a ban into benediction. By sanctioning that which [people] deplore, they become part of the problem they had the obligation to meet... The function of [value] standards is not to serve as the basis for mindless repressive measures but to give emphasis to the realities of human experience.

**3. Measures** Measures change the values dimensions into particular objectives and operational goals. They embody the "achieve" part of Axiom 8, and concern how much and when, including what is needed to overcome entropy. Measures in general concern effectiveness, time, performance, cost and other factors of importance concerning the fundamental specifications. They are indicators of the success of the eventual solution. They include any associated confidence limits.

The word **objectives** identifies the specific categories, units, verifiable indicators, scales, factors of merit, criteria or parameters that are considered the important measures. Forecasts, financial matters and quantitative factors are almost always included. They should conform to what people consider useful for attaining the values and fundamental dimensions, but should also be clear, capable of being measured, reproducible, unequivocal in interpretation, and as accurate as needed. Some typical measures are cost per month, time per service or output per hour, reject rate, reliability life, expense ratio, and profit per year.

Goals assign specific amounts and time and/or cost factors to each objective. Assume that one value is "Improve safety record in the department." An objective might be "decrease accidents," and a goal "reduce monthly accident rate by 30% within a year." Here is another illustration: the value is to improve manpower services; **one** objective of several is to increase placements of disadvantaged people; **one** goal of several would be to increase by 25% per year the number of disadvantaged placements. No number of objectives or goals will ever capture exactly what is meant by the specific values. In addition, some goals will be set by external groups, such as the standards or threshold levels defined by the Bureau of Standards, Underwriters Laboratory,

Environmental Protection Agency, Consumer Product Safety Commission, and American National Standards Institute.

**4. Control** Control comprises methods for ensuring that the fundamental, measures, and even value specifications are maintained as desired (at or within limits around a specified condition) during the operation of the system. Dynamic control of each specification involves (**a**) making measurements of the performance of the specification as the solution or system is in operation, (**b**) comparing the actual measurements to the desired specification, and (**c**) taking actions to correct significant deviations if necessary, through human corrections, automated response, advance modifications of equipment, or by changing a desired specification, or planning and designing an overall improvement. A significant deviation between performance and desired specification is interpreted as meaning that the error of taking action when none is really needed is minimal compared to the error of not taking action when it should be taken.

All three parts of the control dimension may be carried out within the system itself, or any one or more may become the responsibility of another system or group. Government regulations illustrate one form of external measurement, comparison, and/or corrective action. Licensing, accrediting, peer review, receiving room inspection, customer surveys and complaints, board of director's review, and outside auditing firms are also possible outside controls. Cost control, waste control, internal audits, and productivity improvement programs illustrate major efforts that may be designed into a solution or activated after implementation. On the other hand, all three parts of the control dimension may be an integral part of the fundamental and measures dimensions of a particular element. For example, a part produced by a machine may be inspected by the operator, or inspection may be done automatically. The effectiveness of corrective action is judged by measuring the extent to which actual performance recovers to the desired specification level. Correction is measured by stability, as when the significant differential disappears as elapsed time increases; accuracy, or closeness of recovery to desired specification; lag time, or speed of response to the action; and performance oscillations as the control-reaction-control-reaction cycles take place.

**5. Interface** The interface constitutes the relationships of the fundamental, values, measures, and control specifications to other elements and to other systems. Some illustrations of interfaces are inspection of materials received from a vendor, the impact of a changed grading system on parents, shared services with other hospitals, and government reporting regulations related to personnel actions. Illustrations of intrasystem interfaces are process control interactions with human agents, physical catalysts, and information aids. Some of these cause difficulties with element specifications and vice versa.

Interface dimension specifications help in the avoidance of difficulties in getting a system to operate well by anticipating and assessing consequences of negative and hostile interactions. What additional or how much less work will result for other system? What costs will the other system incur? Can the other system be modified to let this system be implemented, or even to have the other system take advantage of the ideas? Perhaps a substitute or add-on "technological shortcut" might be located by such searching for interfaces. What possible disturbances and forces from other systems (lobbying, special interest groups, oil embargo, supreme court decision) will impact on this system (delay service, increase cost)? Can a model (differential equation) express the interrelationships of the factors or variables? How does the P&D professional or team interact with managers/administrators, users/clients/customers, people working in the current system, and so on? Are there cause-effect research results describing how one factor (element or dimension) changes as another varies?

**6. Future** Anticipated changes in each specification of the other five dimensions at one or more points of time in the future. The future dimension defines the growth, learning rate (evolution,

homeostasis) or decay of the specifications. Forecasts of all types (e.g., social attitudes, costs, weather, population) express possible "future" specifications. Also included are specifications on how the specific element dimension is to get to the anticipated stage (a transfer function). The arrival at the desired stage may be planned (obsolescence or gradual termination). May be due to learning and duration, or may require a new P&D effort. Sunset laws and zero-based budgeting illustrate two broad ideas for describing **how** arrival at the future point might be accomplished

Combining this corollary with Axiom 8 forms the system matrix or morphological box shown on the first page of this section. It represents the prescriptive, universal, and understandable definition of the word **system.** Different words can be used to represent the same ideas as the elements and dimensions. One version in policy making, for example, uses these elements: purpose-relevant reference system, inputs, outputs, structure and process, and operating, information, and human communication requirements. These are detailed by the following dimensions: physical, values, measures criteria, analysis procedures, elemental interfaces, model interfaces, systems interfaces, and anticipated changes.

