

Part IV

Technical Intelligence—Clarity

Open Everything, Global-to-Local Needs Table

Part IV consists of seven chapters addressing the practical technical aspects of creating a World Brain that can create accurate timely intelligence (decision-support) in every clime and place generally without new fixed cost, in other words, leveraging the distributed capabilities of nations, corporations, non-profit organizations, and individuals as they exist.

The heart of this approach is “Open Everything” beginning with Information and Communication Technologies (ICT) but expanding rapidly to embrace other open concepts and practices that create wealth for all while reducing waste as well as violence as scarcity is eliminated.

Chapter 22. Technical Intelligence Enablers. The success of the Free/Open Source Software (F/OSS) movement must be radically extended across all boundaries so as to permit no-cost to low-cost multinational information-sharing and sense-making. This will enable the harnessing of the distributed intelligence of all citizens, “Intelligence Minutemen,” in the production of free, ethical Open Source Intelligence (OSINT) that makes possible M4IS2 (Multinational, Multiagency, Multidisciplinary, Multidomain Information-Sharing and Sense-Making). Open Spectrum completes the foundation—we must abandon assigned frequencies and move to smart devices that can share spectrum and consequently increase bandwidth and diversity of use, a necessity if we are to “connect” and assimilate the five billion poor.

Chapter 23. Participatory Budget Transparency & Panarchic Outreach.

Brazil has led the way with both Participatory Budgeting and the Pedagogy of Freedom. Leveraging the digital freedom enabled by F/OSS, OSINT, and Open Spectrum, we must move to the next level in which all stakeholders have full voice in all decisions affecting them, and simultaneously can be active members of multiple networks without sacrificing loyalty or integrity.

Chapter 24. Earth Intelligence Network Concepts & Possibilities. The concepts and possibilities of the Earth Intelligence Network are briefly presented, including the World Brain Institute, the Center(s) for Public Intelligence, and the Global Game in which every person has the right to play themselves in relation to everyone else and real-world real-time information.

Chapter 25. “True Costs,” Ecological Economics, and Moral Capitalism.

Pioneers in this area, and their publications, are briefly presented to support the conclusion that environmental intelligence—public knowledge of the “true costs” of any product or service—is vastly more important to achieving a sustainable prosperous world at peace, than government regulation. The morality of capitalism can be restored as the business world discovers that the only sustainable business is the one that is both moral and green.

Chapter 26. Conscious Non-Zero Evolution & Global to Local Needs Tables.

The world is finally rediscovering the wisdom of our ancestors, and realizing that humans are inherently empathetic and good, and that the height of evolutionary consciousness is the achievement of “non-zero” evolution in which everyone wins, no one loses. The practical means of arriving at this condition is the Global to Local Needs Table.

Chapter 27. Open Everything. The “Open” meme can be applied to many things including money. This chapter explores some of the possibilities.

Chapter 28. Conclusions and Recommendations. I conclude that there is nothing standing in our way except ourselves.

Chapter 22

Technical Intelligence Enablers

This is not a chapter that seeks to specify technical solutions, or even technical standards, only the over-arching environment—the only technical environment that in my judgment is infinitely scalable, adaptable, resilient, and affordable—the Open Environment.

This is not to say that commercial software, both legacy and emergent, does not have a place, only that commercial software will never scale to be free for the five billion poor, nor transparent for all to understand, and there are problems with both commercial offerings and government acquisitions.

These four problems persist:

1. Commercial mis-representation, fraud, and failure to deliver
2. Commercial mis-directions of contracts through undue influence
3. Government ignorance so profound as to be beyond belief
4. Government mismanagement (which is to say, no management)

I have followed with interest the sporadic efforts of the Office of Management and Budget (OMB) as well as the General Services Administration (GSA) and various other entities such as the Joint Forces Command (JFCOM), the Defense Advanced Research Projects Agency (DARPA) and its secret intelligence counterpart, and I have to be blunt: they are all so fragmented, so lacking in strategic coherence, and so unable to achieve consensus and then results that they might as well not exist. The top-down search for “common solutions” is

not working and will probably never work for the simple reason that top-down “command & control” cannot keep pace with the rate of change in society.

In the USA today cyber-security is dead in the water because the US Government ignored my 1994 appeal, in partnership with several well-informed others, to both [embrace the Hackers on Planet Earth](#) (HOPE) and others with self-taught genius; and invest [\\$1 billion a year](#) [roughly comparable to \$12 billion a year today, but back then we would have gotten ten times the value for our investment] in creating open standards and open software that would not be constantly displaying the infamous “blue screen of death,” the poster child for second-rate software with first-rate marketing.

More recently, in an Op-Ed in *Homeland Security Today*, entitled [America’s Cyber-Scam](#), I contrasted the \$12 billion per year we are about to spend on vaporware, with the 63 people actually qualified to work deep code issues in the USA.

Along with the extraordinary efforts of Diane Webb and Andy Shepard, I was one of the three people in the 1980’s that got down to the specifics of what we need in a generic analytic workstation. The three references that bear on this, and also apply to collectors of information and to end-users of a mix of information on demand and intelligence on demand, are these:

1. [1988 Generic Intelligence Center Production Requirements](#)
2. [1989 CATALYST: Computer-Aided Tools for the Analysis of Science & Technology](#)
3. [1989 Committee on The Analyst and Technology 2000 Functional and Associated Technological Requirements for the Intelligence Analyst’s Workplace to Optimize Data Processing](#)

It is important to note that CATALYST was actually conceived in 1985 by Diane Webb with Dennis McCormick under the leadership of Gordon Oehler, then

directing the Office of Scientific and Weapons Research (OSWR) at CIA; and that the generic needs were determined through a 70-person functional requirements analysis in 1986 across all CIA Directorates, all mission areas, done by the Office of Information Technology (OIT), Project GEORGE (Smiley).

There was also a [Marine Corps Intelligence Center \(MCIC\) proposal to the Joint National Intelligence Development Staff \(JNIDS\)](#) that we learned over a year later we had won, but our win was overturned by as Admiral who insisted against all established inter-agency agreements, on an anti-submarine project.

Below is an illustration of the analytic toolkit defined in 1986 by Diane Web, the best available depiction of general consensus, and still not available today.

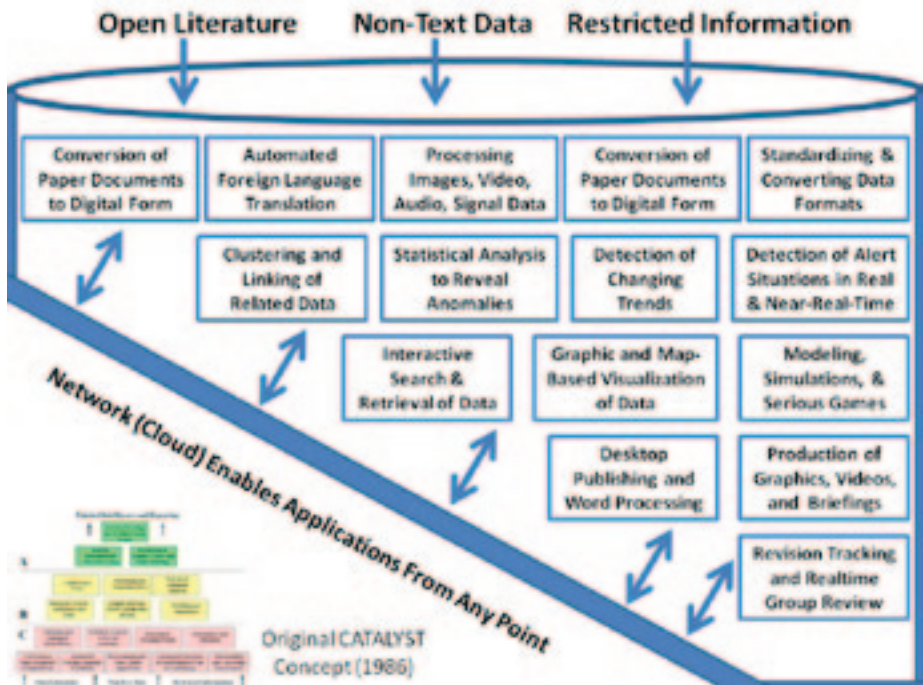


Figure 55. Needed F/OSS Functionalities

We still do not have these capabilities clearly and explicitly identified in 1989 for one simple reason: a lack of integrated management within government on the one hand, and a lack of broad societal dialog on the importance of achieving an Open Society with Open Everything.

As a founding member of the IC-wide Advanced Information Processing and Analysis Steering Group (AIPASG) I recollect that we found no fewer than twenty different “all source fusion” workstation projects, each spending roughly \$10 million a year, each on a separate contract between a separate element of an agency (within agencies multiple competing contracts existed) and a single “special partner” in the private sector. Extend that finding across all the less wasteful nations and all the corporations and non-governmental organizations that have similar needs, and the opportunity cost is staggering.

With that as a preamble, I conclude there are three essential legs for achieving a World Brain—the harnessing of the distributed intelligence of all humans all the time for the shared benefit of humanity—that can provide human intelligence for Earth:

1. Free/Open Source Software (F/OSS)
2. Open Source Intelligence (OSINT)
3. Open Spectrum

Free/Open Source Software (F/OSS)

“Free” does not mean free of cost, but rather is about free (open) access to source code that permits anyone to study, change or improve the code. LINUX is F/OSS, and a global grid of volunteer experts that have over time learned to trust each other validates changes to the code in a manner that would shame any large corporation.

HOWEVER, “free” also comes into play in governments are increasingly realizing that government information funded by the taxpayers should be made available to the public without requiring that they buy proprietary (and costly) software. A global movement to use [Ubuntu Linux](#) is growing, Ubuntu is an operating system built by a worldwide team of expert developers and containing all the standard applications: a web browser, office suite, media apps, instant messaging and much more.

F/OSS is also gaining respect as both individuals and organizations begin to see that openly-developed software is stronger than software developed by narrow teams. As the Linux developers like to say, “Put enough eyeballs on it, no bug is invisible.” Some quote this as “...all bugs are shallow.” F/OSS epitomizes the strength of “peer-to-peer” distributed development. Wikipedia is an excellent source for [additional information](#) about the history, adoption, and other aspects of F/OSS, but Wikipedia is not a complete source.

Unfortunately, F/OSS has not moved beyond the standard applications.

We are now in the second phase of mis-management, where instead of trying to create in-house solutions for the all-source fusion workstation, the US Government has bought into a wide variety of commercial offerings, generally not easily inter-operable, certainly not sharing a coherent security architecture, and always creating obstacles to information-sharing across all boundaries.

The [National Counterterrorism Center](#) (NCTC) is known to have close to 80 different databases, and the analysts there—despite its being America’s highest priority—not only do not have the suite of tools defined in 1989, but they are still “fat-fingering” data from multiple databases into their rather pedestrian personal workstations.

Despite the best efforts of OMB and GSA in their search for “common solutions,” despite the best efforts of specific Chief Information Officers (CIO) such as Paul Strassmann during his tenure helping Sean O’Keefe rescue the National Aeronautics and Space Administration (NASA), the raw reality is that the US Government is not trained, equipped, nor organized to be a “smart government,”

and the commercial sector likes it that way—a fragmented ignorant marketplace is the most profitable marketplace.

Here is what the marketplace looked like in 2001 when Claudia Porter of Austin Info Systems [briefed](#) the international conference on open source solutions:

2001: Analytic Tools With a Long Way to Go



** Previously reviewed in the Fuld & Co. Software Report

Figure 56: State of the Analytic Tool Marketplace in 2001

Most of these products occupied tiny niches and did not provide for machine-speed data entry or multi-lingual data management or even multi-media and geospatial visualization. The hodge-podge that existed in 2001 still exists today,

in 2010, industry consolidation notwithstanding. Below is a list of the softwares used by the US Special Operations Command J-23 (Open Source Intelligence) Branch, shared with permission. I list them to make two points: 1) they are not integrated; and 2) they have not been displaced by newer offerings as of 2009 listed at the end of this section.

