

**A
DISCOURSE
ON
WINNING AND LOSING**

ABSTRACT

To flourish and grow in a many-sided uncertain and everchanging world that surrounds us, suggests that we have to make intuitive within ourselves those many practices we need to meet the exigencies of that world. The contents, hence the five sections, that comprise this "Discourse" unfold observations and ideas that contribute toward achieving or thwarting such an aim or purpose. Specifically:

- "Patterns of Conflict" represents a compendium of ideas and actions for winning and losing in a highly competitive world;
- "Organic Design for Command and Control" surfaces the implicit arrangements that permit cooperation in complex, competitive, fast moving situations;
- "The Strategic Game of ? and ?" emphasizes the mental twists and turns we undertake to surface appropriate schemes or designs for realizing our aims or purposes;
- "Destruction and Creation" lays out in abstract but graphic fashion the ways by which we evolve mental concepts to comprehend and cope with our environment;
- "Revelation" makes visible the metaphorical message that flows from this "Discourse".

As one proceeds from "Patterns" through "Organic Design", "Strategic Game", and "Destruction and Creation" to "Revelation" he or she will notice that the discussion goes from the more concrete and obvious to the more abstract. In this sense, one will notice the rise away from many particular actions and ideas to fewer and more general concepts to account for these many actions and ideas. In this context, "Patterns" emphasizes historical readings, primarily military, as the backdrop for its discussion while the final four sections draw away from the historical framework and increasingly emphasize theory spread over a scientific backdrop as the medium for discussion.

ABSTRACT

Yet, the theme that weaves its way through this “Discourse on Winning and Losing” is not so much contained within each of the five sections, per se, that make up the “Discourse”; rather, it is the kind of thinking that both lies behind and makes—up its very essence. For the interested, a careful examination will reveal that the increasingly abstract discussion surfaces a process of reaching across many perspectives; pulling each and every one apart (analysis), all the while intuitively looking for those parts of the disassembled perspectives which naturally interconnect with one another to form a higher order, more general elaboration (synthesis) of what is taking place. As a result, the process not only creates the “Discourse” but it also represents the key to evolve the tactics, strategies, goals, unifying themes, etc., that permit us to actively shape and adapt to the unfolding world we are a part of, live—in, and feed—upon.

GRAND MESSAGE

- Any coherent intellectual or physical systems we evolve to represent or deal with large portions of reality will at best represent or deal with that reality incompletely or imperfectly.
- Moreover, we neither have nor can we create beforehand a supersystem that can forecast or predict the kind of systems we will evolve in the future to represent or deal with that reality more completely or more perfectly.
- Furthermore, such a supersystem can neither forecast nor predict the consequences that flow from those systems that we create later on.
- Going even further, we cannot determine or discern the character or nature of such systems (super or otherwise) within themselves.

which imply that

- People using theories or systems evolved from a variety of information will find it increasingly difficult and ultimately impossible to interact with and comprehend phenomena or systems that move increasingly beyond and away from that variety— —that is, they will become more and more isolated from that which they are trying to observe or deal with, unless they exploit the new variety to modify their theories/systems or create new theories/systems.

GRAND MESSAGE

In a mathematical/logical sense we can say:

- Taken together the theorems associated with Godel, Lowenheim & Skolem, Tarski, Church, Turing, Chaitin, and others reveal that: Not only do the statements representing a theoretical system for explaining some aspect of reality explain that reality inadequately or incompletely but, like it or not, these statements spill out beyond any one system and do so in unpredictable ways.

or conversely

- These theorems reveal that: We can neither predict the future migration and evolution of these statements nor just confine them to any one system nor suggest that they fully embrace any such system.

Now if we extend these ideas and build upon them in a scientific/engineering sense we can say:

- Any coherent intellectual or physical systems we evolve to represent or deal with large portions of reality will at best represent or deal with that reality incompletely or imperfectly.
- Moreover, we neither have nor can we create beforehand a supersystem that can forecast or predict the kind of systems we will evolve in the future to represent or deal with that reality more completely or more perfectly.
- Furthermore, such a supersystem can neither forecast nor predict the consequences that flow from those systems that we create later on.
- Going even further, we cannot determine or discern the character or nature of such systems (super or otherwise) within themselves.

Which altogether imply that:

- People using theories or systems evolved from a variety of information will find it increasingly difficult and ultimately impossible to interact with and comprehend phenomena or systems that move increasingly beyond and away from that variety — that is, they will become more and more isolated from that which they are trying to observe or deal with, unless they exploit the new variety to modify their theories/systems or create new theories/systems.

SOURCES

For: andy

Printed on: Tue, Aug 18, 1992 11:08:03

Document: sources.new

Last saved on: Tue, Aug 18, 1992 10:52:09

New Sources

- 14 • Barrow, John D. "Theories of Everything", 1991
 24 • Barrow, John D. "Pr in the Sky", 1992
 34 • Chaitin, Gregory J. "Randomness in Arithmetic" (Scientific American) July 1988
 44 • Chaitin, Gregory J. "Information, Randomness and Incompleteness", 1987, 1990
 44 • d'Abramo, H. "The Rise of the New Physics" (two volumes), 1939/1951
 74 • Dozier, Rush W. "Codes of Evolution", 1992
 94 • Hagek, F. W. "The Fatal Conceit", 1988
 104 • Levin, Roger "Complexity - Life on the Edge of Chaos", 1992
 114 • Ornstein, Robert "The Mind Field" (chapters 2 & 3), 1976
 124 • Ornstein, Robert "The Evolution of Consciousness", 1991
 134 • Sheldrake, Rupert "The Presence of the Past: Morphic Resonance & the Habit of Nature", 1989
 144 • Stevent, Ian "The Ultimate in Undecidability" (Nature) March 10, 1988
 154 • Waldrop, M. Mitchell "Complexity - The Emerging Science at the Edge of Order & Chaos", 1992

- 54 • Cleary, Thomas (translator) "The Book of Leadership & Strategy" (Lessons of the Chinese Masters), 1992
 84 • Grcian, Baltasar "The Art of Worldly Wisdom" (translated by Christopher Maurer), 1647

Valerie Anne

Sources

- ① • Aguayo, Rafael "Dr. Deming - The American who Taught the Japanese about Quality", 1990
- ② • ~~Henry~~ Cleary, Thomas "The Japanese Art of War", 1991
- ④ • Deming, W. Edwards "Out of the Crisis", 1982/1986
- ⑤ • ^{CRIS CROFT} Giscard & ^{ESTAIRES} Estaing "The World Almanac Book of Inventions", 1985
- ⑥ • Imai, Masaaki "Kaizen - The Key To Japan's Competitive Success", 1986
- ⑦ • ^{ICHIKO} Majima Ichiro "The Shift to JIT", 1992
- ⑧ • ^{OHNO} Ohno, Taiichi "Toyota Production System", 1988
- ⑨ • Ohno, Taiichi "Workplace Management", 1988
- ⑩ • Ohno, Taiichi (with ^{MIYATA} Mito, ^{SETSUO} Setsumu) "Just-in-time for Today and Tomorrow", 1988
- ⑪ • Ruelle, David "Chance and Chaos", 1991
- ⑫ • Shingo, Shigeo (Robinson, Alan Editor-in-Chief) "Modern Approaches to Manufacturing Improvement", 1990
- ⑬ • Shingo, Shigeo "The Shingo Production Management System", 1992
- ⑭ • Stalk, George Jr. & Hout Thomas M. "Competing Against Time", 1990
- ⑮ • Womack, J.P., Jones, D.T., & ^{ROOS} Roos, D. "The Machine that changed the World", 1990
- ③ • ^{COVENEY} Covey, Peter & Highfield Roger "The arrow of Time", 1990
- 10A • Paulos, John Allen, "Beyond Numeracy", 1991
- 14A • Sun Tzu "The Art of War", (translated by Cheng Lin) 1945