Another version of the system matrix is shown in next graph on the following page to portray the time component aspects of the future dimension. The lines denoting the cells in the first and second charts are **not** firm divisions, for there are both overlapping and interrelationships among the cells. Each cell, rather, connotes the major thrust of the element/dimension intersections.

The representational matrix provides an orderly way of denoting all possible types of information to consider in specifying a system. Not all elements or dimensions need to be specified in a particular system. Nor is it necessary to have the same amount of information in each cell. The amount can range from an empty set to some large, almost infinite number of models or sets of data. Similar or identical accuracy is not required for the information in each cell. The system matrix is very seldom, if ever, used in exactly this form as a basis for recording information needed in designing a system.

The questions raised by probing what specifications should be developed for each cell are almost allinclusive. They number far more than the usually suggested who, what, why, where, when, and how. They are also much more specific than the usual questions because more than the 48 questions the matrix appears to suggest a available. In addition to the 16 fundamental and values dimension questions, there are **at least** 16 measures dimension questions about the fundamental and values specifications, 24 control dimension questions, 32 interface, and 40 future, or a total of at least 128 system view of each system matrix cell.

# The Computational Techniques by Chromosomal Cells within a Genetic-Based Consultative P&D System

The techniques and models listed in each cell illustrate some that may be useful in accomplishing the functions of the cell. Others may well be applicable, but the following listing is an appropriate stimulator:

(1) **Purpose, fundamental.** Brain writing, couplet comparison technique, ends-mean chain, intent structures, interviews, map of activity and thought chains, multilevel approach, needs analysis, nominal group technique, objective trees, purpose expansion, relationship chart, relevance trees, sensitivity analysis, scenarios, semilattice tree, surveys, system pyramid.

(2) **Purpose, values.** Brainstorming, climate analysis, dialectical process, ends-means chain, intent structures, interviews, objectives tree, questionnaire, utility theory.

(3) **Purpose, measures.** Budgets, correlation analysis, financial investment appraisal, Gantt chart, index analysis, indifference curves, interpretive structural modeling, measurement model

monthly operating statement, needs analysis, nominal group technique, objectives or goals survey, objectives pyramid, Planning, Programming, and Budgeting System, profit/volume analysis, return on investment, single-factor and multiattribute utility assessment, subjective probability assessment, subjective 0-100 scaling, variance analysis.

(4) **Purpose, control.** Annual report of P&D system activities and achievements, board of director review, budget control sheets, control charts, data transformation, external peer evaluation, influence diagram, management style questionnaire, participative review and control, Planning, Programming, and Budgeting System, trend analysis, value analysis, worst/best case analysis, zero-base budgeting.

(5) **Purpose, interface.** A fortiori analysis, arbitration and mediation planning, cause/effect assessment, correlation analysis, cross-impact matrix, digraphs, ends-means chain, graph theory, hierarchical structure, influence diagram, intent structures, interaction analysis, interpretive structural modeling, intersectoral analysis, negotiation, objectives tree, ombudsman, opportunity identification, policy graphs, purpose network analysis, relationship chart, sensitivity analysis.

(6) **Purpose, future.** Each of those in cells 1-5. Conditional demand analysis, extended scenarios, futures research, objectives tree, profits progress (learning function, sociological projection techniques.

(7) **Inputs, fundamental.** Budgets, conditional demand analysis, contingency forecasting, demographic forecasts monthly operating statements and balance sheets, nominal group technique, partitioning techniques, questionnaire, regression analysis, technological forecasting, telephone polling, time series analysis.

(8) **Inputs, values.** Brainstorming, dialectical process, group process technique, interviews, questionnaires, sociological projection technique, utility assessment, and utility theory.

(9) Inputs, measures. Budget, checklists, cost-benefit analysis, cost-effectiveness analysis, data transformation, information acquisition preference inventory, judgment analysis technique, judgment policy analysis, measurement model, planning and control technique, preference ordering, psychological scaling, sampling theory, sensitivity analysis, simulation, statistical model, subjective probability assessment, subjective scaling, voting techniques.

(10) Inputs, control. Attitude surveys, board of directors review, budget, checklists, citizen honoraria, control charts for human involvement measures and for information quality and quantity norms, control method, correlation analysis, data base system, employee panels, external peer evaluation, focus group testing, a fortiori analysis, Gantt charts, group process technique, influence diagram, operational games, organization analysis, planning and control technique, program planning budgeting system, probability assessment, productivity circles, questionnaire, replicate information collection, role playing, sensitivity analysis, simulation, statistical model, task force, team building, telephone polling, use testing, value analysis, worst-case analysis, zerobase budgeting.