Collection

[Copernic Pro](#) (Internet search and download engine)

[Teleport Pro](#) (Internet spider)

[Convera Spider](#) (Spider — downloads all or selected parts of a website)

[Inxight StarTree](#) (Crawler (Internet web site relationship mapper))

Process

[Copernic Summarizer](#) (Summarizes individual files)

SumMIT! (Specialty summarizer embedded within Retrievalware and Semio)

[Convera Retrievalware](#) (Data indexing and free text search engine)

[Inxight ThingFinder](#) (Categorizing entity extractor to identify relationships)

Semio Taxonomy (Puts data into pre-determined taxonomies)

[Apptek Machine Translation](#)

Database ([Ibase](#) / [Ibridge](#)) ((database for analyst notebook))

[Inxight Categorizer](#) (Smart categorizer)

Analyze

[Convera Retrievalware](#) (Data indexing and free text search engine)

[Inxight ThingFinder](#) (Categorizing entity extractor to identify relationships)

Semio Taxonomy (Puts data into pre-determined taxonomies)

Visualize

[Webtas](#) (Data into a timeline with corresponding map information)

[Analyst Notebook](#) (De-facto standard product for link product development)

[Spire](#) (Visualization application with “terrain” map view of data)

[MapInfo](#) (Mapping package)

[ARCView](#) / [ArcIMS](#) (Mapping package)

Propeller (data linages (primarily communications focused))

[Intranet Brain](#) (Web site mapping)

[EnFish Onespace](#) (Indexing engine for analyst pc’s)

These capabilities are NOT integrated and most of them are not “free.”

The most successful *free* shared analytic suite of tools to date is the one created by Dr. Dr. Dave Warner (PhD, MD) for [STRONG ANGEL](#), one of the most exciting and productive initiatives of the DARPA, and specifically focused on information-sharing and sense-making across all boundaries. He calls it [The One Ounce Laptop \(TOOZL\)](#), fitting on a flash drive, free online.

Software: [Apache](#) (Open Source foundation and community); [APRS](#) (Automatic Position Reporting System); [FindU.com](#) (database archiving weather, position, telemetry, and message data); [FundU.com CGIs](#) (advanced tools); [GeoFusion](#) (3D planetary visualization); [Groove](#) (now owned by Microsoft and no longer free); [MapLab](#) (MapTools now retired, the recommend 1) [Quantum GIS](#) or 2) [MapStorer](#); [Plone](#) (Open Source Content Management); [Python](#) (Really Simple Programming Language); [Skype](#) (Free download, free calls and Internet calls); [Squid](#) (Internet Object Cache); [UNM Mapserver](#) (OpenSource Internet GIS system); [Vonage](#) (Free unlimited global calls for a monthly fee); [VSee](#) (free low-bandwidth video-teleconferencing); [ZMapServer](#) (Map Publishing Open Source Tools); [Zope](#) (Z Object Publishing Environment); [ZWiki](#) (Zope-based wiki that offers Email-integration, built-in bug tracking, and WebDAV. Extensions, documentation, and a user forum for discussion of the software).

Hardware: [DVC-80](#) (Video Capture); [SignalLink](#) (USB interface); [TigerTrack](#) (GPS Tracking); Vonage.

Sites: [Ham Radio Software](#); [Ham Radio Store](#); [Kantronics Supply](#).

This is the tip of the iceberg. As corporations and governments seek to “own” cyberspace, the public must inevitably do a repeat of Ham Radio and retake the airwaves. Infrastructure independence (e.g. [Haggle](#)) is essential if the public is to remain free of corporate and government fascism and excess.

Today, in 2010, three currents are converging but not harmonizing:

1. F/OSS is coming into its own. If corporations do not move in this direction by making their proprietary offerings F/OSS, then the public will create a F/OSS alternative. This applies not only to the software but to the content management and meta-tagging, moving away from proprietary data coding that does not lend itself to automated machine-speed fusion and sense-making.

2. Google is on the verge of a digital Blitzkrieg. Some of us have known this was coming but the various industries we have tried to warn (computing, database management, entertainment, online sales, publishing, telecommunications, to name just a few) have refused to pay heed. Google is a form of digital totalitarianism far worse than any political dictatorship for the simple reason that with Google there is not only zero privacy, but zero ownership. Google has the power to make a company, such as BMW, “disappear”—and China may not yet appreciate the implications of a Google counter-attack that dilutes China’s Internet visibility outside of China.

3. Cloud Computing is emergent, with multiple parties competing for dominance including Google, IBM, CISCO, Amazon, and earnestly enough, a bottom-up “infrastructure independent” movement seeking to make all devices independent of any carrier or infrastructure able to charge toll fees. Ham Radio was the first “hacker” environment in modern history, and we look at that more closely in the third section here, on Open Spectrum.

In this context, the various business (data mining) or commercial (pattern detection) softwares recently reviewed by Fuld & Co. ([Autonomy Inc.](#), [Brimstone](#), [Cipher](#), [ClearForest](#), [Coemergence](#), [Comintell](#), [Cymfony](#), [FirstRain Inc.](#), [Netro City](#), [Nielsen BuzzMetrics](#) (formerly Intelliseek), [QL2 Software](#), [Rocketinfo](#), [Strategy Software Inc.](#), [TEMIS](#), [Traction Software](#), and [Wincite Systems](#)) along with the 75 search engines reviewed by Stephen Arnold in [Search panacea or ploy: Can collective intelligence improve findability?](#), are more or less toast. Proprietary

systems for desktop and back office analytics are caught between Goggle [and its Brazilian, Chinese, Indian, and Russian anti-Goggles] on the one hand, and F/OSS combined with infrastructure independent capabilities that seek to avoid ownership of the digital commons. At the same time, the middle wares have many flaws and are not multi-lingual.

There are so many companies out there that seek to be single-point technology solutions there is no profit in attempting to list them. However, simply to illustrate both the existing state of the marketplace and the lack of integration among all these products and services, here are few that are not listed above that relate to Figure 55 on page 211.

INGEST Automated extraction of data (documents). [CVision](#)
 INGEST Automated extraction of data (web). [Knowlesys](#)
 INGEST Automated foreign language translation. [Language Weaver](#)
 INGEST Conversion of analog to digital. [Advanced Computer Innovations, Inc.](#)
 INGEST Image, signal, audio processing. [STAR Analytic Services](#)
 FILTER Clustering & linking of related data. [Pentaho](#)
 FILTER Detection of alert situations. [Tsunami, flood, disease](#)
 FILTER Detection of change (fraud). [Progress Software](#)
 FILTER Detection of change (geospatial). [Overwatch Geospatial](#)
 FILTER Detection of change (online data). [Copernic Tracker](#)
 FILTER Standardizing & converting data formats. [CIS](#)
 FILTER Statistical analysis to reveal anomalies. [StatSoft STATISTICA](#)
 ASSIST Graphic-based visualization of data. [Flowing Data](#)
 ASSIST Interactive search & retrieval of data (images). [SnapFind](#)
 ASSIST Interactive search & retrieval of data (text). [DeepWeb](#)
 ASSIST Map-based visualization of data. [Information Mapping GeoChat](#)
 ASSIST Modeling & simulation. [Simulation modeling, RTI International](#)
 ASSIST Serious games. [BigPictureSmallWorld](#)
 SHARE Collaborative work and analytic outreach. [Mind-Alliance](#)
 SHARE Desktop publishing and word processing. [OpenOffice](#)
 SHARE Production of graphics, videos, & briefings. [Corel DRAW](#)
 SHARE Revision tracking and real-time group review. [WikiMedia](#)

The [original three requirements documents from 1989](#) are still valid, and the US Government has failed—twenty years after the fact—to get it right, despite hundreds of billions of dollars spent by hundreds of largely “out of control” agencies and bureaus and divisions and services and commands.

F/OSS must be nurtured by public demand and wise public policy and coherent public acquisition. However, without content—and the freedom to share that content across all boundaries, we cannot build the World Brain.

Open Source Intelligence (OSINT)

This is where I have spent the past 21 years, since helping lead the creation of the Marine Corps Intelligence Center (MCIC) from 1988-1992.

Wikipedia’s page on OSINT has been completely corrupted by vendors and Central Intelligence Agency (CIA) nay-sayers who have explicitly removed from the page all of the references to the actual pioneers of modern OSINT, thereby demonstrating their complete lack of integrity. Jimmy Wales was told about this and chose not to restore the integrity of the page.

[Phi Beta Iota, the Public Intelligence Blog](#), is the front end for the 30,000 pages of original OSINT source material from over 750 world-class speakers at over 20 international conferences that is in permanent digital storage at [OSS.Net](#).

Open Source Intelligence (OSINT) as a term applies to both the discipline that focuses on collecting, processing, and exploiting sources that are open (legally and ethically available) and the specific outcome of that process, which renders decision-support to a specific decision-maker or decision-making body with respect to a specific decision that must be made, such as “What should the mandate be for this peacekeeping force?”

The following definition comes from [WordIQ.com](#): **Open source intelligence** or “OSINT” refers to an [intelligence discipline](#) based on information collected from open sources, i.e. information available to the general public. This includes [newspapers](#), the [internet](#), [books](#), [phone books](#), [scientific journals](#), [radio](#) broadcasts, [television](#), and others. Gray Literature is the term used for

legally and openly available materials not easily known to exist outside of local or narrow networks. It *also* includes every bit of human knowledge that can be elicited in face-to-face interaction or in ICT-assisted interaction—every bit of oral history, cultural understanding, every bit of subject-matter expertise, and direct observations at any given point in time or space (see Chapter 19).

Collection of information in OSINT is a very different problem from collection in other intelligence disciplines because, by definition, the information sources are publicly available. In other intelligence disciplines, a major difficulty is extracting information from non-cooperative targets. In OSINT, the chief difficulty is identifying relevant, reliable sources from the vast abundance of publicly available information. Obtaining the needed information once a source is identified is a comparatively minor problem. Below is a single schematic of how I see the relevance of OSINT to both all functional mission areas and to each of the classified disciplines.

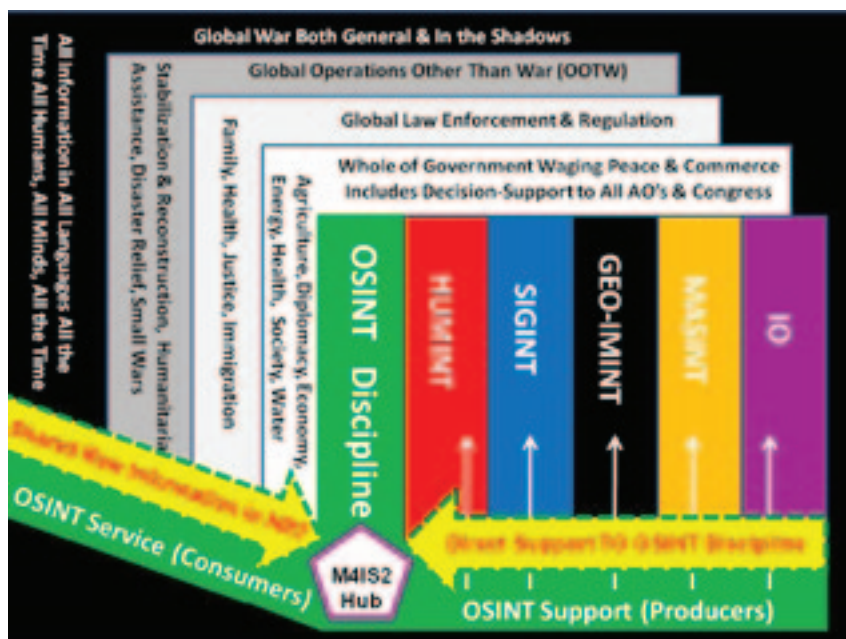


Figure 57. OSINT as a Hybrid Discipline Relevant to ALL Mission Areas

OSINT is deeply relevant to every aspect of the Intelligence Cycle, and this is one reason why I have been very concerned to see two different erroneous treatments of OSINT. The first treats OSINT as a sub-set of each classified discipline, such that all OSINT is classified secret on receipt and not shared. The second treats OSINT as an [analytic outreach function](#) in isolation from all other stakeholders, with similar consequences. Without its own coherent program, OSINT will not provide the “common view of reality” that is essential for both Whole of Government and Multinational Engagement operations.

In Figure 57, OSINT plays its strongest role in front (Whole of Government Waging Peace & Commerce), and lesser but still vital roles in relation to Law Enforcement, Stabilization & Reconstruction, and General War.