W

SOURCES BY AUTHOR

- Adcock, F.E. "The Greek and Macedonian Art of War", 1957
- Alger, John I. "The Quest for Victory", 1982
- Aguayo, Rafael "Dr. Deming – The American Who Taught the Japanese About Quality", 1990
- Asprey, Robert B. "Guerrilla Warfare" (Encyclopedia Britannica – EB), 1972
- Asprey, Robert B. "Tactics" (EB), 1972
- Asprey, Robert B. "War in the Shadows" (two volumes), 1975
- Atkins, P. W. "The Second Law", 1984
- Atkinson, Alexander "Social Order and the General Theory of Strategy", 1981
- Axelrod, Robert "The Evolution of Cooperation", 1984
- Balck, William "The Development of Tactics", 1922
- Baldwin, Hanson W. "Tiger Jack", 1979
- Barnett, Correlli "Bonaparte", 1978
- Barron, John "KGB: The Secret Work of Soviet Secret Agents", 1974
- Bateson, Gregory "Mind and Nature", 1979
- Bayerlein, Fritz "With the Panzers in Russia 1941 & 43" (Marine Corps Gazette), December 1954
- Beaufre, Andre "An Introduction to Strategy", 1965
- Beaufre, Andre "Strategy of Action", 1967
- Becker, Ernest "The Structure of Evil", 1968
- Beesley, Patrick "Very Special Intelligence", 1977
- Beesley, Patrick "Room 40", 1982
- Betts, Richard K. "Surprise Attack", 1982
- Beveridge, W.I.B. "The Art of Scientific Investigation", 1957
- Bloom, Allan "The Closing of the American Mind", 1987
- Blumentritt, G. "Experience Gained from the History of War on the Subject of Command Technique", Jan 1947
- Blumentritt, G. "Operations in Darkness and Smoke", 1952
- Bohm, David & Peat, F. David "Science, Order and Creativity", 1987
- Bretnor, Reginald "Decisive Warfare", 1969
- Briggs, John & Peat, F. David "Looking Glass Universe", 1984
- Briggs, John & Peat, F. David "Turbulent Mirror", 1989
- Bronowski, Jacob "The Identity of Man", 1971

- Bronowski, Jacob "The Ascent of Man", 1973
- Bronowski, Jacob "A Sense of the Future", 1977
- Bronowski, Jacob "The Origins of Knowledge and Imagination", 1978
- Brown, Anthony Cave "Bodyguard of Lies", 1975
- Brown, G. Spencer "Laws of Form", 1972
- Brownlow, Donald Grey "Panzer Baron", 1975
- Brzezinski, Zbigniew "Game Plan", 1986
- Callendar, H.L. & Andrews, D.H. "Heat, Entropy and Information" (EB), 1972
- Calvocoressi, Peter "Top Secret Ultra", 1980
- Campbell, Jeremy "Grammatical Man", 1982
- Capra, Fritjof "The Tao of Physics", 1976
- Card, Orson Scott "Ender's Game", 1985
- Careri, Giorgio "Order and Disorder in Matter", 1984
- Carver, Michael "The Apostles of Mobility", 1979
- Chambers, James "The Devil's Horsemen", 1979
- Chaliand, Gerard (editor) "Guerrilla Strategies", 1982
- Chandler, David G. "The Campaigns of Napoleon", 1966
- Chandler, David G. "Atlas of Military Strategy", 1980
- Cincinnatus "Self-Destruction", 1981
- Clausewitz, Carl von "Principles of War" (translated by Hans W. Gatske, 1942), 1812
- Clausewitz, Carl von "War, Politics and Power" (translated by Edward M. Collins, 1962)
- Clausewitz, Carl von "On War" (translated by M. Howard & P. Paret, 1976), 1832
- Cleary, Thomas "The Japanese Art of War", 1991
- Cline, Barbara Lovett "Men Who Made a New Physics", 1965/1987
- Cline, Ray S. "Secrets, Spies and Scholars", 1976
- Clutterbuck, Richard "Guerrillas and Terrorists", 1977
- Cole, K.C. "Sympathetic Vibrations", 1984
- Colin, Jean "The Transformations of War", 1912
- Conant, James Bryant "Two Modes of Thought", 1970
- Conway, James "Mr. Secret Weapon" (Washington Post Magazine), 15 May 1982
- Cooper, Matthew "The German Army 1933-1945", 1978
- Corbett, Julian S. "Some Principles of Maritime Strategy", 1911
- Coveney, Peter & Highfield, Roger "The Arrow of Time", 1990
- Crease, Robert P. & Mann, Charles C. "The Second Creation", 1986

- Cruickshank, Charles "Deception in World War II", 1979
- Daniel, Donald C. & Herbig, Katherine L. "Strategic Military Deception", 1982
- Davies, Paul "The Cosmic Blueprint", 1988
- Davies, W.J.K. "German Army Handbook 1932–1945", 1973
- Dawkins, Richard "The Selfish Gene", 1976
- Dawkins, Richard "The Blind Watchmaker", 1986
- DeBono, Edward "New Think", 1971
- DeBono, Edward "Lateral Thinking: Creativity Step by Step", 1973
- Deichmann, D. Paul "German Air Force Operations in Support of the Army", 1962
- Deming, W. Edwards "Out of the Crisis", 1982/1986
- Des Pres, Terrence "The Survivor", 1976
- Despres, J.; Dzirkals, L.; Whaley, B. "Timely Lessons from History: The Manchurian Model for Soviet Strategy"
- Doughty, R. A. "The Evolution of U.S. Army Tactical Doctrine, 1946–76" (Leavenworth Papers #1), August 1979
- Downing, David "The Devil's Virtuosos: German Generals at War 1940–45", 1977
- Drexler, K. Eric "Engines of Creation", 1987
- Dupuy, T.N. "The Military Life of Genghis, Khan of Khans", 1969
- Dupuy & Dupuy (R.E. & T.N.) "Encyclopedia of Military History", 1977
- Dupuy, T.N. "A Genius for War", 1977
- Durant, Will & Ariel "The Lessons of History", 1968
- Dyson, Freeman "Disturbing the Universe", 1979
- Dzirkals, L. F. "Lightning War in Manchuria: Soviet Military Analysis of the 1945 Far East Campaign", Jul 1975
- Earle, Edward Mead, et al "Makers of Modern Strategy", 1943
- Ekeland, Ivar "Mathematics and the Unexpected", 1988
- English, John A. "A Perspective on Infantry", 1981
- Fall, Barnard B. "Street Without Joy", 1964
- Fall, Barnard B. "Last Reflections on a War", 1967
- Falls, Cyril "The Art of War from the Age of Napoleon to the Present Day", 1961
- Farago, Ladislav "The Game of the Foxes", 1971
- Ferguson, Marilyn "The Aquarian Conspiracy", 1980
- Fitzgerald, Frances "Fire in the Lake", 1972
- Foster, David "The Intelligent Universe", 1975
- Foster, Richard N. "Innovation: The Attacker's Advantage", 1986