(11) Inputs, interface. Interface with outputs: charette, computer graphics, correlation analysis, drop-in centers, fishbowl planning, input-output analysis, media-based issue balloting, meetings, open-door policy, public hearing workshops. Others: arbitration and mediation planning, cross-impact matrix, influence diagram, interaction analysis interaction matrix, intersectoral analysis, interpretive structural modeling, negotiation, ombudsman, profit/volume analysis, system pyramid, technology assessment.

(12) Inputs, future. Each of those in cells 7-11. Conditional demand analysis, contextual mapping, extended scenarios, forecasting, futures research, new-product early warning system, opportunity identification, progress ("learning") function for quality and quantity measures of effectiveness, regression forecasting, simulation, social indicators, technology assessments and forecasts, time series analysis.

(13) **Outputs, fundamental.** All available ones are possible as output representations, but a sample of them includes computer graphics, drawings, drop-in centers, fishbowl planning, hotline, input-output analysis, intent structures, interpretive structural models, media-based issue

balloting, meetings, open door policy, oval diagrams, photographs, policy graphs, pro forma balance and operating statements, public hearing, public information program, scenario, system matrix, system or semilattice pyramid, workshops.

(14) **Outputs, values.** Brainstorming, dialectical process, intent structures, questionnaires, sociological projection technique, utility assessment.

(15) Outputs, measures. Benefit-cost analysis, break-even analysis, budget, correlation analysis, data transformation, a fortiori analysis, measurement model, PPBS, product or service life cycle analysis, profit/volume analysis, progress functions, psychological scalings, reliability theory, sensitivity analysis, simulation, subjective probability assessment, variance analysis.

(16) Outputs, control. Budget, cause-effect analysis, central location testing, checklists, control charts, control model, correlation analysis, counter planning, data transformation, decision matrix, employee panels, financial investment appraisal, influence diagram, return on investment, simulation, tables reporting variance to norms, use testing, worst case analysis, zero-base budgeting.

(17) Outputs, interface. With inputs: computer graphics, correlation analysis, drop-in centers, fishbowl planning, input-output analysis, media-based issue balloting, meetings, open-door policy, public hearing, and workshops. With other elements: arbitration and mediation planning, cause-effect analysis, charrette, cross-impact analysis, diagraphs, environmental impact statements, fault tree analysis, impact analysis, influence diagram, interaction analysis, intersectoral analysis, negotiation, new business project screening summary, ombudsman, policy graphs, PPBS, profit/volume analysis, system or semilattice pyramid, and technology assessment.

(18) Outputs, future. Each of those in cells 13-17, plus additional techniques in cell 12.

(19) Sequence, fundamental. Because the P&D system sequence involves all aspects of a time-based P&D, all of the techniques could be involved, especially the change principles. The following just illustrate the differing types for each phase:

- 1. Delphi, forecasting techniques, function expansion, purpose hierarchy, intent structures, oval diagrams, semi-lattice, system pyramid, tree diagrams.
- **2.** Analogies, bisociation, brain resting, brainstorming, brain writing, dialectical process, morphological box, search for diverse sources of options.
- **3.** Cash flow analysis, causal diagram, cost effectiveness analysis, decision matrix, DELTA chart (decision, event, logic, time, activities), feasibility study, financial investment appraisal, flowchart, goals-achievement matrix, input-output matrix, layout-diagram, multilevel digraph, operations research, optimization, pair comparison, Pareto analysis, return on investment, scenario, social cost benefit analysis, system matrix.
- **4.** Same as **3** plus contingency analysis, cost-benefit analysis, decision tables, forecasting, multiple attribute utility assessment, parameter analysis, program planning method, simulation.
- 5. Same as 1, 2, 3, and 4 plus control charts, questionnaires (cells 21, 22, 23).

(20) Sequence, values. Brainstorming, dialectical process, group process technique, questionnaires, and utility theory.

(21) Sequence, measures. Activity balance line evaluation, break-even analysis, budget, correlation analysis, data transformation, decision tree, Gantt chart, life cycle phasing, line of balance, management operations systems technique, measurement model, milestone chart, network analysis, operations chart, PERT or critical path method (manual or computerized), PERT/COST, precedence diagram method, process chart, RAMPS, statistical model, subjective probability assessment, timeline budget for phases, variance analysis.

(22) Sequence, control. Activity balance line evaluation, activity matrix, budget variance analysis, client/user/citizen/ P&D peer review panels, contingency/worst case analysis, control charts, correlation analysis, data transformation, decision tables, DELTA chart, Gantt chart,

influence diagram, line of balance, management operations systems technique, milestone chart, network analysis, operation chart, PERT/COST, PPBS, precedence diagram methods, process chart, RAMPS, scheduling model, simulation, statistical model, task force, zero-base budgeting.