The core references on OSINT are easily accessible online, and include the latest published chapters on [Open Source Intelligence \(Strategic\)](#), [Open Source Intelligence \(Operational\)](#), the [DoD OSINT Leadership and Staff Briefings](#), and three compilations of references, [The Future of OSINT \[is M4IS2-Multinational\]](#) and [1988-2009 OSINT-M4IS2 TECHINT Chronology](#).

Within the US Government, should it choose to fulfill its potential as a leader for global OSINT and M4IS2 an essential first task is to inventory both requirements and capabilities, and then agree on a coherent OSINT/M4IS2 strategy and program for the Republic (all eight tribes of intelligence); for each regional union of nations and organizations, and for the world as a whole.

Open Spectrum

We are—we must—return to the era of ham radio and stop the fencing in of spectrum. America’s top commentator on this topic is [David Weinberger](#), whose seminal work, [Why open spectrum matters: the end of the broadcast nation](#) is complemented by [Jock Gill](#)’s 2004 presentation, [Open Wireless Spectrum and Democracy](#) that very adroitly hits the high points:

- Open Spectrum maximizes connectivity and participation

- We must not fence the cyber-commons or favor incumbents and old science—new science makes licensing an inhibitor
- If we demand and enjoy Open Spectrum, this will stimulate creatively, innovation, entrepreneurship, and open new paths to creating wealth.

I agree with David Weinberger and Jock Gill. Open Spectrum is the third leg.

There is one negative associated with spectrum that I hope Open Everything will help to address.

For decades the US military and US corporations responsible for creating capabilities that use assigned spectrums have been both lazy about creating best in class capabilities that optimize spectrum use without collateral damage, and deliberately misrepresentative to the public of the safety of all of these devices.

Cellular telephones and cellular telephone towers are the latest in a series of ubiquitous channels for spectrum and electromagnetic pulses that we as a public are only now, in 2010, beginning to realize as a public come with severe hazards including brain tumors.

In broader terms, our military in Afghanistan is finding that on the one hand anyone can download the drone images and signals because no one bothered to protect those channels over the years; and on the other, that the drones and other operations are creating so many conflicting electromagnetic emissions that we are jamming ourselves.

Open Spectrum, as beneficial as it will be for the public, demands a great deal more study, and this is something that OSINT—public intelligence in the public interest, can provide.

Chapter 23

Participatory Budget Transparency & Panarchic Outreach

[The Porto Alegre Alternative—Direct Democracy in Action](#) and [Participatory Budgeting \(Public Sector Governance\)](#) are two extraordinary books about an extraordinary public initiative that the government of Brazil may yet revive.

Here is the best available [online overview](#) of Participatory Budgeting:

What is Participatory Budgeting?

Participatory Budgeting (PB) is a mechanism of public bodies which allows citizens to directly make decisions on a public budget. There is much debate around a clear and concise definition of PB which encompasses all that PB offers without being too prescriptive. The debate isn't resolved yet, however here are some options. Our definition is:

Participatory budgeting directly involves local people in making decisions on the spending and priorities for a defined public budget. PB processes can be defined by geographical area (whether that's neighbourhood or larger) or by theme. This means engaging residents and community groups representative of all parts of the community to discuss and vote on spending priorities, make spending proposals, and vote on them, as well giving local people a role in the scrutiny and monitoring of the process and results to inform subsequent PB decisions on an annual or repeatable basis.

Wikipedia has defined PB like this:

Participatory budgeting is a process of democratic deliberation and decision-making, in which ordinary city residents decide how to allocate part of a municipal or public budget. Participatory budgeting is usually characterized by several basic design features: identification of spending priorities by community members, election of budget delegates to represent different communities, facilitation and technical assistance by public employees, local and higher level assemblies to deliberate and vote on spending priorities, and the implementation of local direct-impact community projects. Various studies have suggested that participatory budgeting results in more equitable public spending, higher quality of life, increased satisfaction of basic needs, greater government transparency and accountability, increased levels of public participation (especially by marginalized residents), and democratic and citizenship learning.

The World Bank says this about PB:

Participatory budgeting represents a direct-democracy approach to budgeting. It offers citizens at large an opportunity to learn about government operations and to deliberate, debate, and influence the allocation of public resources. It is a tool for educating, engaging, and empowering citizens and strengthening demand for good governance.

The department for international development describes PB as:

Participatory budgeting is an approach through which an entire community, or particular elements of a community, can participate in the budget process. The level of participation can range from the consultative to the design and execution of budgets.

Where did participatory budgeting originate?

Participatory budgeting has been most frequently identified as developing in the Brazilian City of Porto Alegre in the early 1980's. Porto Alegre has received much international praise for the way it has used PB to improve its administration of the city, and it has been the centre of much research into citizen engagement around public spending. PB was also developed in other Latin American cities at around the same time, and has spread to many other cities. As it has moved from city to city PB has always been adapted to the local situation, and so there is no one pure model of PB. Many other parts of the world have also been recognised as innovators in citizen participation. Developing, from different starting positions, similar experiences and principles of PB as those used in Porto Alegre. For example in India local people have been trained to read and question public budgets, and this has enabled citizens to have greater influence over public spending. In the 1980's New Zealand developed models of city administration that some have describe as forms of participatory budgeting.

Which countries are using participatory budgeting now?

From its early development in Brazil PB has been adopted worldwide. Across the globe, from Fiji to Canada, and from Finland to South Africa there have been many local government programmes that have acknowledged the influence of Porto Alegre in the way they are now engaging with citizens. Estimates vary but there are probably well over 500 different experiences worldwide, operating on every continent. Most frequently reported are those in Latin America such as Porto Alegre, but PB is being promoted by international bodies such as the World Bank, the UK Department for International Development and the Asian Development Bank in countries as diverse as Turkey, Spain, Pakistan, Poland, the United States and now also in the UK.

What are the benefits of participatory budgeting?

Each model of PB is different and will have different effects but there are three main ways that PB is regarded as offering benefits.

- ***It can improve the democratic process, widening participation and re-invigorating the role of local authorities, local councilors and civil society, and increasing trust in public institutions.***
- ***It can improve the effectiveness of public spending by improving the way money is invested, how service provision is monitored, and by increasing the knowledge available to the local authority and public bodies when undertaking service planning.***
- ***Finally it strengthens the community and voluntary sector by investing in services essential to poorer communities, so enabling their development, by increasing the number of people taking part in local democratic processes, and it builds social capital by creating forums for local groups to meet, negotiate and take decisions together.***

Participatory budgeting is completely different from consultative budgeting, and should eventually be joined by participatory planning.

The critical difference is that participatory budgeting is transparent, bottom-up, and inclusive while consultative budgeting is top-down, selective, and subject to “behind closed doors” override.

Participative budgeting harnesses the distributed intelligence of the collective, and the aggregate grasp of nuance and detail that is the essential foundation for adapting to complexity—for resilience in the face of constant change.

Here we focus on the possibilities that emerge when the diversity of human minds can be brought to bear with clarity and integrity. In one word: sustainability. There are several “threads” that can be presented here, each deeply rooted in a broad emergent literature and real-life example of success: collective intelligence; wealth of knowledge, and panarchy. In my view panarchy is the opposite of anarchy in that it means the ability to be an effective member of multiple groups without disloyalty—with full integrity.

The figure below was inspired by the Epoch B concept attributed to [Jonas Salk](#) and furthered by [Kirkpatrick Sale](#).

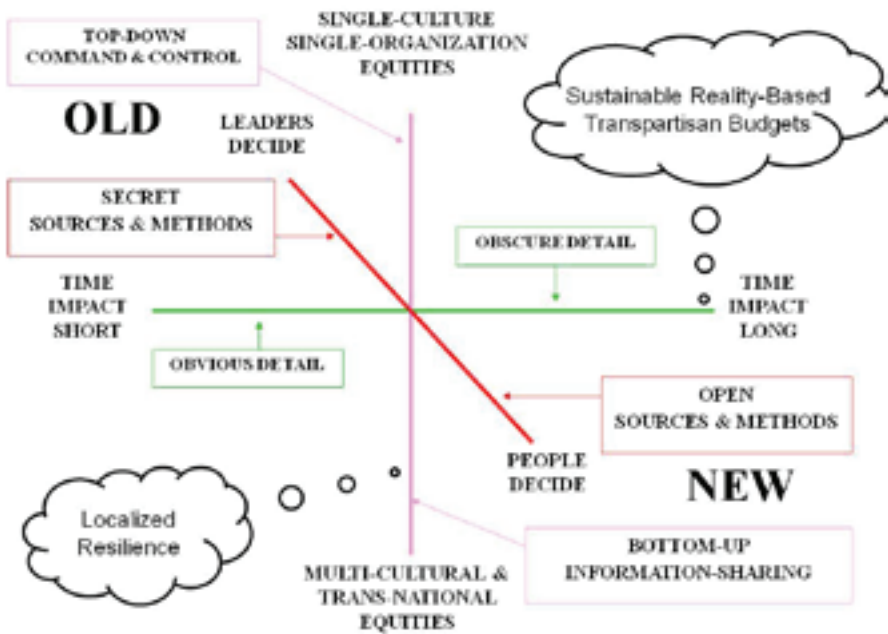


Figure 58: Infinite Possibilities in Bottom-Up Consensus

The reason this book is subtitled *Clarity, Diversity, Integrity, & Sustainability* is because the new paradigm sets aside “rule by secrecy” as well as “command & control,” substituting instead the kind of clarity that can only come from transparency, a clarity that in appreciating diversity and in honoring integrity, allows not just for the development of sustainable decisions on one issue, but on all issues at all levels (neighborhood to global).

Panarchy, in other words, makes it possible for citizens to self-govern across all issues at all levels without being disloyal to any one community.

Collective Intelligence is the subject of a book, [*COLLECTIVE INTELLIGENCE: Creating a Prosperous World at Peace*](#) (EIN, 2008) from which the following by [Tom Atlee](#), one of the 55 contributing authors, is drawn, in [People’s Preface](#):

Human systems in which we can observe and nurture collective intelligence:

- INDIVIDUAL collective intelligence (collective intelligence among our own internal subjective parts and voices)
- INTERPERSONAL or RELATIONAL collective intelligence
- GROUP collective intelligence
- ACTIVITY collective intelligence
- ORGANIZATIONAL collective intelligence
- NETWORK collective intelligence
- NEIGHBORHOOD collective intelligence
- COMMUNITY collective intelligence
- CITY collective intelligence
- COUNTY/SHIRE collective intelligence
- STATE/PROVINCE collective intelligence
- REGIONAL collective intelligence
- NATIONAL / WHOLE SOCIETY collective intelligence
- INTERNATIONAL GROUP/NETWORK/ORGANIZATION collective intelligence
- GLOBAL HUMANITY collective intelligence

Tom goes on to provide a paragraph of description for each of the following forms of Collective Intelligence:

- REFLECTIVE (dialogic) CI
- STRUCTURAL (systemic) CI
- EVOLUTIONARY (learning-based) CI
- INFORMATIONAL (communication-based) CI
- NOETIC (spiritual or consciousness-based) CI
- FLOW (mutual attunement-based) CI
- STATISTICAL (crowd-oriented) CI
- RELEVATIONAL (emergence-based) CI

The problem or the challenge facing both policy-making generally and participatory budgeting specifically is that most policy discussions tend to be too general to be real. Platitudes, general objectives, not grounded in reality, and not really helpful in focusing on where different stakeholders really have points of agreement and points of disagreement—that needs to be addressed.

“It isn’t policy until it is in the budget.” This was taught to me by Mr. Don Gessaman, the top civil servant at OMB responsible for all national security money from the Reagan era to the late 1990’s.

The purpose of this book is to take us all away from simulations and false assumptions, and put every human in touch with all information such that panarchy is possible at every level on every issue.

Real-world budgets (easy to capture), combined with public intelligence about every issue (less easy but rapidly emergent), can and should inspire policy discussions about specifics, serve as a magnet for attracting real-world expertise from the citizen ranks (including top authorities from academia, business, media, etcetera), and (very important) when discussed or visualized online, can highlight the *specific* points of agreement and differences between constituencies for each of the *discretionary* elements of the budget.

In brief, citizens should never again take a back seat to, or be fooled by, corporations or governments. By being virtually present at all public meetings (see conference function), by applying the proven methods of intelligence (requirements definition, collection management, source discovery and validation, multi-source fusion, compelling presentation) to legal and ethical *open* sources and methods, we can create a Public Intelligence Network (PIN) that “breaks the code” and breaks the back of the special interests. Armed with intelligence, linked by the Internet, able to spend very modest sums of money as individuals who in the aggregate represent true democratic power, over time we get to the point where no policy-maker dares to ignore the open power of the people. Below is an illustration of how this could be implemented.