- Freytag–Loringhoven, Hugo von “The Power of Personality in War”, (Army War College, 1938), 1911
- Fromm, Erich “The Crisis of Psychoanalysis”, 1971
- Fuller, J.F.C. “Grant and Lee”, 1932/1957
- Fuller, J.F.C. “The Conduct of War, 1789–1961”, 1961
- Gabriel, Richard A. & Savage, Paul L. “Crisis in Command”, 1978
- Gabriel, Richard A. & Gal, Reuven “The IDF Officer: Linchpin in Unit Cohesion”, (Army) January 1984
- Gamow, George “Thirty Years That Shook Physics”, 1966
- Gardner, Howard “The Quest for Mind”, 1974
- Gardner, Howard “The Mind’s New Science”, 1985
- Gardner, John W. “Morale”, 1978
- Gardner, Martin “The Computer as Scientist” (Discover), June 1983
- Georgescu–Roegen, Nicholas “The Entropy Law and the Economic Process”, 1971
- Giscard d’Estaing, Valerie-Anne “The World Almanac Book of Inventions”, 1985
- Gleick, James “Exploring the Labyrinth of the Mind” (New York Times Magazine), 21 August 1983
- Gleick, James “Chaos”, 1987
- Godel, Kurt “On Formally Undecidable Propositions of the Principia Mathematica and Related Systems”, pages 3–38, “The Undecidable”, 1965
- Goleman, Daniel “Vital Lies, Simple Truths”, 1985
- Goodenough, Simon & Deighton, Len “Tactical Genius in Battle”, 1979
- Gribbin, John “In Search of Schrodinger’s Cat”, 1984
- Griffin, Gary B. “The Directed Telescope: A Traditional Element of Effective Command” (Combat Studies Institute), 20 May 1985
- Griffith, Paddy “Forward into Battle”, 1981
- Grigg, John “1943 The Victory That Never Was”, 1980
- Guderian, Heinz “Panzer Leader”, 1952
- Guevara, Che “Guerrilla Warfare”, 1961
- Hall, Edward T. “Beyond Culture”, 1976
- Handel, Michael I. “The Yom Kippur War and the Inevitability of Surprise” (Int’l Studies Quarterly), Sept 1977
- Handel, Michael I. “Clausewitz in the Age of Technology” (The Journal of Strategic Studies), June/Sept 1986
- Hao Wang “Metalogic” (EB), 1988
- Hawking, Stephen W. “A Brief History of Time”, 1988
- Heider, John “The Tao of Leadership”, 1985
- Heilbroner, Robert L. “An Inquiry into the Human Prospect”, 1974

- Heilbroner, Robert L. "Marxism: For and Against", 1980
- Heisenberg, Werner "Physics and Philosophy", 1962
- Heisenberg, Werner "Across the Frontiers", 1974
- Herbert, Nick "Quantum Reality", 1987
- Herrington, Stuart A. "Silence Was a Weapon", 1982
- Hodges, Andrew "Alan Turing: The Enigma", 1983
- Hoffer, Eric "The True Believer", 1951
- Holmes, W.J. "Double-Edged Secrets", 1979
- Howard, Michael "The Causes of Wars", 1983
- Hoyle, Fred "Encounter with the Future", 1968
- Hoyle, Fred "The New Face of Science", 1971
- Hoyt, Edwin P. "Guerilla", 1981
- Humble, Richard "Hitler's Generals", 1974
- Imai, Masaaki "Kaisen – The Key to Japan's Competitive Success", 1986
- Irving, David "The Trail of the Fox", 1977
- Isby, David C. "Modern Infantry Tactics, 1914–74" (Strategy and Tactics), Sept/Oct 1974
- Johnson, George "Machinery of the Mind", 1986
- Jomini, "The Art of War" (translated by G.H. Mendell & W.P. Craigbill, 1862), 1836
- Jomini, "Summary of the Art of War" (edited by J.D. Hittle, 1947), 1838
- Jones, Roger S. "Physics As Metaphor", 1982
- Jones, R.V. "Intelligence and Deception" (lecture), 29 November 1979
- Kahn, David "The Codebreakers", 1967
- Kahn, David "Hitler's Spies", 1978
- Kaku, Michio & Trainer, Jennifer "Beyond Einstein", 1987
- Karnow, Stanley "In Vietnam, the Enemy Was Right Beside Us" (Washington Star), 22 March 1981
- Karnow, Stanley "Vietnam: A History", 1983
- Keegan, John "The Face of Battle", 1977
- Kemeny, John G. "Semantics in Logic" (EB), 1972
- Kennedy, Marilyn Moats "Powerbase: How to Build It; How to Keep It", 1984
- Kesslering, Albert, et al "Manual for Command and Combat Employment of Smaller Units" (Based on German Experiences in World War II), 1952
- Kitson, Frank "Low Intensity Operations", 1971

- Kline, Morris "Mathematics: The Loss of Certainty", 1980
- Kohn, Hans & Hazard, John N. "Communism" (EB), 1972
- Kramer, Edna E. "The Nature and Growth of Modern Mathematics", 1974
- Krepinevich, Andrew F. Jr. "The Army and Vietnam", 1986
- Kuhn, Thomas S. "The Structure of Scientific Revolutions", 1970
- Lamb, Harold "Genghis Khan", 1927
- Landauer, Carl "Marxism" (EB), 1972
- Lanza, Conrad H. "Napoleon and Modern War, His Military Maxims", 1943
- Laqueur, Walter "Guerrilla", 1976
- Laqueur, Walter (editor) "The Guerrilla Reader", 1977
- Lawrence, T.E. "Seven Pillars of Wisdom", 1935
- Layzer, David "The Arrow of Time" (Scientific American), December 1975
- LeBoeuf, Michael "GMP* The Greatest Management Principle in the World", 1985
- Leonard, George "The Silent Pulse", 1978
- Levinson, Harry "The Exceptional Executive", 1971
- Lewin, Ronald "Ultra Goes to War", 1978
- Liddell Hart, B.H. "A Science of Infantry Tactics Simplified", 1926
- Liddell Hart, B.H. "The Future of Infantry", 1933
- Liddell Hart, B.H. "The Ghost of Napoleon", 1934
- Liddell Hart, B.H. "The German Generals Talk", 1948
- Liddell Hart, B.H. "Strategy", 1967
- Liddell Hart, B.H. "History of the Second World War" (two volumes), 1970
- Lorenz, Konrad "Behind the Mirror" (translated by Ronald Taylor, 1977), 1973
- Lupfer, Timothy T. "The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War" (Leavenworth Papers #4), July 1981
- Machiavelli, Niccolo "The Prince", 1516
- Machiavelli, Niccolo "The Discourses", 1519
- Macksey, Kenneth "Panzer Division", 1968
- Macksey, Kenneth "Guderian: Creator of the Blitzkrieg", 1976
- Majima, Ichiro "The Shift to JIT", 1992
- Maltz, Maxwell "Psycho-Cybernetics", 1971
- Mann, Charles C. "The Man With All the Answers" (The Atlantic), Jan 1990
- Manstein, Erich von "Lost Victories", 1958