(23) Sequence, interface. Arbitration and mediation, cause/ effect assessment, change principles, contingency tables, correlation analysis, cross-impact analysis, decision tables, digraphs, force field analysis, improvement program, influence diagram, interaction matrix analysis, interface event control, intersectoral analysis, multiple criteria utility assessment, negotiation, ombudsman, policy graphs, scenarios, subjective probability assessment, surveys.

(24) Sequence, future. Each of those in cells 19-23. Some newer techniques are emerging: computerized Delphi, contingency forecasts, a fortiori analysis, parameter analysis, technological forecasting, worst-case analysis.

(25) Environment, fundamental. Causal diagrams, community attitude survey, Delphi, demographic analysis, dialectical process, dynamic model, gaming and simulation, goals program analysis, intersectoral analysis, interviews, matrix structure, organizational climate analysis, organizational sensing, oval diagrams, parameter analysis, productivity circles, project teams, preference ordering, scenarios, semilattice pyramid, telephone polling, tree diagrams, utility assessment, volunteer group status.

(26) Environment, values. Brainstorming, climate analysis, dialectical process, questionnaires, technology assessment, utility theory.

(27) Environment, measures. Budget, bureaucracy level analysis, cause/effect assessment, climate analysis, correlation analysis, counts and/or ratios of public attendance at P&D meetings, data transformation, demand analysis, econometric models, factor analysis, frequency of P&D system meetings, frequency of updating "pulse" of external environment aspects, magnitude of external pressure, management grid analysis, measurement model, network analysis of P&D system, PPBS, regression analysis, rigidity versus openness analysis, role analysis, statistical model, subjective probability assessment, variance analysis.

(28) Environment, control. Budget, climate analysis trends, control charts, control model, correlation analysis, critical incidence review, data transformation, influence diagram, P&D peer review, PPBS, statistical model, utility assessment, zero-base budgeting.

(29) Environment, interface. Arbitration and mediation planning, cause/effect assessment, correlation analysis, demographic analysis, digraphs, environmental impact statement, factor analysis, fault-tree analysis, force field analysis, graph theory, human development continua, impact analysis, influence diagram, ISM, interaction analysis, intersectoral analysis, interviews, negotiation, ombudsman, organization mirror, organizational sensing, policy graphs, regression analysis, role analysis, surveys, technology and managerial control analysis, tree diagrams, trend analysis.

(30) Environment, future. Each of those in cells 25-29. Adaptive forecasting, contextual mapping, demographic forecasting, forecasting, Markov chains, probabilistic system dynamics, regression forecasting, sales force composite, smoothing, sociological projection technique, substitution analysis, technological forecasting, time series analysis.

(31) Human agents, fundamental. Attitude tests, contingency analysis, creativity techniques (analogy, morphological box, bisociation, brainstorming, brain writing, etc.), interviews, nominal group technique, ombudsman, oval diagrams, personality tests, personality type analysis, role analysis, semilattice pyramid, scenarios, subjective probability assessment, task analysis, task force, wage scale.

(32) Human agents, values. Brainstorming, dialectical process, group process technique, questionnaires, utility theory.

(33) Human agents, measures. Activity sampling, aptitude test, budget, correlation analysis, critical incident technique, data transformation, external examiner to assess performance, financial plans, Gantt chart, historical time/cost data in P&D, information content analysis, job evaluation, measurement model, performance measures tally, PPBS, progress functions and

learning curves, quality of working life autonomy, salary versus job education curves, statistical estimation, statistical model, subjective probability assessment, user satisfaction surveys, variance analysis, wage scale, wage surveys, work measurement.

(34) Human agents, control. Aptitude test, budget, contingency analysis, control charts, control model, correlation analysis, counseling interviews, critical incident technique, critical path method, data transformation, Gantt charts, influence diagram, organizational analysis, peer review, PPBS, performance appraisal, RAMPS, regular retraining courses, semi-annual sample tests or games, statistical model, task force, team building, training, zero-base budgeting.

(35) Human agents, interface. Arbitration and mediation planning, cause/effect assessment, correlation analysis, counseling interviews, cross-impact analysis, decision tables, digraphs, educational curriculum formats, group processes techniques, influence diagram, interaction analysis, interactive computer languages, intersectoral analysis, ISM, negotiation, ombudsman.

(36) Human agents, future. Each of those in cells 31-35.

(37) **Physical catalysts, fundamental.** Flow path diagrams, layout drawings, nomographs, photographs, physical and mathematical equations describing operating characteristics, physical model, specification listing, templates, three-dimensional models.

(38) Physical catalysts, values. Brainstorming, dialectical process, group process technique, questionnaires, utility theory.

(39) Physical catalysts, measures. Break-even analysis, budget, cash flow analysis, correlation analysis, cost benefit analysis, cost-effectiveness analysis, data transformation, downtime distribution, machine-loading charts, maintenance network, maintenance schedule graph, measurement model, PPBS, progress function, queuing models, social cost-benefit analysis, statistical model, subjective probability assessment, and variance analysis.