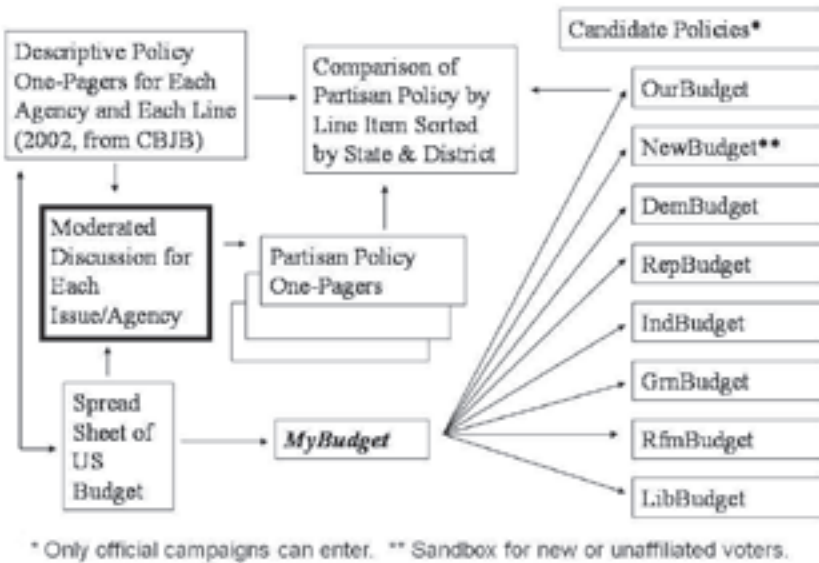


Figure 59: Concept for Broad Online Participatory Budgeting

Below are the functional requirements for implementation of this system. Our concept extends to the five billion poor who should be able to vote on publicly promulgated options using text messages.

#	Title	Description
01	Registration	Establishes name, party affiliation, zip code, age, income range, and race. Only data from real names is integrated into aggregate budgets. Party and zip code are used to establish aggregate budgets by party and state. Age, income range, and race are used to establish aggregate sub-sets. NOTE: we have anticipated both foreigners and “false flag” registrations (e.g. Republican extremists seeking to skew the numbers). Registration should provide incentives to foreigners to declare their nationality and “tell us what you think” while also informing them that the software is available as freeware for adaptation to their own budget and their own community. We should consider how to authenticate participants by IP address against zip code and the known demography of the zip code. Amazon has means of detecting anomalous trends and we should think about having something equivalent.
02	Core Budget	The core budget is “hard-wired” as the baseline for all other budget calculations. A second hard-wired budget converts all numbers into percentages of the total budget. In all budgets at all times, the mandatory line items will be “fixed” and not adjustable by the user. Only the discretionary line items, perhaps light green in background, will permit adjustment.
03	MyBudget	New registrants are asked to specify their interest—they can either work with the entire budget or one segment at a time. Whatever they choose, they may save it and return to other segments of the budget later. Segments they choose not to work with remain unchanged within their new budget. Within MyBudget, they can raise or

		lower percentages for any discretionary item. Ideally, the budget should remain “balanced” in that if they raise one item, they must find a corresponding decrease for another item. They should be allowed to save unbalanced budgets, but encouraged to balance.
04	Policy Baseline	From any agency title line or from any line item within the discretionary budgets of the 30 agencies having discretionary funds, the user can see a one-page policy paper (need upload management privileges for person entering policy papers). This is their educational baseline, a description of what the past year money actually paid for. Any page can be printed, and all of the one-pagers should also be available in a Policy Directory from which anyone can jump to the aggregate budgets, discussion groups, or their own MyBudget section.
05	Discussion Group	From any agency title line or from any line item within the discretionary budgets of the 30 agencies having discretionary funds, the user can jump to the related discussion group, carrying their identifying information with them (all discussants appear as name party state.
06	Aggregate Budgets	Once a user has completed and saved a section of MyBudget, it should be automatically aggregated into the corresponding party, state, and sub-set budgets, which should at all times show the number of original budgets. Aggregate budgets should be visible in two ways: as multi-year budgets for a single party, or as side by side columns for a single selected year, with all parties showing on a single budget for that year.
07	Focus on Priorities	Both within MyBudget and within any party budget and within any side by side budget the user should have the option of sorting all discretionary line items and mandatory line items

PARTICIPATORY BUDGET TRANSPARENCY & PANARCHIC OUTREACH

08	Focus on Differences	Ideal would be some means of color coding differences among the parties by line item. In a single line item, for example, differences that are more than 30% from the average have a red background, 20-29% an orange background, 10-19% a yellow background.
09	Focus on the Deficit	A separate policy paper is available on the deficit. It would be helpful to have a means of enabling users to both examine the assumptions that the various Administrations have or are using to justify its extraordinary deficit, and to see the impact on future discretionary income of reductions in the deficit.
10	Focus on Revenue	A separate policy paper will be made available on the assumptions behind revenue, and on future options for increasing revenue without increasing individual taxes. For example, \$50 billion a year in tax avoidance has been found in corporations that manipulate import and export prices to launder money (\$100 rocket engines going out, \$3000 toothbrushes coming in). There are also billions in corporate taxes that go uncollected for a wide variety of reasons, all of which can be itemized.
11	Focus on How Others See Us	This feature could be both a means of engaging foreigners while keeping them from toying with what is intended to be a US citizen only simulator, and also a means of drawing foreigners out (and in the process educating our American participants) on how they see our spending. Many foreigners, for example, are very upset with the US for exporting weapons to the Middle East through its military assistance program, while contributing less than one half of one percent to foreign economic, medical, agricultural, and educational assistance that could help stabilize many areas in Africa. If this really takes off, it could be a citizen's "United Nations Forum", but using real world budgets (eventually, national budgets compared side by side through some sort of conversation process).

12	Library	As the site matures, there should be a free “Add A Link” and free “Add a Document” capability that permits anyone to add a link or document to the library associated with each agency or line item.
13	Rolodex	A national directory should allow anyone to upload a concise 1 page bio that can be indexed, and contact information, and allow them to self-identify by level of expertise and level of interest for any and all policy lines items or at the agency level. Some form of “karma point” system might be considered, based on votes in favor of comments made in the forums, or other factors.
14	Conferences	A global calendar of hearings, conferences, stakeholder meetings, etcetera could be created in which volunteers enter any and all events coded to both the line item they apply to, and the zip code where they are occurring. Some form of voluntary matching function could allow individuals to volunteer to cover the event and provide a one-page summary with links. Eventually this could result in “global coverage” and a “virtual presence” by Deaniacs at all policy and decision-making events open to the public, at the federal, state, and local levels.
15	Weekly Intelligence	Volunteers can “adopt a line item” and then do weekly searches that allow them to separate the wheat from the chaff and pick out the top seven stories only, and then create a word document with story title, lead paragraph, source information, and hot link, together with an analytical paragraph about “What’s New” as the first element. This would be done at the federal level, but there is no reason why other volunteers could not do the same at the state and county levels, and citizens would select what they want to read based on line item and federal, state, or country (or all three) relevant to their zip code.

Chapter 24

Earth Intelligence Network & The Global Game

This book is an earnest attempt to place before the public—all publics of all nationalities, religions, races, and levels of education—an implementable concept for creating the [World Brain](#) so as to connect—and empower—all humans and their minds to all information in all languages all the time.

This is how we create [infinite wealth](#), [revolutionary wealth](#), the [wealth of knowledge](#), the [wealth of networks](#). Human ingenuity is the one inexhaustible and infinitely variable resource we have on Earth, and I earnestly believe that a human transformation—a restoration of Humanity as our indigenous forbearers understood it, is both the only way to save Humanity and perhaps also one day to contribute to a larger Cosmos.

Humans are arrogant and ill-informed when they equate the demise of humanity with the demise of Earth. Earth is resilient. Humanity, unless it transforms, is *not* resilient.

What follows in this chapter is the original concept for [Earth Intelligence Network](#) (EIN), the 501c3 that is publishing this book and that seeks to help anyone and everyone create public intelligence in the public interest.

The goal is to harness the potential of shared information on a global scale that transcends individual nations' narrow interests or corporate special interests in favor of both local and global Whole-Earth interests. This would allow bottom-up consensus, the only consensus sustainable in time and space.

EIN is an enabling concept—a meme if you will—that nurtures the emergence of a confederation with infinite possibilities rooted in a global to local commitment to share information and share the burden and the privilege of sense-making with clarity, diversity, and integrity. Thus do we create sustainable self-governance at all levels across all domains in all languages.

EIN and this concept would not have been possible without the United Nations High-Level Panel on Threats, Challenges, and Change, and their [report](#) that prioritized the ten high-level threats to humanity as discussed in Chapter 1.

That cogent sensible list in turn made possible the selection of twelve “core” policies as discussed in Chapter 8.

As this chapter is written, a popular article is circulating in Washington, D.C. entitled [The Contested Commons](#). Such a title is representative of an imperialist mind-set, and sadly out of touch with reality—in contrast, EIN seeks to help humanity as a whole with three long-term objectives:

1. Expanding the Commons. To facilitate information-sharing treaties and agreements as well as open standards among trans-governmental, governmental, and private sector information producers and consumers, such that all information in all languages can be easily accessed and exploited by every person everywhere using open source software or a cell phone connection to a live on-demand volunteer teacher.

2. Saving the Commons. To create compelling decision-support on costs versus benefits of early and precise investments aimed at eradicating the ten high-level threats to humanity through harmonized funding of the twelve policy action areas and—as quickly as possible—the creation of a Global Game that presents compelling actionable investment strategies to the eight major demographic players whose policies today will determine the future of the Earth and Humanity. This will be a service of common concern to Foundations, International Organizations, and Non-Governmental Organizations as well as Corporations and Governments.

3. Sharing the Commons. To harness over 100 million volunteers who speak one of the 183 languages still important, and have access to the Internet, organized so as to be able to educate the five billion poor “one cell phone call at a time” on any topic from stopping a plant disease to fixing a tractor to healing with natural or alternative cures.

In Chapter 8 I also illustrated and briefly discussed our concept for using information to harmonize investments, something I have called “information peacekeeping.”

Our intent is to enable a global voluntary “grid” to leverage shared information and multi-cultural sense-making so as to harmonize up to five trillion dollars a year in spending by the following four communities:

1. Foundation Investment. One trillion dollars a year is directed toward alleviating poverty, eradicating disease, ameliorating environmental degradation, and so on down the list of the high-level threats. By enabling consensus on prioritized investment packages, decision-support can accelerate and increase the impact of targeted donations.

2. Corporate Investment. The pioneering work of Herman Daly, Paul Hawkin and others has finally yielded deep corporate interest in Natural Capitalism and Ecological Economics. By creating decision-support specific to individual corporations and their global presence, we hope to accelerate the “green to gold” trend, while also providing “true cost” information (water content, fuel content, unfair labor content, tax avoidance) to the consumer at the point of sale via cell phone.

3. Government Investment. National, state, and local budgets are becoming more transparent and also available online prior to legislative passage, by using the Global Game with embedded budgets to show trade-offs and consequences, over time we hope to inspire public demands for less spending on war, more on peace. We spend \$1.3 trillion a year on war now, when redirection of one third of that amount could easily fund both infinite wealth and a sustainable peace.

4. Individual Investment. This could well be much greater than the other three forms of investment combined, in part because roughly 80% of the one billion rich do not give to charities and do not trust charities because of negative reputations having to do with excessive overheads and limited success in both deliverables and outcomes. In Chapter 26 I discuss the means by which we connect the one billion rich with the five billion poor.



Figure 60: Public Intelligence & Budget Harmonization

In East Timor, for example, a stretch of waterfront property of considerable size could be donated by the government and people in return for harmonized commitments along the following lines, with the village governments specifically assuring peace and stability and the safety of all tourists:

- AUSTRALIA: timber hauling trucks
- CHINA: road construction
- FRANCE: airport construction
- GREECE: new shipping pier, one ship
- INDIA: local call center
- INDONESIA: open access
- KOREA: free Internet
- MALAYSIA: teachers
- NORWAY: free cell phones
- USA: timber processing technology
- VIET-NAM: hotel development

There is a fifth form of investment, the **negative criminal investment** that today comprises \$2 trillion a year, of which fully one half, \$1 trillion a year, is in the form of bribes to government officials.