- Mao Tse–Tung “On Guerrilla Warfare”, (translated by S.B. Griffith, 1961), 1937
- Mao Tse–Tung “Basic Tactics” (translated by Stuart R. Schram, 1966), 1938
- Mao Tse–Tung “Selected Military Writings”, 1963
- Mao Tse–Tung “Four Essays on China and World Communism”, 1972
- Marchetti, Victor & Marks, John “The CIA and the Cult of Intelligence”, 1974/1980
- Marshall, S.L.A. “Men Against Fire”, 1947
- Marshall, S.L.A. “The Soldiers Load and The Mobility of a Nation”, 1950
- Martin, David C. “Wilderness of Mirrors”, 1980
- Masterman, John C. “The Double–Cross System”, 1972
- Matloff, Maurice “Strategy” (EB), 1972
- May, Rollo “The Courage to Create”, 1975/1976
- McAuliffe, Kathleen “Get Smart: Controlling Chaos” (Omni), Feb 1990
- McWhiney, Grady & Jamieson, Perry D. “Attack and Die”, 1982
- Mellenthin, F.W. von “Panzer Battles”, 1956
- Mellenthin, F.W. von “German Generals of World War II”, 1977
- Mellenthin, F.W. von “Armored Warfare in World War II” (conference), 10 May 1979
- Mendel, Arthur P. (editor) “Essential Works of Marxism”, 1961
- Messenger, Charles “The Blitzkrieg Story”, 1976
- Mikheyev, Dmitry “A Model of Soviet Mentality” (presentation), March 1985
- Miksche, F.O. “Blitzkrieg”, 1941
- Miksche, F.O. “Atomic Weapons and Armies”, 1955
- Miller, Russell “The Commandos” (Time–Life Books), 1981
- Minsky, Marvin “The Society of Mind”, 1986
- Montross, Lynn “War Through the Ages”, 1960
- Morris, E.; Johnson, C.; Chant, C.; Wilmott, H.P. “Weapons and Warfare of the 20th Century”, 1976
- Musashi, Miyamoto “The Book of Five Rings” (translated by Victor Harris, 1974), 1645
- Musashi, Miyamoto “The Book of Five Rings” (translated by Nihon Services, 1982), 1645
- Nagel, Ernest & Newman, James R. “Godel’s Proof”, 1958
- Ohno, Taiichi “Toyota Production System”, 1988
- Ohno, Taiichi “Workplace Management”, 1988
- Ohno, Taiichi (with Setsuo Meto) “Just-in–Time for Today and Tomorrow”, 1988
- Oman, C.W.C. “The Art of War in the Middle Ages” (edited and revised by John H. Beeler, 1953), 1885

- Ortega y Gasset, Jose, "The Revolt of the Masses" (anonymous translation, 1932), 1930
- Osborne, Alex F. "Applied Imagination", 1963
- Ouchi, William "Theory Z", 1981
- Pagels, Heinz R. "The Cosmic Code", 1982
- Pagels, Heinz R. "Perfect Symmetry", 1985
- Pagels, Heinz R. "The Dreams of Reason", 1988
- Palmer, Bruce Jr. "The 25 Year War", 1984
- Paret, Peter "Clausewitz and the State", 1976
- Pascale, Richard T. & Athos, Anthony G. "The Art of Japanese Management", 1981
- Patrick, S. B. "Combined Arms Combat Operations in the 20th Century" (Strategy and Tactics), Sept/Oct 1974
- Pauker, Guy J. "Insurgency" (EB), 1972
- Paulos, John Allen "Beyond Numeracy", 1991
- Pearce, Joseph Chilton "The Crack in the Cosmic Egg", 1973
- Pearce, Joseph Chilton "Exploring the Crack in the Cosmic Egg", 1975
- Peter, Rozsa "Playing with Infinity", 1957
- Peters, Thomas J. & Waterman, Robert H., Jr. "In Search of Excellence", 1982
- Phillips, T.R. (editor) "Roots of Strategy", 1940/1985
- Piaget, Jean "Structuralism", 1971
- Pike, Douglas "PAVN: Peoples Army of Vietnam", 1986
- Pincher, Chapman "Their Trade is Treachery", 1982
- Polanyi, Michael "The Tacit Dimension", 1966
- Polanyi, Michael "Knowing and Being", 1969
- Polkinghorne, J.C. "The Quantum World", 1984
- Pomeroy, William J. (editor) "Guerrilla Warfare and Marxism", 1968
- Powers, Thomas "The Man Who Kept the Secrets", 1979
- Prigogine, Ilya & Stengers, Isabelle "Order Out of Chaos", 1984
- Pustay, John S. "Counterinsurgency Warfare", 1965
- Rae, Alastair I.M. "Quantum Physics: illusion or reality", 1986
- Reid, T.R. "Birth of a New Idea" (Washington Post Outlook), 25 July 1982
- Rejai, M. "Mao Tse-Tung On Revolution and War", 1976
- Restak, Richard M. "The Brain: The Last Frontier", 1980
- Rifkin, Jeremy (with Ted Howard) "Entropy – A New World View", 1980

- Rommel, Erwin "Infantry Attacks" (translated by G.E. Kidde, 1944), 1937
- Rosen, Ismond "Genesis", 1974
- Ross, Steven "Rethinking Thinking" (Modern Maturity), Feb–Mar 1990
- Rothenberg, Gunther E. "The Art of Warfare in the Age of Napoleon", 1978
- Rowan, Roy "The Intuitive Manager", 1986
- Rucker, Rudy "Infinity and the Mind", 1982
- Rucker, Rudy "Mind Tools", 1987
- Ruelle, David "Chance and Chaos", 1991
- Rushbrooke, George Stanley "Statistical Mechanics" (EB), 1972
- Russell, Francis "The Secret War" (Time–Life Books), 1981
- Satter, David "Soviet Threat is One of Ideas More Than Arms" (Wall Street Journal), 23 May 1983
- Savkin, V. YE. "The Basic Principles of Operational Art and Tactics" (A Soviet View), 1972
- Sella, Amnon "Barbarossa: Surprise Attack and Communication" (Journal of Contemporary History), 1978
- Senger und Etterlin, Frido von "Neither Fear Nor Hope", 1963
- Shanker, S. G. (editor) "Godel's Theorem in Focus", 1988
- Shannon, Claude E. "Information Theory" (EB), 1972
- Shingo, Shigeo (Alan Robinson, Editor–in–Chief) "Modern Approaches to Manufacturing Improvement", 1990
- Shingo, Shigeo "The Shingo Production Management System", 1992
- Sidey, Hugh "Playing an Assassin Like a Fish" (Washington Star), 14 June 1981
- Sidorenko, A.A. "The Offensive" (A Soviet View), 1970
- Singh, Baljitt & Mei, Ko–Wang "Modern Guerrilla Warfare", 1971
- Singh, Jagjit "Great Ideas of Modern Mathematics: Their Nature and Use", 1959
- Skinner, B.F. "Beyond Freedom and Dignity", 1972
- Sprey, P.M. "Taped Conversation with General Hermann Balck" (for Battelle), 12 January and 13 April 1979
- Sprey, P.M. "Taped Conversation with Lt. General Heinz Gaedcke", (for Battelle), 12 April 1979
- Stalk, George Jr. & Hout, Thomas M. "Competing Against Time", 1990
- Stevenson, William "A Man Called Intrepid", 1976
- Stewart, Ian "Does God Play Dice", 1989
- Strausz–Hupe, R.; Kintner, W. R.; Dougherty, J. E.; Cottrell, A. J. "Protracted Conflict", 1959/1963
- Suen Wu "The Art of War" (translated by Cheng Lin), 1945
- Summers, Harry G. Jr. "On Strategy: The Vietnam War in Context", 1981
- Sun Tzu "The Art of War" (translated by S.B. Griffith, 1971), about 400 B.C.
- Sun Tzu "The Art of War" (edited by James Clavell, 1983), about 500 B.C.
- Sun Tzu "The Art of War" (translated by Thomas Cleary, 1988), about 400 B.C.