(40) Physical catalysts, control. Activity sampling, budget control sheets, control charts, control model, correlation analysis, critical path method, data transformation, influence diagram, interview surveys, maintenance charts, PPBS, RAMPS, replacement model, statistical mode, utilization indices and charts, value analysis, zero-base budgeting.

(41) **Physical catalysts, interface.** Arbitration and mediation planning, cause/effect assessment, climate analysis, contingency analysis, correlation analysis, cross-impact analysis, digraphs, graph theory, influence diagram, interaction analysis, interaction matrix diagram, intersectoral analysis, ISM, negotiation, ombudsman, semilattice pyramid, telecommunications.

(42) Physical catalysts, future. Each of those in cells 36-41. Modeling of conferences based on technologically advanced physical catalysts, technology assessment, technological forecasting.

(43) Information aids, fundamental. Abstract dimensioning, analysis of variance, career path analysis, case histories, charts, computer graphics, contingency analysis, continuing educational path, decision tables, decision trees, drawings, expected free cash flow model, graphics, graphs group process techniques, hierarchical clustering, histograms, information content analysis, information flowcharts, lattice theory, mathematical and statistical tools (correlation analysis, factor analysis, histogram, Laplace transforms, risk distribution, variance, etc.), mathematical model, mathematical programming technique, modeling, performance/time measurement estimate, physical model, probability assessment, programming languages, recursive programming model, risk analysis, simulation languages, software in structures and packaging, standard operating procedures, system pyramid, time study, utility theory.

(44) **Information aids, values.** Brainstorming, dialectical process, group process technique, questionnaires, utility theory.

(45) Information aids, measures. Activity sampling, budget, cast flow analysis, computer simulation, contingency analysis, correlation analysis, cost-benefit analysis, cost-effectiveness analysis, data transformation, decision tables, downtime measurements, fault analysis, forecasting, a fortiori analysis, measurement model, morphological analysis, objective tree, PPBS, probability assessment, sensitivity analysis, social cost-benefit analysis, statistical model, subjective probability assessment, surveys, time between request and response, variance analysis.

(46) Information aids, control. Auditing technique, budget, budget control sheets, control charts, control model, correlation analysis, critical path analysis, data base system, data transformation, decision tables, decision trees, flowcharts, forecasting, Gantt charts, influence diagram, PPBS, priority setting or voting, replacement models, RAMPS, standard data charts and tables, statistical model, utilization indices, value analysis, zero-base budgeting.

(47) Information aids, interface. Cause-effect matrix, computer graphics, contingency analysis, correlation analysis, cross-impact matrix, digraphs, a fortiori analysis, influence diagram, interaction analysis, interaction matrix diagrams, intersectoral analysis, ISM, negotiation, ombudsman, parameter analysis, programming-computer interaction analysis, sensitivity analysis, survey questionnaires and interviews, telecommunications.

(48) Information aids, future. Each of those in cells 42-47. Computer programming research, computerized Delphi, cost-benefit analysis, forecasting, gaming, and subjective probability.

## The Procedural Titles & Processes for Search Engine Forward Chaining Sequences within a Genetic P&D Matrix

1.	N	at 1	1 mm	line	hla
1.	ΤN	0l r	ιpp.	lica	UIC

- **2.** [TAG] Purpose, Control (4)
- 3. [GAG] Purpose, Measures (3)
- **4.** [TGC] Outputs, Values (14)
- **5.** [GCT] Human Agents, Control (34)
- **6.** [TCG] Physical Catalysts, Measures (39)
- 7. [AAC] Inputs, Measures (9)
- 8. [GAT] Inputs, Control (10)
- 9. [TCA] Environment, Measures (27)
- **10.** [GAC] Environment, Future (30)
- 11. [GCA] Environment, Interface (29)
- **12.** [GGT] Outputs, Fundamental (13)
- 13. [TTA] Outputs, Measures (15)
- 14. [CGT] Sequence, Measures (21)
- 15. [CAG] Outputs, Future (18)
- 16. [GGC] Sequence, Future (24)
- **17.** [TGA] Information Aids, Future (48)
- **18.** [CCA] Inputs, Fundamental (7)
- **19.** [ACT] Purpose, Values (2)
- 20. Same as (22), but as an additional process
- **21.** [CAC] Physical Catalysts, Control (40)
- 22. [CTG] Human Agents, Measures (33)
- 23. [CAT] Human Agents, Fundamental (31)
- 24. [GCG] Human Agents, Values (32)
- 25. [AAT] Purpose, Fundamental (1)
- 26. [ATC] Outputs, Interface (17)
- 27. [GTC] Sequence, Values (20)
- **28.** [CGA] Human Agents, Interface (35)
- **29.** [TCT] Inputs, Values (8)
- **30.** [TAC] Information Aids, Values (44)
- **31.** [TAT] Information Aids, Control (46)
- **32.** [CCT] Environment, Control (28)
- **33.** [TGT] Information Aids, Measures (45)
- 34. [AGT] Sequence, Fundamental (19)