I do not include white collar crime, revolving doors and post-retirement *quid pro quos* in this figure, but the reality is that if all forms of corporate-government fraud, waste, and abuse were calculated, it would equal half the total legal economy of \$9 trillion a year—in the USA for example, it is now documented that half of every dollar spent on health is pure waste.

I believe that the profit can be taken out of crime in three ways: by providing tens of millions of volunteers with an easy means of anonymously sharing information about criminal activities they observe; by providing the poor with on-demand education that allows them to increase their legally-derived revenue; and by creating truly transparent “true cost” budgets on everything.

Obstacles

The primary obstacles to our goal are:

- Lack of open standards in the digital world
- Lack of western fluency in 183 languages in the developed world
- Amount of historical and current information in analog form
- Emphasis by nations and corporations on secret or proprietary sources
- Concerns over privacy and security when information is shared indiscriminately

Enablers

Fortunately, there are also multiple enablers supportive of our goal:

- Massive amounts of substantive information in all languages is readily available, and especially so from within the many elements of the United Nations and the varied Non-Governmental Organizations (NGO), educational institutions, and centers for public advocacy.
- A Global Game can be built for no more than \$2 million a year that will scale very rapidly and ultimately allow every person to play themselves at every level with all needed information.
- Public intelligence based on open sources of information in all mediums, all languages, now makes it possible for decision-support to be provided to any person on any issue at relatively low cost, if not free.
- Transparency of budgets at all levels is accelerating, and this finally will allow all concerned citizens to judge budgetary trade-offs from an informed perspective, while using the Global Game and public participatory budgeting and deliberative open dialog to evaluate trade-offs.

- Open source software and free Voice Over the Internet is now available, allowing tens of millions fluent in various languages, many of them in impoverished straits, to earn micro-cash for micro-translation, or for teaching “one answer at a time.”
- Individual routers that allow individual owners of information to control who can access their information and how it is shared, are coming on the market at the same time that Data at Rest encryption is becoming both routine and robust, generally free of charge.
- Finally, infrastructure-independent capabilities are coming into being, such as Huggle, possibly eliminating the threat of corporate toll-booths in cyberspace.

Our Strategy

Our larger strategy, for creating a prosperous world at peace, is discussed at length in the book, [*COLLECTIVE INTELLIGENCE: Creating a Prosperous World at Peace*](#), and briefly in Chapter 1.

On a day to day basis, we will adapt the proven process of decision-support to open source information in all languages. That process consists of the following elements:

- Requirements Definition
- Collection Management (Know Who Knows)
- Source Discovery & Validation
- Multi-Source Integration and Evaluation
- Human Analysis (Historically & Culturally Grounded)
- Compelling Presentation
- Timely Helpful Dissemination

I call this Information Arbitrage—the conversion of information into intelligence and intelligence into wealth for all—and Information Peacekeeping—the use of shared information and free education “by the call” to create stabilizing wealth at the Bottom of the Pyramid, while nurturing a permanent peace for all. Chapters 17 and 18 discussed the New Craft of Intelligence in detail.

One Man, One Cell Phone, One Game, One World

With the cell phone, there is NO degree of separation. It's the wireless version of "hard wired." Ohm's law reminds us that a "perfect amplification circuit" is "straight wire, with gain" and no resistors in the circuit. According to Ohm's law, as voltage increases, resistance drops. Ultimate voltage equals zero resistance.

In [Auric](#) terms, and as we are human beings infused with electro-magnetism ourselves, this is denoted as a white, clear or golden aura, which is exactly what you see depicted in every religion's pictures of "holy ones", the "ones" with the "straightest wire" and least "resistance" to "the ultimate voltage". The halo is never colored, always clear and bright.

Our concept of "one man, one cell phone, one game, one world" has scientific underpinning, and will amplify the aura of the world. If we add universal translation, and social networking without borders, we get closer to heaven on earth, or at least "straight wire(less) with GAIN".

Global Game—the Most Serious of Serious Games

Inspired by Medard Gabel, one of the co-founders of EIN, we advocate the creation of a generic Global Game as a foundation for all serious games to follow. The following words were provided to me by Medard Gabel, they apply equally to his concept of an EarthGame™ and to our non-competitive identical concept of a Global Game.

The Global Game would be an online global problem-solving tool accessible to anyone in the world with Internet access where sustainable and affordable solutions to real world problems are envisioned, developed, costed out in all respects, and tested so they can be implemented as soon as possible.

It would be an online tool and game that provides "ordinary" people the opportunity and challenge of addressing real world problems in a way that builds knowledge, competency, and options for real world implementation.

It would be an experiential, interactive, and fun way of learning about the world, its resources, problems, and options that builds global capacity and alternatives

for sustainable prosperity, connecting real people with real-world “true cost” information in near-real time across any issue at all levels.

Adopting the Vision of Buckminster Fuller

To make the world work for 100% of humanity, in the shortest possible time, with present day resources and technology, through spontaneous cooperation, without ecological harm or the disadvantage of anyone.

—Buckminster Fuller

The world needs to see itself, across threats, opportunities, policies, and budgets, at all levels. It is especially vital, as [Robert Ackoff](#) has stressed, to see the Whole and all of the parts and to not focus on any one part to the detriment of other parts—what is good for one may not be good for the Whole—that is why holistic analysis and decision-making is necessary.

As a planetary species, humanity needs a tool for seeing the whole, for connecting the dots, seeing patterns and large scale trends, and most importantly, recognizing, defining and solving its most pressing problems in a global context. Nearly all of the world’s most critical problems are global in scope and have been made increasingly dangerous by a piecemeal local approach that ignores interconnections and its resultant synergy.

The Global Game would be a tool that allows humanity to see the whole world in a problem-solving context will generate insight and solutions to problems that heretofore have seemed unsolvable.

Drawing on existing knowledge bases including the Millennium Project of the World Federation of UN Associations that has produced eleven annual State of the Future reports, the Global Game could serve as the decision-support tool of choice for individuals, organizations, corporations, and governments.

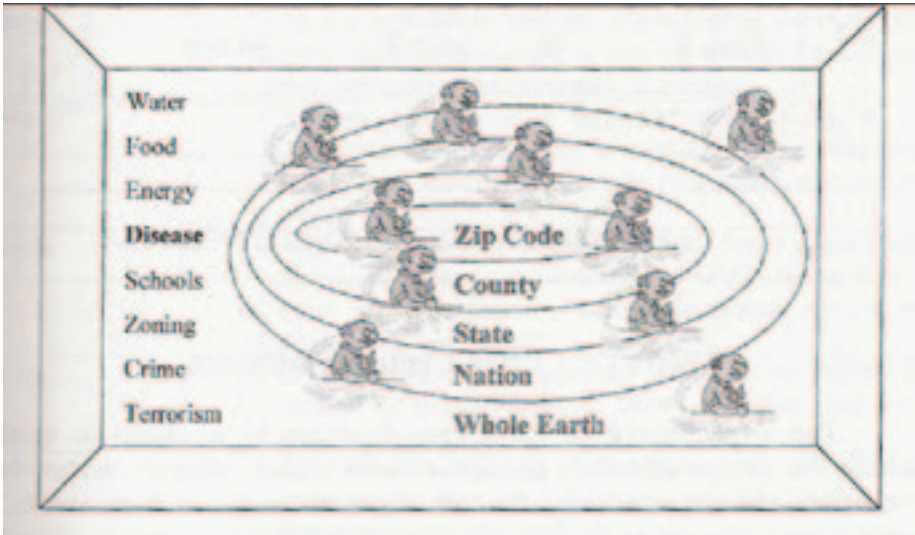


Figure 61: Citizen-Centered Self-Reorientation

Purpose

The purposes of the Global Game include:

- Aiding in the development of viable and affordable solutions to global and local problems
- Making accessible to growing numbers of people the information and information processing and visualization tools that aid in the development of solutions to global and local problems
- Increasing the amount of intelligence, creativity, imagination, and problem solving attention focused on global and local problems.

Users/Audience

The intended user community of the Global Game includes government, corporate, and NGO leaders, academics, researchers, policy analysts, the media, students from high school age up, game players, and concerned citizens. It is *not* a tool aimed at an elite few, but rather at a massive, society wide level of participation, useful to a growing variety of social networks addressing innumerable challenges.

Possible Uses/Users

- Activists— issue exploration, documentation, alternatives development
- Business—product development, market assessment, testing, “from green to gold”
- Foundations—optimize investment/giving, both direct and in alliances
- Gamers—fun, recreation, competition, recognition, rewards
- Government—policy exploration, development, testing, costing of tradeoffs
- Public—for lifelong free education online, creation of informed social networks

Plant and Animal Inputs

It is now possible for sensors in soil or embedded in plants and animals to [“trigger” text messages](#) that enter status data including warning to the game.

Budget and Timing

A detailed budget is available. It boils down to \$2 million a year, placed in escrow in advance of hiring and project commencement, with three one-year cycles from zero to pilot, pilot to beta, and beta to release.

Staffing

6 Researchers/Designers

5 Coders/Designers

1 Graphic Designer

1 Administrator/COO

1 Marketer/Government and Corporate Liaison/Development

1 Designer/Executive Director

Note: Existing “serious games” cannot be integrated into one meta game—that would be akin to integrating baseball, soccer, basketball, jai ali, kickboxing, chess, skeet and 20 other sports and games into one game. One cannot mix purposes, scales, aggregate levels, rules of operation, conditions for winning, playing fields, props, etc. and expect a meaningful whole. However, you *can* create an open architecture others can expand upon.

The Global Game would be designed to be infinitely scalable as Free/Open Source Software (F/OSS).

EIN and the Global Game are intended to make possible the creation of the World Brain such that all humans and all information are “in relation” at all times regardless of the language of origin of any element of information.

Chapter 25

“True Costs,” Ecological Economics, & Moral Capitalism

Rachael Carson’s [*Silent Spring*](#), published in 1962, is widely recognized as the first modern push-back against what John Ralston Saul calls [*Voltaire’s Bastards—The Dictatorship of Reason in the West*](#). We went awry, first in being dominated by corporations, then in the selling out of the universities, and finally in the politicization of science. While Carson’s views have been validated by subsequent work such as [*The Biodiversity Crisis—Losing What Counts*](#), the purpose of this chapter is to explore the vital need for establishing the “true cost” of every product and service at every level, so as to permit what Herman Daly calls [*Ecological Economics*](#) and I and others call [*Moral Capitalism*](#).

I cannot do Herman Daly justice—he has won every prize except the Nobel Prize and I personally feel that he is overdue for that recognition. Another of his books captures the gist of his vision perfectly: [*For the Common Good—Redirecting the Economy toward Community, the Environment, and a Sustainable Future*](#). While I credit Donella and Dennis Meadows and oft-forgotten co-author Jorgen Randers with first establishing a simple formula and a simple public understanding of how the big pieces are connected, in their 1970’s book [*The Limits to Growth*](#), it was Daly who did the heavy lifting that leads us now to the non-negotiable need to establish “true cost” for every product and service as a means of enabling “360 degree” evaluation of the “net loss” or “net gain” to Earth and Humanity for each element. In my view, the literatures on Sustainable Design, [*Cradle to Cradle*](#), and [*Green to Gold*](#) concepts stem his work; he is [*Buckminster Fuller*](#)’s alter ego.

“True Costs” are a public intelligence antidote to *Rule by Secrecy*, the practice of concealing and externalizing to the public expense many of the actual near and long-term costs of creating products and services such as pollution of the earth, toxins into the body, electromagnetic emissions into the brain, and so on. Here are just a few books representative of what can be known about corporate mis-behavior that goes unchecked by government regulation:

- [*A Consumer’s Dictionary of Household, Yard and Office Chemicals: Complete Information About Harmful and Desirable Chemicals Found in Everyday Home Products, Yard Poisons, and Office Polluters*](#)
- [*Blue Frontier—Dispatches from America’s Ocean Wilderness*](#)
- [*High Tech Trash—Digital Devices, Hidden Toxics, and Human Health*](#)
- [*Made to Break—Technology and Obsolescence in America*](#)
- [*Pandora’s Poison—Chlorine, Health, and a New Environmental Strategy*](#)
- [*The Blue Death—Disease, Disaster, and the Water We Drink*](#)
- [*The Next Catastrophe—Reducing Our Vulnerabilities to Natural, Industrial, and Terrorist Disasters*](#)
- [*The Unhealthy Truth: How Our Food Is Making Us Sick – And What We Can Do About It*](#)

These are a small sample from my larger categories where many other books are available for review at [Phi Beta Iota](#), for example in [Banks, Fed, Money, & Concentrated Wealth](#) (40); [Capitalism \(Good & Bad\)](#) (130); [Complexity & Catastrophe](#) (60); and [Environment \(Problems\)](#) (60).