- Taber, Robert "The War of the Flea", 1965
- Tang Zi-Chang "Principles of Conflict" (Recompilation of Sun Zi's Art of War), 1969
- Tao Hanzhang "Sun Tzu's Art of War", 1987
- Thayer, Charles W. "Guerrilla", 1961
- Thompson, R.W. "D-Day", 1968
- Thompson, William Irwin "At the Edge of History", 1972
- Thompson, William Irwin "Evil and World Order", 1976
- Thompson, William Irwin "Darkness and Scattered Light", 1978
- Toffler, Alvin "Future Shock", 1970
- Van Creveld, Martin "Supplying War", 1977
- Van Creveld, Martin "Fighting Power: German Military Performance, 1914-1945", December 1980
- Van Creveld, Martin "Command", 1982
- Vigor, P.H. "Soviet Blitzkrieg Theory" (A British View), 1983
- Vo Nguyen Giap "Peoples War Peoples Army", 1962
- Vo Nguyen Giap "How We Won the War", 1976
- Waismann, Friedrich "Introduction to Mathematical Thinking", 1959
- Wallace, Mike "Inside Yesterday: Target USA" (for CBS News), 21 August 1979
- Watts, Alan "The Book", 1972
- Watts, Alan "Tao: The Watercourse Way", 1975
- Wernick, Robert "Blitzkrieg" (Time-Life Books), 1976
- Whiting, Charles "Patton", 1970
- Wilczek, Frank & Devine, Betsy "Longing for the Harmonies", 1988
- Wilson, Edward O. "On Human Nature", 1978
- Wing, R.L. "The Art of Strategy", 1988
- Winterbotham, F.W. "The Ultra Secret", 1975
- Wintringham, Tom "The Story of Weapons and Tactics", 1943
- Wolf, Eric R. "Peasant Wars of the Twentieth Century", 1969
- Wolf, Fred Alan "Taking the Quantum Leap", 1981
- Womack, J.P., Jones, D.T. & Roos, D. "The Machine That Changed the World", 1990
- Wylie, J.C. "Military Strategy", 1967
- Wynne, G.C. "If Germany Attacks", 1940
- Yukawa, Hideki "Creativity and Intuition", 1973
- Zukav, Gary "The Dancing Wu Li Masters", 1979

SOURCES BY INSTITUTION

- BDM "Generals Balck and Von Mellenthin on Tactics: Implications for Military Doctrine", 19 December 1980
- German Army Regulation 100/100 "Command and Control in Battle", September 1973
- German Army Regulation 100/200 "Army Command and Control System", August 1972
- National Defense University "The Art and Practice of Military Strategy", 1984
- ORD/CIA, "Deception Maxims: Fact and Folklore", April 1980
- U.S. Army FM 100-5 "Operations", July 1976
- U.S. Army FM 100-5 "Operations", 20 August 1982
- U.S. Army FM 100-5 "Operations", 5 May 1986
- U.S. Army Pamphlet 20-233 "German Defense Tactics Against Russian Breakthroughs", October 1951
- U.S. Army Pamphlet 20-269 "Small Unit Actions During the German Campaign in Russia", July 1953
- Westinghouse "I Am the Punishment of God" (Westinghouse Integrated Logistic Support #5)
- West Point Department of Military Art and Engineering, "Jomini, Clausewitz and Schlieffen", 1954
- West Point Department of Military Art and Engineering, "Summaries of Selected Military Campaigns", 1956

For: andy

Printed on: Mon, Aug 17, 1992 11:23:54

Document: destruct_crt.new

Last saved on: Mon, Aug 3, 1992 08:08:12

DESTRUCTION AND CREATION

by

JOHN R. BOYD

3 September 1976

3 September 1987

DESTRUCTION AND CREATION

ABSTRACT

To comprehend and cope with our environment we develop mental patterns or concepts of meaning. The purpose of this paper is to sketch out how we destroy and create these patterns to permit us to both shape and be shaped by a changing environment. In this sense, the discussion also literally shows why we cannot avoid this kind of activity if we intend to survive on our own terms.

The activity is dialectic in nature generating both disorder and order that emerges as a changing and expanding universe of mental concepts matched to a changing and expanding universe of observed reality.

DESTRUCTION AND CREATION

GOAL

Studies of human behavior reveal that the actions we undertake as individuals are closely related to survival, more importantly, survival on our own terms. Naturally, such a notion implies we should be able to act relatively free or independent of any debilitating external influences—otherwise that very survival might be in jeopardy. In viewing the instinct for survival in this manner we imply that a basic aim or goal, as individuals, is to improve our capacity for independent action. The degree to which we cooperate, or compete, with others is driven by the need to satisfy this basic goal. If we believe that it is not possible to satisfy it alone, without help from others, history shows us that we will agree to constraints upon our independent action—in order to collectively pool skills and talents in the form of nations, corporations, labor unions, mafias, etc.—so that obstacles standing in the way of the basic goal can either be removed or overcome. On the other hand, if the group cannot or does not attempt to overcome obstacles deemed important to many (or possibly any) of its individual members, the group must risk losing these alienated members. Under these circumstances, the alienated members may dissolve their relationship and remain independent, form a group of their own, or join another collective body in order to improve their capacity for independent action.

ENVIRONMENT

In a real world of limited resources and skills, individuals and groups form, dissolve and reform their cooperative or competitive postures in a continuous struggle to remove or overcome physical and social environmental obstacles.^{11/13} In a cooperative sense, where skills and talents are pooled, the removal or overcoming of obstacles represents an improved capacity for independent action for all concerned. In a competitive sense, where individuals and groups compete for scarce resources and skills, an improved capacity for independent action achieved by some individuals or groups constrains that capacity for other individuals or groups. Naturally, such a combination of real world scarcity intensifies the struggles of individuals and groups to cope with both their physical and social environments.^{11/13}

DESTRUCTION AND CREATION

NEED FOR DECISIONS

Against such a background, actions and decisions become critically important. Actions must be taken over and over again and in many different ways. Decisions must be rendered to monitor and determine the precise nature of the actions needed that will be compatible with the goal. To make these timely decisions imply that we must be able to form mental concepts of observed reality, as we perceive it, and be able to change these concepts as reality itself appears to change. The concepts can then be used as decision – models for improving our capacity for independent action. Such a demand for decisions that literally impact our survival causes one to wonder: How do we generate or create the mental concepts to support this decision making activity?