- **35.** [TTG] Purpose, Future (6)
- **36.** [GTA] Sequence, Control (22)
- **37.** [GTG] Sequence, Interface (23)
- **38.** [ATG] Outputs, Control (16)
- **39.** [CCG] Physical Catalysts, Interface (41)
- **40.** [GGA] Physical Catalysts, Values (38)
- **41.** [AGC] Environment, Values (26)
- **42.** [TTC] Purpose, Interface (5)
- **43.** [AAG] Information Aids, Fundamental (43)
- **44.** [ACA] Inputs, Interface (11)
- **45.** [ACG] Environment Fundamental (25)
- **46.** [AGA] Physical Catalysts, Future (42)
- 47. [ATA] Inputs, Future (12)
- **48.** [CTC] Information Aids, Interface (47)
- **49.** [CGC] Physical Catalysts, Fundamental (37)
- **50.** [CTA] Human Agents, Future (36)

### The Procedural Titles & Processes for Search Engine Backward Chaining Sequences within a Genetic P&D Matrix

(The <u>Operational Mindset</u> or <u>Genetic Embodiment</u> of <u>Gaius Julius Caesar</u> Involving the <u>Staging</u> for <u>Commercial Expansionism</u> through the <u>Global Market Principles</u> of <u>Frederick Von Hayek</u>)

- 1. Describe/Establish/Measure Relationships (VIII)
- 2. [UAG] Analyze Project Impacts on Society (II)
- 3. [GAG] Analyze Policy Setting & Decision-Making Variables (XVI)
- 4. [UGC] Establish Project Schedules & Basis for Measuring Progress & Performance (III)
- 5. [GCU] Involve People (XIV)
- 6. [UCG] Identify (Product) Opportunities (I)
- 7. [AAC] Estimate Budget & Dollar Requirements (XI)
- 8. [GAU] Analyze Investments (XVI)
- 9. [UCA] Identify (Project) Opportunities (Ia)
- 10. [GAC] Appraise/Assess Investments (XVI)
- 11. [GCA] Inform & Involve Citizens (XIV)
- 12. [GGU] Appraise/Assess Alternative Options/Plans/Policies/ Programs/Contingencies/Functions (XVI)
- **13.** [UUA] Collect Data and/or Information (I)
- **14.** [CGU] Identify Regularities (VI)
- **15.** [CAG] Establish Priorities (VI)
- **16.** [GGC] Evaluate Alternatives (XVI)
- 17. [UGA] Establish Project Schedules & Basis for Measuring Progress & Performance (III)
- **18.** [CCA] Approach Problems (V)
- 19. [ACU] Evaluate Interpersonal Relationships, Performance & Effectiveness of an Organization (VIII)
- **20.** Categorize/Classify Alternatives (VI)
- **21.** [CAC] Organize Alternatives (VI)
- 22. [CUG] Identify Problems, Overlaps & Conflicts (V)
- 23. [CAU] Rank Alternatives (VI)
- 24. [GCG] Test Impact of Different Values of an Attribute/Parameter/Variable (XV)
- **25.** [AAU] Generate a List of Possible Purpose/Function Statements (X)
- 26. [AUC] Portray an Order of Events (VII)
- 27. [GUC] Develop (Enhance) Creativity (XII)
- 28. [CGA] Preserve an Image (VII)
- 29. [UCU] Analyze Job Methods & Motions (I)
- 30. [UAC] Appraise/Assess Projects (II)

- 31. [UAU] Analyze Projects (II)
- **32.** [CCU] Identify Management Styles (V)
- 33. [UGU] Measure Projects Progress & Performance (III)
- **34.** [AGU] Predict Future Conditions (XI)
- **35.** [UUG] Identify New Product Quality (I)
- **36.** [GUA] Produce Consensus (XIII)
- **37.** [GUG] Stimulate Creativity of People (XIII)
- **38.** [AUG] Rate Conditions (VIII)
- **39.** [CCG] Weight Criteria or Factors (VI)
- 40. [GGA] Measure Errors (XVI)
- 41. [AGC] Detail Proposed Solution (XI)
- **42.** [UUC] Collect and/or Organize Performance Information (I)
- 43. [AAG] Determine Human Ability & Skill Requirements for Tasks (XI)
- 44. [ACA] Analyze Alternative Options/Plans/Policies/Programs/Contingencies/Functions (IX)
- **45.** [ACG] Develop & Analyze Structure (IX)
- 46. [AGA] Generate Alternatives/Ideas (XII)
- 47. [AUA] Plot & Analyze Data about the Performance of an Existing Installation (VII)
- 48. [CUC] Appraise/Assess Systems (IV)
- 49. [CGC] Provide Graphic Representations (VII)
- 50. [CUA] Analyze Systems (IV)

# The Organizational Profile for 5-Phase Educational Development within a Genetic-based P&D Effort

(Search Engine Integration & Systems Verification Processes)