Separate from the direct externalization of costs to the public commons by corporations is the larger matter of corporations co-opting and corrupting all other organizations including government, universities, and even religions.

That is not the primary focus of this book for the simple reason that once empowered by full knowledge of "true costs," there is no power on Earth greater than that of the public exercising its informed free will. However, for the sake of perspective, below are a few books that address the pernicious pathological effect of corporations run amok when government fails to serve the public interest.

- [*Acts of God—The Unnatural History of Natural Disaster in America*](#)
- [*Confessions of an Economic Hit Man*](#)
- [*Dunces of Doomsday—10 Blunders That Gave Rise to Radical Islam, Terrorist Regimes, And the Threat of an American Hiroshima*](#)
- [*Killing Hope—US Military and C.I.A. Interventions Since World War II—Updated Through 2003*](#)
- [*Legacy of Ashes—The History of the CIA*](#)
- [*Overthrow—America’s Century of Regime Change from Hawaii to Iraq*](#)
- [*Shake Hands With The Devil—The Failure Of Humanity In Rwanda*](#)
- [*The Global Class War —How America’s Bipartisan Elite Lost Our Future – and What It Will Take to Win it Back*](#)
- [*The Globalization of Poverty and the New World Order*](#)
- [*The Naked Capitalist*](#)
- [*The Sorrows of Empire—Militarism, Secrecy, and the End of the Republic*](#)
- [*The True Cost of Conflict/Seven Recent Wars and Their Effects on Society*](#)
- [*Weapons of Mass Instruction*](#)

Below is reprinted with permission.

“TRUE COST” OF ONE COTTON T-SHIRT

(non-organic, foreign-made, 200 gm/7 oz/0.44 lbs)

Details of calculations at <http://true-cost.re-configure.org>

Water Use: 570.6 gallons, 45% irrigation water consumed (evaporated) by the cotton plant; 41% rainwater evaporated from the cotton field during the growing period; 14% required to dilute the waste water flows that result from the use of fertilizers in the field and the use of chemicals in the textile industry. Add: washing machine use after shirt purchase.

Energy Use: (kWh=kiloWatt-hours) Cotton production on irrigated land=1.42kWh, Ginning=.046kWh, Spinning=.5kWh (new machine) 1.42kWh (old machine) Weaving=1.66kWh, Finishing=4.13kWh, Making-up=.05kWh (total of 7.8 to 8kWh) 11 to 29 grams of diesel. 11g=Xinjiang to Shanghai (China rail) to L.A. Xinjiang is Chinas major cotton producing region. 29g=Tx to N. Carolina to Miami to Honduras to Miami to NYC. N. Carolina is the major thread producing region, Honduras the major shirt-knitting region, Miami the major port to ship to and from Honduras. Add: cranes, importation of pesticides & fertilizers, forklift propane, washing and drying machine use after shirt purchase (60-80% energy use in shirt life cycle is in “consumer care”). Also consider energy that went into tilling soil, planting crops, producing fuel, fertilizers, pesticides, dyes, packaging, making and repairing machines.

Emissions: (cotton can be considered carbon neutral due to absorbing more than is emitted from harvesting equipment + cotton produces oxygen), Diesel exhaust=carbon/soot, carbon monoxide, nitrous oxide, nitrogen dioxide, sulfur dioxide, carbon dioxide, volatile organic compounds=ethylene, formaldehyde, methane, benzene, phenol, acrolein, and polynuclear aromatic hydrocarbons. 90,000 cargo ships travel the ocean, and it’s been stated by a UK Guardian study that 15 of the largest ships now emit as much sulfur dioxides as the world’s 760 million cars.

Import & Export: \$0.60-\$1.05 per imported shirt (low=white, high=color), \$0.57-\$0.66/lb/raw cotton/world price, \$0.44-\$0.55/lb US price (\$0.50/lb subsidies for top US farmers, remove subsidies and world price of cotton increases 6-14%) Add: some fertilizers & pesticides are imported. US exports more cotton than any country. 3M tons exported in 2007/08, approx 40% of the world total.

Travel: (miles/est) TX to N. Carolina to Cent America to NYC=5,554 Train from Xinjiang to Shanghai, ship from Shanghai to Korea to Los Angeles=9,417 (Lubbock/CaryNC/Miami=2,400 Miami/Honduras/Miami=1876 Miami/NYC=1,278) There is a chance some cotton from TX is shipped to China, then returns to L.A. (in this case, Lubbock/L.A.=1,207 and L.A. to China to L.A.=13,038 for a total of 14,245) Add: some pesticides & fertilizers are imported

Hazards: Machinery, electricity, occupational lung disease/Byssinosis (from cotton dust), carpal tunnel syndrome (sewing), pesticide poisoning/contamination/death. 1-5M poisonings per year/20,000 deaths, Water/River contamination=USA, China, India, Pakistan, Uzbekistan, Brazil, Australia, Greece and West Africa. Mishaps during cargo transport by land and sea.

Chemicals/Toxins: (US pesticide use may have declined 77% from 1997-2007 due to biotech) Fertilizers=Nitrogen, phosphate, potash, sulfur, (insecticides most harmful to health outside of US=aldicarb, parathion, methamidophos), dicotophos (most used) endosulfan (most used organochloride), monocrotophos, deltamethrin, herbicide, nematicide, microbicide, growth regulator, algaecide, fungicide, Fabric Process=hydrogen peroxide, detergents, dyes, urea-formaldehyde to cross-link molecules to reduce shrinkage and wrinkling/or mechanical compacting. Dyeing and printing often use compounds of iron, tin, inks containing heavy metals that require large quantities of water to wash out the dye residues. USDA 2007: 55.3M lbs of herbicide (27.7M), insecticide (8.4M), fungicide (0.1M), other (19.1M) applied to produce over 9 billion lbs of cotton=1.1g per 200g shirt. British study claims over 3 grams per shirt. China=6x more fertilizer & pesticide than growers in sub-Saharan Africa. As China's textile industry has doubled, so has the waste-water (1 in 4 of China's 1.3 billion people drink contaminated water). Global cotton production may use approx 1/3 of global pesticides.

Human Labor & Equipment: Biotech, soil prep, seeding, fertilizing, irrigation, soil testing, applying pesticide/herbicide/fungicide, harvesting (global competition ranges from handpicking, plow & oxen, vs. \$250,000 picking machine), ginning/separations for foods/oil, fiber-testing, combing, spinning, dyeing, weaving/knitting, inspection, cutting, sewing, printing, mechanics, transport, packaging, warehousing, machinery distributors, consultants, crop processors, other support services, insurance, finance/banking, standard testing, sales/merchandising. China, India, US and Pakistan lead in cotton production.

Child cotton labor 2007-2009: Argentina, Azerbaijan, Benin, Brazil, Burkina Faso, China, Egypt, India, Kazakhstan, Kyrgyzstan, Mali, Pakistan, Paraguay, Tajikistan, Turkey, Turkmenistan, Uzbekistan, West Africa. Child wages range from zero (family debt) to 5-13 cents/kg, 50 cents/day, \$1-2/12-15 hr day, \$3.30-10/month

Sources: Waterfootprint.org, Textileworld.com, Reiter Machine Works, JOCsailings.com, Cotton Inc, National Cotton Council, National Institute for Occupational Safety and Health,

International Cotton Advisory Committee, National Council of Textile Organizations, Anvil, Fruit of the Loom, Pesticide Action Network, US Dept. of Agriculture, US Dept. of Labor, US International Trade Commission, Containership Register, SustainableCotton.org, Apparel Graphics Institute, Environmental Justice Foundation, Peterbuilt, Oxfam, Mississippi State Univ, International Institute for Sustainable Development, Chemical Industry Information Centre, Made-In-China.com, China Statistical Yearbook of the National Railway, China National Textile & Apparel Council, OceanAir Logistics, Books: The Travels of a T-Shirt in the Global Economy, Maritime Economics

US currency consists of 75% cotton

Concept and research produced by the non-profit/501c3 **Earth Intelligence Network**
www.earth-intelligence.net | www.phibetaiota.net |

true-cost.re-configure.org | earthintelnet@gmail.com

Ecological Economics and Moral Capitalism come together in being centered on the duality of a sustainable Earth and a sustainable Humanity. Kirkpatrick Sale offers an inspiring vision in his book [Human Scale](#) but I must emphasize that the survival of Humanity is not in any way connected to the survival of what one author calls [The Resilient Earth](#).

This chapter has focused on “true costs” while the next chapter focuses on human consciousness and a means for connecting every human to every other human. Then in the final chapter on “Open Everything,” I wrap the book up with the big picture exploration of how we displace money and scarcity by substituting the open meme, restoring the commons as a commonwealth.

I must stress that all of these ideas that I have strung together are not mine in isolation, but rather from the minds of many others, crafted by myself into a single story, however crude, that I offer as a roadmap to our shared future.

Chapter 26

Conscious Non-Zero Evolution & Global to Local Needs Table

Common sense and communal consciousness appear to have been very well developed among the indigenous peoples of the past (Chapter 16) and within the close-knit communities of the agrarian era.

The industrial era and the commoditization of humanity destroyed kinship and the ethics of kinship. Lionel Tiger's book, [*The Manufacture of Evil—Ethics, Evolution and the Industrial System*](#), is an early exploration of this theme. A more recent book, [*The Marketing of Evil—How Radicals, Elitists, and Pseudo-Experts Sell Us Corruption Disguised As Freedom*](#), pursues the theme.

Now that we are beginning to understand the “true costs” of government and corporate and other organizational misbehaviors—I address this in the chapter on “[*Paradigms of Failure*](#)” in [*ELECTION 2008: Lipstick on the Pig*](#)—human consciousness—or cognition—is re-emergent.

There are many variations of consciousness and cognition, the best forms characterized by balance between individual fulfillment as envisioned by the Founding Fathers and communal achievement of peace and prosperity.

In this chapter, after first listing a number of books that are representative of the integrative nature of the consciousness that is emerging, I will discuss how the emergence of consciousness completely overturns the existing paradigms of secrecy, scarcity, and security as profiteering by the few at the expense of the many.

Let's begin with a listing of key books directly relevant to this discussion.

- [*Conscious Evolution: Awakening Our Social Potential*](#)
- [*Evolutionary Activism by Tom Atlee*](#)
- [*Global Mind*](#)
- [*Holistic Darwinism: Synergy, Cybernetics, and the Bioeconomics of Evolution*](#)
- [*Integral Consciousness and the Future of Evolution*](#)
- [*New World New Mind—Moving Toward Conscious Evolution*](#)
- [*Nonzero—The Logic of Human Destiny*](#)
- [*Not by Genes Alone: How Culture Transformed Human Evolution*](#)
- [*The Compassionate Instinct—The Science of Human Goodness*](#)

Most interestingly, the rise in human consciousness is directly related to the broadening of interest in civilization-building.

- [*Beyond Civilization—Humanity's Next Great Adventure*](#)
- [*Rethinking Civilization: Resolving Conflict in the Human Family*](#)
- [*The Empathetic Civilization—the Race to Global Consciousness in a World of Crisis*](#)
- [*The leadership of civilization building—Administrative and civilization theory, symbolic dialogue, and citizen skills for the 21st century*](#)

There are naturally many other relevant books. Here I do not critique a single policy of any government or corporation, nor do I summarize the above stellar contributions. This is all converging now. Revolutionary activism is here now.

Intelligence for Earth demands a mature appreciation of both the nature of intelligence as decision-support, and of the costs to the Earth and Humanity of failing to leverage intelligence (decision-support) so as to optimize outcomes for everyone. Below is a depiction of how intelligence as decision-support must mature if we are to achieve our full potential.