CREATING CONCEPTS

There are two ways in which we can develop and manipulate mental concepts to represent observed reality: We can start from a comprehensive whole and break it down to its particulars or we can start with the particulars and build towards a comprehensive whole.^{28/24} Saying it another way, but in a related sense, we can go from the general – to – specific or from the specific – to – general. A little reflection here reveals that deduction is related to proceeding from the general – to – specific while induction is related to proceeding from the specific – to – general. In following this line of thought can we think of other activities that are related to these two opposing ideas? Is not analysis related to proceeding from the general – to – specific? Is not synthesis, the opposite of analysis, related to proceeding from the specific – to – general? Putting all this together: Can we not say that general – to – specific is related to both deduction and analysis, while specific – to – general is related to induction and synthesis? Now, can we think of some examples to fit with these two opposing ideas? We need not look far. The differential calculus proceeds from the general – to – specific from a function to its derivative. Hence, is not the use or application of the differential calculus related to deduction and analysis? The integral calculus, on the other hand, proceeds in the opposite direction – from a derivative to a general function. Hence, is not the use or application of the integral calculus related to induction and synthesis? Summing up, we can see that: general – to – specific is related to deduction, analysis, and differentiation, while specific – to – general is related to induction, synthesis, and integration.

DESTRUCTION AND CREATION

Now keeping these two opposing idea chains in mind let us move on a somewhat different tack. Imagine, if you will, a domain (a comprehensive whole) and its constituent elements or arts. Now, imagine another domain and its constituent parts. Once again, imagine even another domain and its constituent parts. Repeating this idea over and over again we can imagine any number of domains and the parts corresponding to each. Naturally, as we go through life we develop concepts of meaning (with included constituents) to represent observed reality. Can we not liken these concepts and their related constituents to the domains and constituents that we have formed in our imagination? Naturally, we can. Keeping this relationship in mind, suppose we shatter the correspondence of each domain or concept with its constituent elements. In other words, we imagine the existence of the parts but pretend that the domains or concepts they were previously associated with do not exist. Result: We have many constituents, or particulars, swimming around in a sea of anarchy. We have uncertainty and disorder in place of meaning and order. Further, we can see that such an unstructuring or destruction of many domains—to break the correspondence of each with its respective constituents—is related to deduction, analysis, and differentiation. We call this kind of unstructuring a destructive deduction.

Faced with such disorder or chaos, how can we reconstruct order and meaning? Going back to the idea chain of specific—to—general, induction, synthesis, and integration the thought occurs that a new domain or concept can be formed if we can find some common qualities, attributes, or operations among some or many of these constituents swimming in this sea of anarchy. Through such connecting threads (that produce meaning) we synthesize constituents from, hence across, the domains we have just shattered.²⁴ Linking particulars together in this manner we can form a new domain or concept—providing, of course, we do not inadvertently use only those “bits and pieces” in the same arrangement that we associated with one of the domains purged from our imagination. Clearly, such a synthesis would indicate we have generated something new and different from what previously existed. Going back to our idea chain, it follows that creativity is related to induction, synthesis, and integration since we proceeded from unstructured bits and pieces to a new general pattern or concept. We call such action a creative or constructive induction. It is important to note that the crucial or key step that permits this creative induction is the separation of the particulars from their previous domains by the destructive deduction. Without this unstructuring the creation of a new structure cannot proceed—since the bits and pieces are still tied together as meaning within unchallenged domains or concepts.

DESTRUCTION AND CREATION

Recalling that we use concepts or mental patterns to represent reality, it follows that the unstructuring and restructuring just shown reveals a way of changing our perception of reality.²⁸ Naturally, such a notion implies that the emerging pattern of ideas and interactions must be internally consistent and match—up with reality.^{14/15} To check or verify internal consistency we try to see if we can trace our way back to the original constituents that were used in the creative or constructive induction. If we cannot reverse directions, the ideas and interactions do not go together in this way without contradiction. Hence, they are not internally consistent. However, this does not necessarily mean we reject and throw away the entire structure. Instead, we should attempt to identify those ideas (particulars) and interactions that seem to hold together in a coherent pattern of activity as distinguished from those ideas that do not seem to fit in. In performing this task we check for reversibility as well as check to see which ideas and interactions match—up with our observations of reality.^{27/14/15} Using these ideas and interactions that pass this test together with any new ideas (from new destructive deductions) or other promising ideas that popped out of the original destructive deduction we again attempt to find some common qualities, attributes, or operations to re—create the concept— —or create a new concept. Also, once again, we perform the check for reversibility and match—up with reality. Over and over again this cycle of Destruction and Creation is repeated until we demonstrate internal consistency and match—up with reality.^{19/14/15}

SUSPICION

When this orderly (and pleasant) state is reached the concept becomes a coherent pattern of ideas and interactions that can be used to describe some aspect of observed reality. As a consequence, there is little, or no, further appeal to alternative ideas and interactions in an effort to either expand, complete, or modify the concept.¹⁹ Instead, the effort is turned inward toward fine tuning the ideas and interactions in order to improve generality and produce a more precise match of the conceptual pattern with reality.¹⁹ Toward this end, the concept— —and its internal workings— —is tested and compared against observed phenomena over and over again in many different and subtle ways.¹⁹ Such a repeated and inward—oriented effort to explain increasingly more subtle aspects of reality suggests the distributing idea that perhaps, at some point, ambiguities, uncertainties, anomalies, or apparent inconsistencies may emerge to stifle a more general and precise match—up of concept with observed reality.¹⁹ Why do we suspect this?

DESTRUCTION AND CREATION

On one hand, we realize that facts, perceptions, ideas, impressions, interactions, etc. separated from previous observations and thought patterns have been linked together to create a new conceptual pattern. On the other had, we suspect that refined observations now underway will eventually exhibit either more or a different kind of precision and subtlety than the previous observations and thought patterns. Clearly, any anticipated difference, or differences, suggests we should expect a mismatch between the new observations and the anticipated concept description of these observations. To assume otherwise would be tantamount to admitting that previous constituents and interactions would produce the same synthesis as any newer constituents and interactions that exhibit either more or a different kind of precision and subtlety. This would be like admitting one equals two. To avoid such a discomforting position implies that we should anticipate a mismatch between phenomena observation and concept description of that observation. Such a notion is not new and is indicated by the discoveries of Kurt Godel and Werner Heisenberg.

INCOMPLETENESS AND CONSISTENCY

In 1931 Kurt Godel created a stir in the World of Mathematics and Logic when he revealed that it was impossible to embrace mathematics within a single system of logic.^{12/23} He accomplished this by proving, first, that any consistent system — — that includes the arithmetic of whole numbers — — is incomplete. In other words, there are true statements or concepts within the system that cannot be deduced from the postulates that make — up the system. Next, he proved even though such a system is consistent its consistency cannot be demonstrated within the system.