#### PHASE ONE

- I. Collect and/or Organize Performance Information, Collect Data and/or Information, Identify New Product Quality, Analyze Job Methods and Motions, Identify Project Opportunities, Identify (Product) Opportunities ([UUU] UUC, UUA, UUG, UCU, UCA and UCG)
- II. Analyze Projects, Appraise/Assess Projects, Analyze Project Impacts on Society ([UCC] UAU, UAC and UAG)
- **III.** Measure Project Progress and Performance, Establish Project Schedules and Basis for Measuring Progress and Performance, EPSBMPP2 ([UAA] UGU, UGC and UGA)
- IV. Appraise/Assess Systems, Analyze Systems ([UGG] CUC and CUA)
- V. Identify Problems, Overlaps, and Conflicts, Identify Management Styles, Approach Problems ([CUU] CUG, CCU and CCA)
- VI. Weight Criteria or Factors, Rank Alternatives, Organize Alternatives, Categorize/Classify Alternatives, Establish Prior ties, Identify Regularities ([CCC] CCG, CAU, CAC, CAG and CGU)
- VII. Provide Graphic Representations, Preserve an Image, Portray an Order of Events, Plot and Analyze Data about the Performance of an Existing Installation ([CAA] CGC, CGA, AUC and AUA)

#### PHASE TWO

- VIII. Rate Conditions, Describe/Establish/Measure Relationships, Evaluate Interpersonal Relationships, Performance, and Effectiveness of an Organization ([CGG] AUG and ACU)
  - **IX.** Analyze Alternative Options/Plans/Policies/Programs/Contingencies/Functions, Develop and Analyze Structure ([AUU] ACA and ACG)
  - X. Generate a List of Possible Purpose/Function Statements ([ACC] AAU)

#### PHASE THREE

XI. Estimate Budget and Dollar Requirements, Determine Human Ability and Skill Requirements for Tasks, Predict Future Conditions, Detail Proposed Solution ([AAA] AAC, AAG, AGU and AGC)

#### **PHASE FOUR**

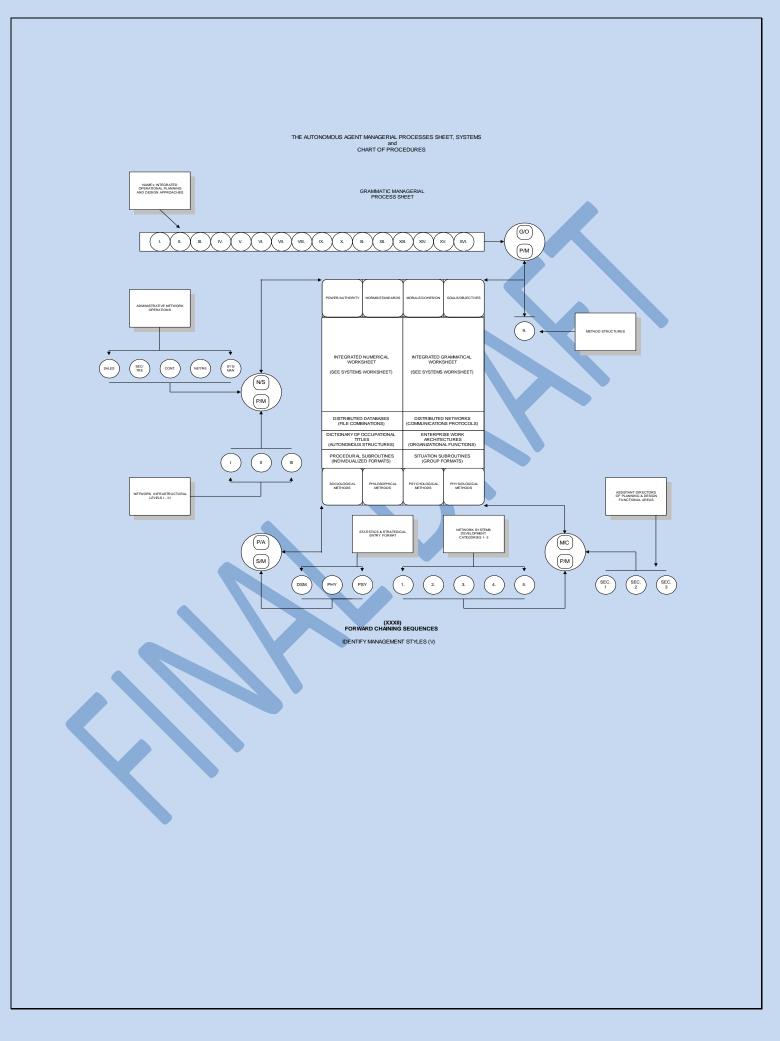
XII. Generate Alternatives/Ideas, Develop (Enhance) Creativity ([AGG] AGA and GUC)