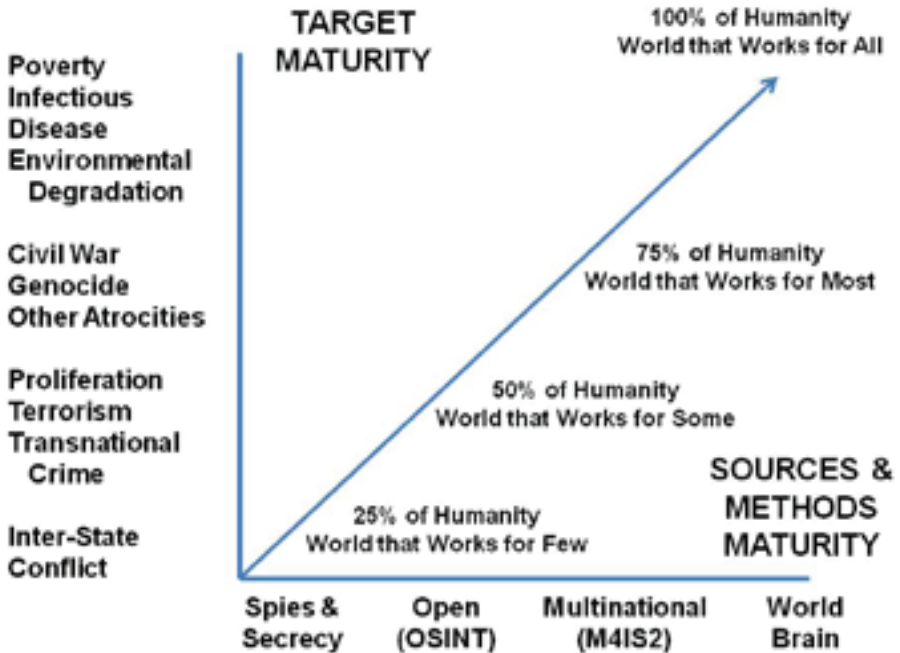


Figure 62. Intelligence Maturity Scale

The intelligence communities of the world, by virtue of being primarily focused on secrets for the top leaders of governments, have focused on armed threats rather than on humanitarian threats and related opportunities for creating a prosperous world at peace, a win-win or “non-zero” outcome beneficial to all.

The first two eras of what is traditionally known as “national intelligence” were in the first era known generally as “Secret War” or war by other means, means not attributable to the antagonist; and in the second era, the era of Sherman Kent, as “Strategic Analysis,” a deliberate attempt to arrive at “best truth” using all available sources and methods including open sources of information.

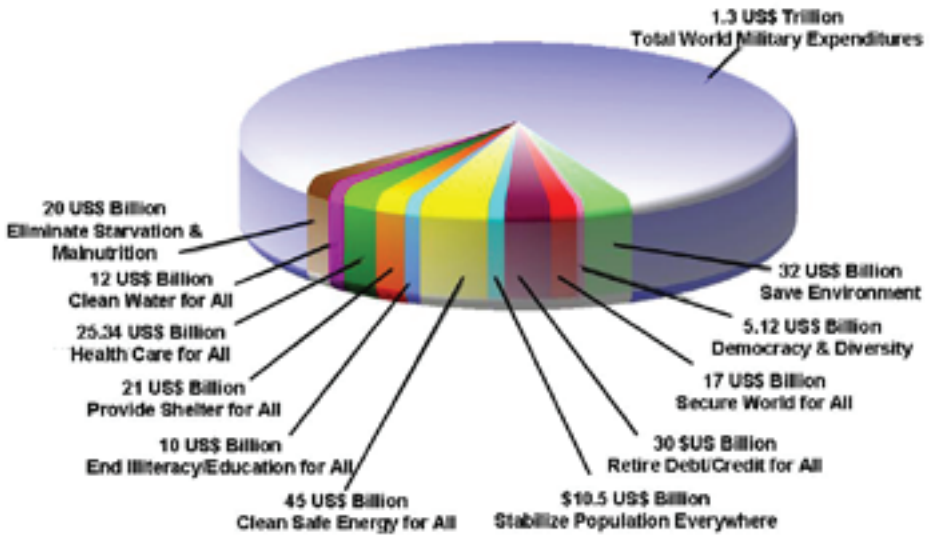
The second era did not last very long—it was corrupted by the politicization of intelligence, over-whelmed by the military-industrial-congressional complex (MIC), now the military-industrial-intelligence-congressional complex (MIIC). Sherman Kent might cringe, but his righteous intent ultimately was summed up in his [asking Sam Adams](#), upon accepting the Pentagon’s demand that the Viet Cong not be counted in a guerrilla war, “have we gone beyond the bounds of reasonable dishonesty?”

“Reasonable dishonesty” sums up everything that is wrong with corrupt practices in government and in business and in foundations and other ostensibly non-profit organizations that cheat the public by consuming 50% or more of all contributions as “overhead.”

The third era is one that others have thought about, but I may reasonably lay claim to with my two articles, [E3i: Ethics, Ecology, Evolution, & intelligence \(An Alternative Paradigm\)](#) in *Whole Earth Review* (Fall 1992), and [Creating a Smart Nation: Strategy, Policy, Intelligence, and Information](#) (*Government Information Quarterly*, 13/2, 1995). Other articles and chapters followed over time, all generally focused on reconnecting humanity with reality for constructive ends.

I call this the era of the Smart Nation in which the eight tribes of intelligence (decision-support)—Academia, Civil Society, Commercial, Government, Law Enforcement, Media, Military, and Non-Governmental Organizations—can all share information and come together to do sense-making in an open manner that achieves sustainable consensus.

Ultimately consensus leads to a rejection of the war paradigm and a general acceptance of the non-zero peace paradigm, particularly as the relative cost of war versus peace becomes obvious, as illustrated in figure 63.



1.3 \$ Trillion for War, When \$227.96 Could Buy BOTH Peace AND Prosperity

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Figure 63: Relative Cost of War versus Peace and Prosperity for All

I am indebted—we are all indebted, to Professor Medard Gabel, founder of [BigPictureSmallWorld](http://BigPictureSmallWorld.com), inventor of the Earth Dashboard, and pioneer with Buckminster Fuller in creating the analog World Game and the concept for a digital EarthGame™ for permission to use the above illustration, forthcoming in his book, *Seven Billion Billionaires*.

On the next page, to drive this point home with respect to the United States of America (USA), I illustrate the true cost of the military to the public purse.

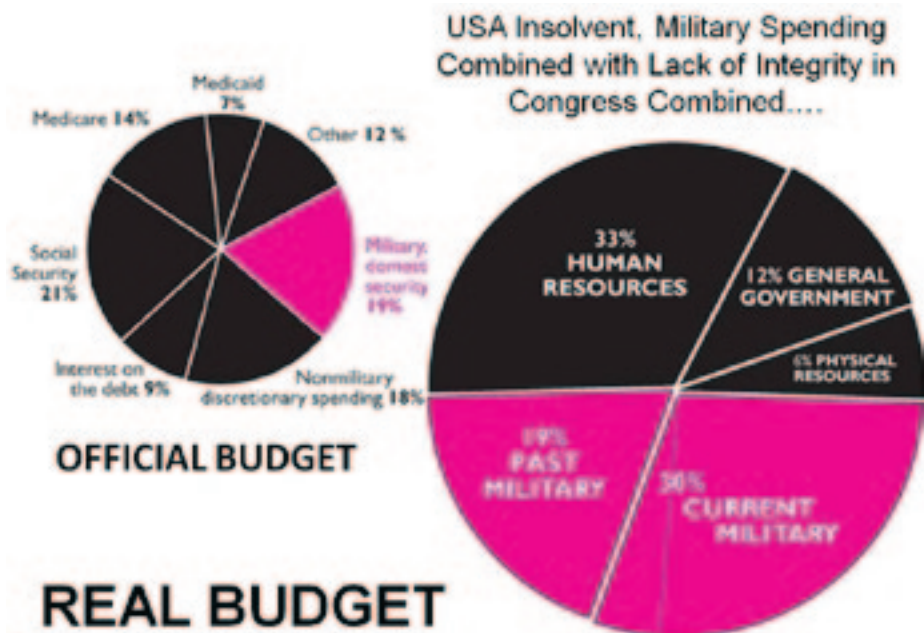


Figure 64: The False Official Military Budget Share versus the Real Share

The above depiction comes from the [Center for Defense Information](#) (CDI) with the pie chart on the right focusing on actual share of disposable or non-entitlement annual expenditures by the federal government. This impeachable but consistently over-looked fraud by both the Congress and the Executive in perpetuating the myth of a “low share” military combined with the abdication of our citizens from their responsibility to hold their elected representatives accountable for clarity and integrity, have allowed the bankruptcy of the Republic, even before the twin debacles of an elective war on Iraq and an elective bail-out of Wall Street at taxpayer expense.

Taken together, Figures 63 and 64 demonstrate the impact on the public of excessive spending on military procurement and personnel and the attendant

elective wars, in sharp contrast to modern needs for more responsible spending to stabilize and reconstruct the Whole Earth.

As human consciousness is expanded by a combination of more humans being connected directly to one another, something the Internet and the almost negligible cost of wireless communications are making possible, with access to more and more information as well as more and more sense-making in the public domain, I believe that there will be a sharp rejection of the war paradigm in favor of the peace paradigm. War is win-lose, peace is win-win.

OLD WAR PARADIGM		NEW PEACE PARADIGM	
Obsession with Current "Intelligence" Driven By Fear & Partisan Ideology	Unilateral Aggression Without Real Diplomacy	Respect for History & Indigenous Cultural Heritage	Multinational Diversity as Primary Approach to All Challenges
Emphasis on Secrecy & Inner Circle Decisions Ignoring Congress	Spend More Making War Than Waging Peace	Open Dialog, with Clarity, that Respects All Parties	Create Infinite Stabilizing Wealth by Sharing Free Education "One Cell Call at a Time"

Bottom Line: In the 21st Century, Thinkers, Not Shooters, Must Predominate

Figure 65: Rejecting the War Paradigm in Favor of the Peace Paradigm

It will not be easy and it will not happen without deliberate efforts by all concerned. The final step in achieving a prosperous world at peace is that of harmonization, not just of investments as discussed in Chapters 23 and 24, but

in assuring every human being their “daily bread” as found in the Lord’s Prayer. We do that with a Global to Local Needs Table as illustrated below.



Figure 66: Global to Local Need Table Online

This table, combined with millions of volunteers online connecting the five billion poor with the one billion rich via call centers and related networks competent in 183 languages not only permits the meeting of individual needs at the item within household level, and the combination of individuals to meet a need by sharing costs of acquisition, transport, and installation, as well as the aggregation of needs for fulfillment in low-cost bulk, but it also eliminates the current fraud that diverts 50% (or more) of charity to “overhead.”

Chapter 27

Open Everything

The depiction below sums up my personal view that there is a power to openness that no other force can consistently over-whelm.

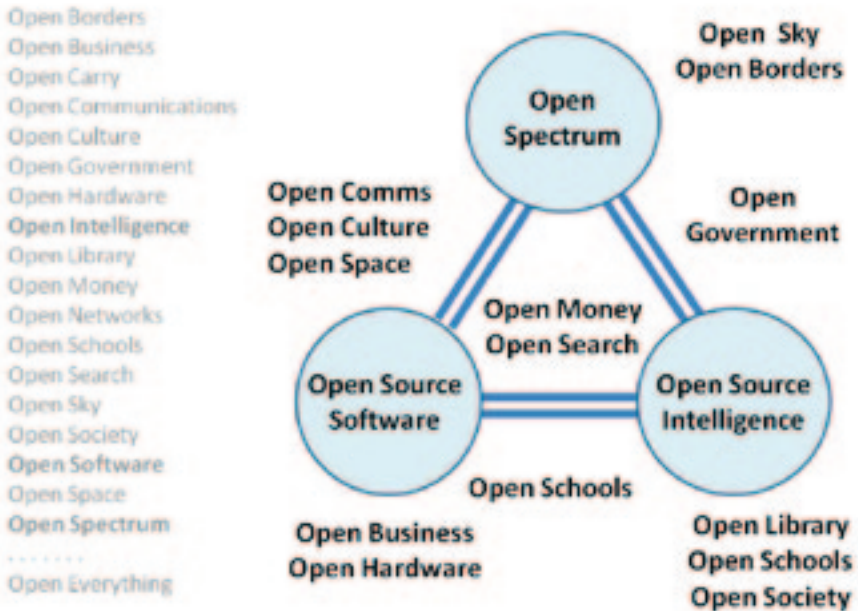


Figure 67: Open Everything

I was inspired by [Chris Prillo](#) and [Gnomedex](#), when invited to be the opening speaker, and entitled my presentation “[Open Everything.](#)”

The big three, the trifecta, are Free/Open Source Software (F/OSS), Open Source Intelligence (OSINT), and Open Spectrum. On the latter, I will always be indebted to both Jock Gill for his 2004 contribution [Open Wireless Spectrum and Democracy](#) that introduced me to the work of David Weinberger, and of course to David Weinberger himself, the long-time champion of Open Spectrum who contributed [Why open spectrum matters: the end of the broadcast nation](#) to the first book in this series, *COLLECTIVE INTELLIGENCE: Creating a Prosperous World at Peace*, and more recently, his own book, [Everything Is Miscellaneous—The Power of the New Digital Disorder](#)

In the balance of this chapter, just a few words (and a link) for each of the other Opens (there are more, these are just the ones I have focused on).