Such a result does not imply that it is impossible to prove the consistency of a system. It only means that such a proof cannot be accomplished inside the system. As a matter of fact, since Godel, Gerhard Gentzen and others have shown that a consistency proof of arithmetic can be found by appealing to systems outside that arithmetic. Thus, Godel's Proof indirectly shows that in order to determine the consistency of any new system we must construct or uncover another system beyond it.^{29/27} Over and over this cycle must be repeated to determine the consistency of more and more elaborate systems.^{29/27}

DESTRUCTION AND CREATION

Keeping this process in mind, let us see how Godel's results impact the effort to improve the match—up of concept with observed reality. To do this we will consider two kinds of consistency: The consistency of the concept and the consistency of the match—up between observed reality and concept description of reality. In this sense, if we assume— —as a result of previous destructive deduction and creative induction efforts— —that we have a consistent concept and consistent match—up, we should see no differences between observation and concept description. Yet, as we have seen, on one hand, we use observations to shape or formulate a concept; while on the other hand, we use a concept to shape the nature of future inquiries or observations of reality. Back and forth, over and over again, we use observations to sharpen a concept and a concept to sharpen observations. Under these circumstances, a concept must be incomplete since we depend upon an everchanging array of observations to shape or formulate it. Likewise, our observations of reality must be incomplete since we depend upon a changing concept to shape or formulate the nature of new inquiries and observations. Therefore, when we probe back and forth with more precision and subtlety, we must admit that we can have differences between observation and concept description; hence, we cannot determine the consistency of the system— —in terms of its concept, and match—up with observed reality— —within itself.

Furthermore, the consistency cannot be determined even when the precision and subtlety of observed phenomena approaches the precision and subtlety of the observer— —who is employing the ideas and interactions that play together in the conceptual pattern. This aspect of consistency is accounted for not only by Godel's Proof but also by the Heisenberg Uncertainty or Indeterminacy Principle.

INDETERMINACY AND UNCERTAINTY

The Indeterminacy Principle uncovered by Werner Heisenberg in 1927 showed that one could not simultaneously fix or determine precisely the velocity and position of a particle or body.^{14/9} Specifically he showed, due to the presence and influence of an observer, that the product of the velocity and position uncertainties is equal to or greater than a small number (Planck's Constant) divided by the mass of the particle or body being investigated. In other words:

$$\Delta V \Delta X \geq h/m$$

where ΔV is velocity uncertainty, ΔX is position uncertainty, and h/m is Planck's constant (h) divided by observed mass (m).

DESTRUCTION AND CREATION

Examination of Heisenberg's Principle reveals that as the observed mass becomes exceedingly small the uncertainty values, or indeterminacy, becomes exceedingly large. Now — in accordance with this relation — when the precision, or mass, of phenomena being observed is little or no different than the precision, or mass, of the observing phenomena the uncertainty values become as large as, or larger than, the velocity and size frame — of — reference associated with the bodies being observed.⁹ In other words, then the intended distinction between observer and observed begins to disappear³, the uncertainty values hide or mask phenomena behavior, or put another way, the observer perceives uncertain or erratic behavior that bounces all over in accordance with the indeterminacy relation. Under these circumstances, the uncertainty values represent the inability to determine the character or nature (consistency) of a system within itself. On the other hand, if the precision and subtlety of the observed phenomena is much less than the precision and subtlety of the observing phenomena (or put another way, when the mass of the observed phenomena is much greater than the intruding mass of the observing phenomena) the uncertainty values become much smaller than the velocity and size values of the bodies being observed.⁹ Under these circumstances, the character or nature of a system can be determined — although not exactly — since the uncertainty values do not hide or mask observed phenomena behavior nor indicate significant erratic behavior.

Keeping in mind that the Heisenberg Principle implicitly depends upon the indeterminate presence and influence of an observer,¹⁴ we can now see — as revealed by the two examples just cited — that the magnitude of the uncertainty values represent the degree of intrusion by the observer upon the observed. When intrusion is total (that is, when the intended distinction between observer and observed essentially disappears,³) the uncertainty values indicate erratic behavior. When intrusion is low the uncertainty values do not hide or mask observed phenomena behavior, nor indicate significant erratic behavior. In other words, the uncertainty values not only represent the degree of intrusion by the observer upon the observed but also the degree of confusion and disorder perceived by that observer.

DESTRUCTION AND CREATION

ENTROPY AND THE SECOND LAW OF THERMODYNAMICS

Confusion and disorder are also related to the notion of entropy and the Second Law of Thermodynamics.^{11/20} Entropy is a concept that represents the potential for doing work, the capacity for taking action or the degree of confusion and disorder associated with any physical or information activity. High entropy implies a low potential for doing work, a low capacity for taking action or a high degree of confusion and disorder. Low entropy implies just the opposite. Viewed in this context, the Second Law of Thermodynamics states that all observed natural processes generate entropy.²⁰ From this law it follows that entropy must increase in any closed system— or, for that matter, in any system that cannot communicate in an ordered fashion with other systems or environments external to itself.²⁰ Accordingly, whenever we attempt to do work or take action inside such a system— a concept and its match—up with reality— we should anticipate an increase in entropy hence an increase in confusion and disorder. Naturally, this means we cannot determine the character or nature (consistency) of such a system within itself, since the system is moving irreversibly toward a higher, yet unknown, state of confusion and disorder.

DESTRUCTION AND CREATION

What an interesting outcome! According to Godel we cannot— in general— determine the consistency, hence the character or nature of an abstract system within itself. According to Heisenberg and the Second Law of Thermodynamics any attempt to do so in the real world will expose uncertainty and generate disorder. Taken together, these three notions support the idea that any inward— oriented and continued effort to improve the match—up of concept with observed reality will only increase the degree of mismatch. Naturally, in this environment, uncertainty and disorder will increase as previously indicated by the Heisenberg Indeterminacy Principle and the Second Law of Thermodynamics, respectively. Put another way, we can expect unexplained and disturbing ambiguities, uncertainties, anomalies, or apparent inconsistencies to emerge more and more often. Furthermore, unless some kind of relief is available, we can expect confusion to increase until disorder approaches chaos— death.

DESTRUCTION AND CREATION

Fortunately, there is a way out. Remember, as previously shown, we can forge a new concept by applying the destructive deduction and creative induction mental operations. Also, remember, in order to perform these dialectic mental operations we must first shatter the rigid conceptual pattern, or patterns, firmly established in our mind. (This should not be too difficult since the rising confusion and disorder is already helping us to undermine any patterns). Next, we must find some common qualities, attributes, or operations to link isolated facts, perceptions, ideas, impressions, interactions, observations, etc. together as possible concepts to represent the real world. Finally, we must repeat this unstructuring and restructuring until we develop a concept that begins to match-up with reality. By doing this—in accordance with Godel, Heisenberg and the Second Law of Thermodynamics—we find that the uncertainty and disorder generated by an inward-oriented system talking to itself can be offset by going outside and creating a new system. Simply stated, uncertainty and related disorder can be diminished by the direct artifice of creating a higher and broader more general concept to represent reality.