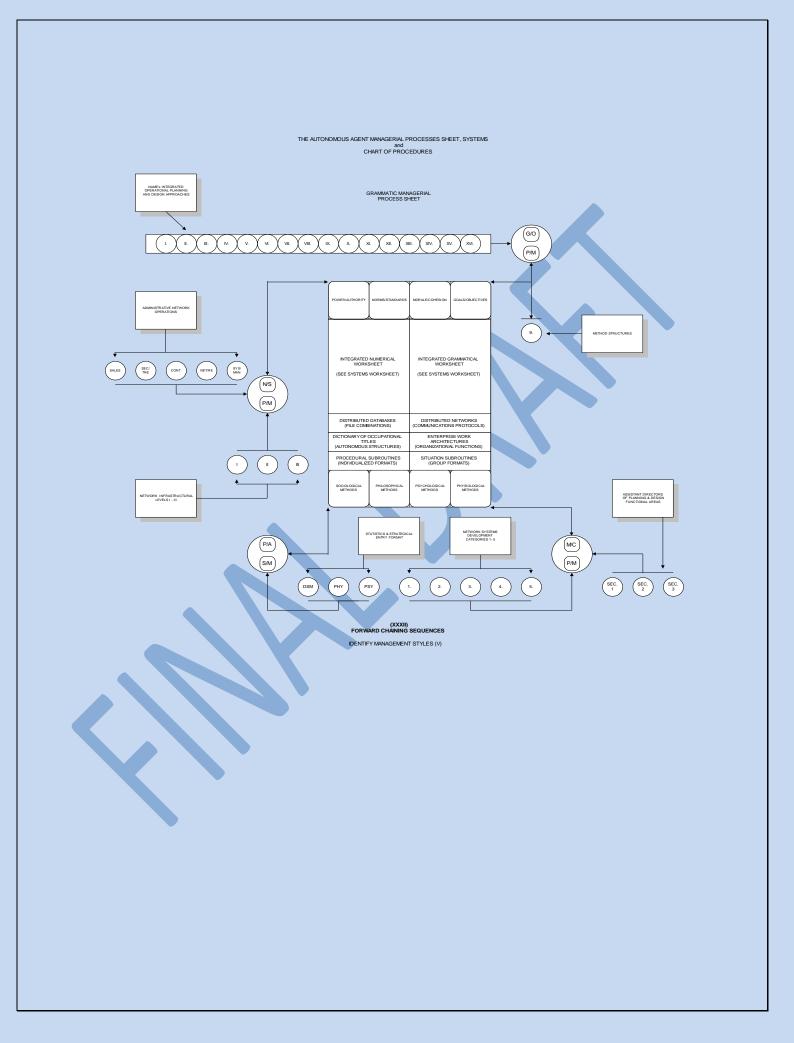
XIII. Produce Consensus, Stimulate Creativity of People ([GUU] GUA and GUG)

#### **PHASE FIVE**

XIV. Involve People, Inform and Involve Citizens ([GCC] GCU and GCA)

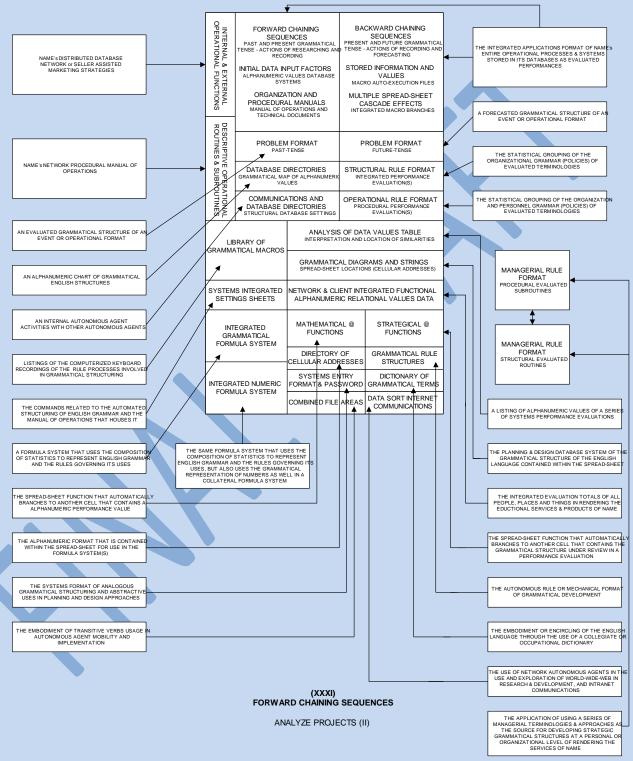
- XV. Test Impact of Different Values of an Attribute/Parameter/Variable ([GAA] GCG)
- **XVI.** Analyze Investments, Appraise/Assess Investments, Analyze Policy Setting and Decision-Making Variables, Appraise/Assess Alternative Options/Plans/Policies/Programs/Contingencies/Functions, Evaluate Alternatives, Measure Errors ([GGG] GAU, GAC, GAG, GGU, GGC and GGA)





#### THE AUTONOMOUS AGENT WORKSHEET of INTERNAL PROCESSES, SYSTEMS and CHART OF PROCEDURES





# The PERT Genetic-Based Structural Elements for Developing Consultative P&D Operational Timeline Strategies within a Chromosomal Purposeful Hierarchy