However, once again, when we begin to turn inward and use the new concept—within its own pattern of ideas and interactions—to produce a finer grain match with observed reality we note that the new concept and its match-up with observed reality begins to self-destruct just as before. Accordingly, the dialectic cycle of destruction and creation begins to repeat itself once again. In other words, as suggested by Godel's Proof of Incompleteness, we imply that the process of Structure, Unstructure, Restructure, Unstructure, Restructure is repeated endlessly in moving to higher and broader levels of elaboration. In this unfolding drama, the alternating cycle of entropy increase toward more and more disorder and the entropy decrease toward more and more order appears to be one part of a control mechanism that literally seems to drive and regulate this alternating cycle of destruction and creation toward higher and broader levels of elaboration.

DESTRUCTION AND CREATION

Now, in relating this deductive/inductive activity to the basic goal discussed in the beginning, I believe we have uncovered a Dialectic Engine that permits the construction of decision models needed by individuals and societies for determining and monitoring actions in an effort to improve their capacity for independent action. Furthermore, since this engine is directed toward satisfying this basic aim or goal, it follows that the goal seeking effort itself appears to be the other side of a control mechanism that seems also to drive and regulate the alternating cycle of destruction and creation toward higher and broader levels of elaboration. In this context, when acting within a rigid or essentially a closed system, the goal seeking effort of individuals and societies to improve their capacity for independent action tends to produce disorder towards randomness and death. On the other hand, as already shown, the increasing disorder generated by the increasing mismatch of the system concept with observed reality opens or unstructures the system. As the unstructuring or, as we'll call it, the destructive deduction unfolds it shifts toward a creative induction to stop the trend toward disorder and chaos to satisfy a goal-oriented need for increased order. Paradoxically, then, an entropy increase permits both the destruction or unstructuring of a closed system and the creation of a new system to nullify the march toward randomness and death.

Taken together, the entropy notion associated with the Second Law of Thermodynamics and the basic goal of individuals and societies seem to work in dialectic harmony driving and regulating the destructive/creative, or deductive/inductive, action— —that we have described herein as a dialectic engine. The result is a changing and expanding universe of mental concepts matched to a changing and expanding universe of observed reality.^{28/27} As indicated earlier, these mental concepts are employed as decision models by individuals and societies for determining and monitoring actions needed to cope with their environment— —or to improve their capacity for independent action.

DESTRUCTION AND CREATION

BIBLIOGRAPHY

- 1 Beveridge, W.I.B, "The Art of Scientific Investigation", Vintage Books, Third Edition, 1957
- 2 Boyd, John R., "Destruction and Creation", 23 Mar 1976
- 3 Brown, G. Spencer, "Laws of Form", Julian Press, Inc. 1972
- 4 Conant, James Bryant, "Two Modes of Thought", Credo Perspectives, Simon and Schuster 1970
- 5 DeBono, Edward, "New Think", Avon Books 1971
- 6 DeBono, Edward, "Lateral Thinking: Creativity Step by Step", Harper Colophon Books 1973
- 7 Foster, David, "The Intelligent Universe", Putnam 1975
- 8 Fromm, Erich, "The Crisis of Psychoanalysis", Fawcett Premier Books 1971
- 9 Gamow, George, "Thirty Years That Shook Physics", Anchor Books 1966
- 10 Gardner, Howard, "The Quest for Mind", Vintage Books 1974
- 11 Georgescu-Roegen, Nicholas, "The Entropy Law and the Economic Process", Harvard U. Press 1971
- 12 Godel, Kurt, "On Formally Undecidable Propositions of the Principia Mathematica and Related Systems", pages 3-38, "The Undecidable", Raven Press 1965
- 13 Heilbroner, Robert L., "An Inquiry into the Human Prospect", Norton and Co. 1974
- 14 Heisenberg, Werner, "Physics and Philosophy", Harper Torchbooks 1962
- 15 Heisenberg, Werner, "Across the Frontiers", World Perspectives, Harper and Row 1974
- 16 Hoyle, Fred, "Encounter with the Future", Credo Perspectives, Simon and Schuster 1968

DESTRUCTION AND CREATION

BIBLIOGRAPHY

- 17 Hoyle, Fred, "The New Face of Science", Perspectives in Humanism, World Publishing Co. 1971
- 18 Kramer, Edna E., "The Nature and Growth of Modern Mathematics", Fawcett Premier Books 1974
- 19 Kuhn, Thomas S., "The Structure of Scientific Revolutions", University of Chicago Press 1970
- 20 Layzer, David, "The Arrow of Time", Scientific American, December 1975
- 21 Levinson, Harry, "The Exceptional Executive", Mentor Books 1971
- 22 Maltz, Maxwell, "Psycho-Cybernetics", Wilshire Book Co. 1971
- 23 Nagel, Ernest and Newman, James R., "Godel's Proof", New York U. Press 1958
- 24 Osborne, Alex F., "Applied Imagination", Scribners and Sons 1963
- 25 Pearce, Joseph Chilton, "The Crack in the Cosmic Egg", Pocket Book 1975
- 26 Pearce, Joseph Chilton, "Exploring the Crack in the Cosmic Egg", Pocket Book 1975
- 27 Piaget, Jean, "Structuralism", Harper Torchbooks 1971
- 28 Polanyi, Michael, "Knowing and Being", University of Chicago Press 1969
- 29 Singh, Jagjit, "Great Ideas of Modern Mathematics: Their Nature and Use", Dover 1959
- 30 Skinner, B.F., "Beyond Freedom and Dignity", Bantam/Vintage Books 1972
- 31 Thompson, William Irwin, "At the Edge of History", Harper Colophon Books 1972
- 32 Thompson, William Irwin, "Evil and World Order", World Perspective, Harper and Row 1976

DESTRUCTION AND CREATION

BIBLIOGRAPHY

- 33 Tse—Tung, Mao, “Four Essays on China and World Communism”, Lancer Books 1972
- 34 Waismann, Friedrich, “Introduction to Mathematical Thinking”, Harper Torchbooks 1959
- 35 Watts, Alan, “The Book”, Vintage Books 1972
- 36 Yukawa, Hideki, “Creativity and Intuition”, Kodansha International LTD 1973

For: andy

Printed on: Mon, Aug 17, 1992 11:24:38

Document: revelation.2.new

Last saved on: Mon, Aug 3, 1992 08:28:40

REVELATION

METAPHORICAL MESSAGE

- A loser is someone (individual or group) who cannot build snowmobiles when facing uncertainty and unpredictable change;

whereas

- A winner is someone (individual or group) who can build snowmobiles, and employ them in appropriate fashion, when facing uncertainty and unpredictable change.

For: andy

Printed on: Mon, Aug 17, 1992 11:24:47

Document: revelation.new

Last saved on: Mon, Aug 3, 1992 08:29:16

REVELATION

METAPHORICAL MESSAGE

- A loser is someone (individual or group) who cannot build snowmobiles when facing uncertainty and unpredictable change;
- whereas
- A winner is someone (individual or group) who can build snowmobiles, and employ them in appropriate fashion, when facing uncertainty and unpredictable change.

For: andy

Printed on: Mon, Aug 24, 1992 11:24:03

Document: abstract.new

Last saved on: Mon, Aug 3, 1992 08:26:59

For: andy

Printed on: Mon, Aug 17, 1992 11:25:06

Document: concept.new

Last saved on: Mon, Aug 10, 1992 10:38:14