[Open Borders](#). The only way to stop illegal immigration is to stop the global class war that continues to further impoverish the southern hemisphere while simultaneously looting its natural resources. In my view, Open Borders are a means of acknowledging the reality that we are all one humanity within one earth, and we must take those measures to stabilize and reconstruct the impoverished nations as if they were—because they are—our neighbors. Not only must we make unnecessary the “Berlin Wall” mentality that has characterized the Department of Homeland Security (DHS), but in doing so, we must make it possible to redirect all those resources to more peaceful effect.

[Open Business](#). An open business is transparent in its accounting; respectful of all stakeholders both formal and incidentally affected; adheres to open standards and by definition, applies the earned benefits and profits for all, rather than redirecting profits created by the many toward the benefit of a few. Open businesses optimize social production with or without financial measures of merit.

[Open Carry](#). Open carry is shorthand terminology for “openly carrying a [firearm in public](#)”, as distinguished from [concealed carry](#), where firearms cannot be seen by the casual observer. It is also called “open display”. It is an inherent Constitutional right of US citizens that cannot be curtailed by local and state or federal authorities, and is the signal mark of a sovereign public.

Open Communications. I use the term to refer to both equal and open access to all forms of communication across the planet, and to the presence of clarity and integrity in all forms of communication between and among individuals and groups.

Open Culture. This concept is still under development. I use it to refer to a culture of openness that reveres diversity, rather than those fundamentalist exclusive cultures that are more cult than culture. By extension, an open culture would embrace an atmosphere of open multi-cultural information-sharing and sense-making.

Open Government. Open government is the political doctrine which holds that the business of government and state administration should be opened at all levels to effective public scrutiny and oversight. I specifically take this to mean that state secrecy must be sharply limited, and that “national security” priorities and decisions must be public in nature rather than arrived at by a small elite with its own agenda that profits from war.

Open Hardware. More commonly known as Open-Source Hardware, this refers to hardware—both physical and the code embedded therein, that is openly shared. Generative devices allow end-users to experiment and enhance, while closed devices are treated as lock boxes and not part of this open culture.

Open Library. Open Library is a project designed to create a comprehensive online database of books. It is a project of the [Internet Archive](#). As with Open Culture, I consider this term to be under development, particularly since so much original work is now by-passing the Library of Congress cataloguing system and being shared directly. As strongly as I feel about knowledge as the commons of the era, it must be said that organizations such as Google that seek to copyright that which they digitize, and particularly the work of “dead souls,” are not to

be trusted nor rewarded—I hold Google in disdain for its lack of ethics and the manner in which it does great evil while pretending otherwise.

Open Money. This term has been ably pioneered by [Michael Linton](#), [Eric Harris-Braun](#), [Jean-François Noubel](#), among others, and it has extraordinary potential as a tool for restoring commonwealth. Below is the illustration created by the pioneers to substantially expand what some might call intangible wealth.

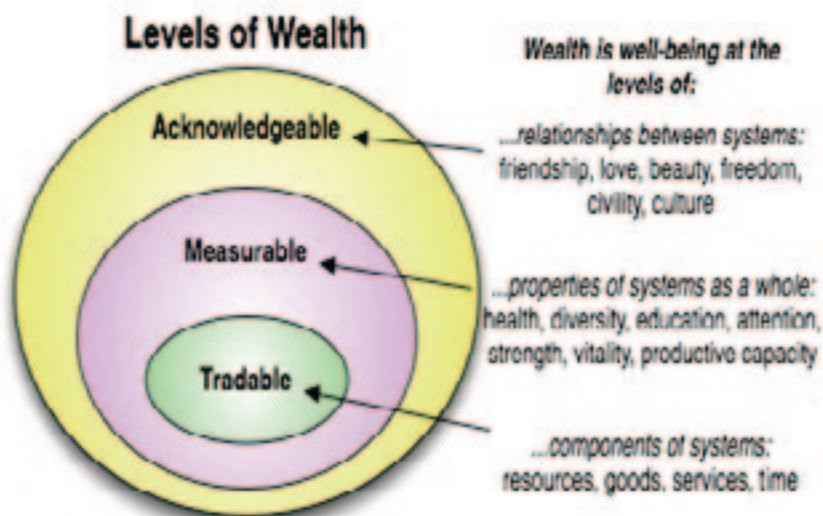


Figure 68: Open Money Wealth-Acknowledgement System

The pioneers have been careful in stating that their wealth-acknowledgement system is in an information system. While various forms of software and hardware and metrics are under development, the most common practical application is one that is community-based. [Interra](#), a credit card that by common consent returns a percentage to the specific community that adopts it, is one example.

Open Networks. This also is a term in its infancy. I put forth as a proposed definition infrastructure independence, such as [Haggle and FreeNet](#). In the ideal, as with ham radio operators of the past, point to point without a hub.

Open Schools. Not to be confused with any particular program or technology, I offer this term to describe a future in which anyone can learn anything free, and knowledge rather than credentialing is the measure of a person. I particularly believe that education, intelligence (decision-support), and research must be understood, managed, and appreciated as a whole, and that Open Schools, the Open Library, and all the other Opens come together to create the World Brain.

Open Search. I recognize with the link the open-search initiative, proposes to build a distributed, peer-to-peer, search-engine. By combining the already existing technologies of peer-to-peer file storage, distributed crawling and peer-to-peer searching, the imitative hopes to solve the problems inherent to a centralized search-engine: manipulation, censorship and profiling. I acknowledge [Grub](#) as such an effort, and I specifically repudiate Google for its [programmable search engines](#) that produce what someone else has paid to place before the searcher rather than the best available response on merit. In the ideal, every individual should own and control their content from the point of creation, and that point should also be the participating entity in globally distributed search or Open Search.

Open Sky. More commonly known as Open Skies, the treaty entered into force on January 1, 2002, and currently has 34 States Parties. It establishes a program of unarmed [aerial surveillance flights](#) over the entire [territory](#) of its participants. The [treaty](#) is designed to enhance mutual understanding and confidence by giving all participants, regardless of size, a direct role in gathering information about military forces and activities of concern to them. Open Skies is one of the most wide-ranging international efforts to date promoting openness and transparency of military forces and activities. I believe that [Google Earth](#) has been a positive contribution, but that Google's willingness to conspire with governments to conceal specifics on command has been a form of harm to the

public that should be condemned. As micro-UAVs (Unmanned Aerial Vehicles) become commodities, I anticipate that the public will gain access to all skies, and this will be liberating in the same way that cell phone videos of abusive law enforcement and other persons can be.

Open Society. The open society is a concept originally developed by philosopher [Henri Bergson](#). In open societies, [government](#) is responsive and tolerant, and political mechanisms are [transparent](#) and flexible. The [state](#) keeps no secrets from itself in the public sense; it is a non-[authoritarian](#) society in which all are trusted with the knowledge of all. [Political freedoms](#) and [human rights](#) are the foundation of an open society. In [Karl Popper](#)'s definition, found in his two-volume book *The Open Society and Its Enemies*, he defines an "open society" as one which ensures that political leaders can be overthrown without the need for bloodshed, as opposed to a "[closed society](#)", in which a bloody [revolution](#) or [coup d'état](#) is needed to change the leaders.

Open Space. Open Space Technology (OST) as devised by [Harrison Owen](#) is an approach for hosting meetings, conferences, corporate-style retreats and community summit events, focused on a specific and important purpose or task — but *beginning* without any formal agenda, beyond the overall purpose or theme. Highly scalable and adaptable, OST has been used in meetings of 5 to 2,100 people. The approach is characterized by five basic mechanisms: (1) a broad, open invitation that articulates the purpose of the meeting; (2) participant chairs arranged in a circle; (3) a "bulletin board" of issues and opportunities posted by participants; (4) a "marketplace" with many breakout spaces that participants move freely between, learning and contributing as they "shop" for information and ideas; and (5) a "breathing" or "pulsation" pattern of flow, between plenary and small-group breakout sessions.

The possibilities are infinite.

Chapter 28

Conclusions & Recommendations

Conclusions

The complexity of the Earth and Humanity cannot be addressed with a constellation of closed systems that fail in ways that cannot be diagnosed nor corrected.

The “elite” cannot comprehend the reality of local needs and possibilities in the same way that the engaged public can—only the public can prioritize its own needs.

Humanity has but one Commons—the Earth, and must rapidly transform itself so as to expand, save, and share the Commons. It can do this by harmonizing investments using shared information to eliminate waste.

Ecological intelligence—the awareness by each individual or organization of the “true cost” of any given product or service or supply ingredient, is the only means of reducing global waste patterns.

Recommendations

F/OSS, OSINT, and Open Spectrum allow for the creation of an infinitely scalable constellation of “open” solutions that can be enhanced and shared by any and all.

Participatory Budgeting, when combined with the pedagogy of freedom, enables the harnessing of all stakeholders and their knowledge for the good of all.

The great demographic powers—Brazil, China, India, and Indonesia, must join with others such as the USA and Russia, Malaysia and Turkey, the Congo and South Africa, to create the World Brain and the Global Game.

The public, not the government, must take the lead and use its powers, including Twitter, to discover and disseminate the “true cost” of every product and service so as to inform all stakeholders.

The only inexhaustible resource we have is the human brain and the vision and imagination that can be brought to bear by humans as individuals and in the aggregate.

The cost of war is three times the cost of peace and prosperity. The cost of the military within the budget of the USA is easily five to ten times greater than is normally acknowledged.

No amount of confiscated wealth can meet the needs of the five billion poor. At the same time, 80% of the billion rich do not give to charity or directly to the poor. In evaluating the needs of the poor and the means to eradicate poverty, the number one high-level threat to humanity, we conclude that providing the poor with connectivity—a cell phone—and access to information “one cell call at a time,” is the means we seek.

Education, Intelligence, and Research must be re-directed to optimize the global to local challenges and benefits of sharing information among all parties.

The informed public—a Nation’s best defense according to Thomas Jefferson—must demand that government cease spending that is inconsistent with the public interest.

A Global Range of Needs Table that is online and infinitely scalable from nano-needs at the household level to regional needs for water purification and desalination plants, can enable the harnessing of all possible contributions by both individuals and organizations in new ways that combine a giver, a transporter, a deliverer, and a verifier. The priority should be free cell phones to the five billion poor, backed up with call centers.

Epilogue

If I had to name a handful of leaders who in my estimation have done more than all others to prepare civil society for a future of peace and prosperity, emphasizing two who are alive today and who I consider the “matched pair” that has defined my worldview as an adult, I would have no difficulty naming names: Nelson Mandela of the Republic of South Africa, and Lee Kuan Yew of the Republic of Singapore.

Truth & Reconciliation, in my view, is co-equal to Mahatma Gandhi’s concept for non-violent resistance as embodied by Martin Luther King and his followers. It shames me to know that Martin Luther King was murdered by the government he sought to uplift by reconnecting it to the principles of life, liberty, and the pursuit of happiness for all its citizens. From Nelson Mandela I learned that no amount of reconciliation can be achieved without the truth to make it an *authentic reconciliation*. The truth at any cost reduces all other costs, and helps end the cycle of violence among humans who have more in common regardless of race than any living species.

Demography not Democracy, is my lesson from Minister-Mentor Lee Kuan Yew. I graduated from the Singapore American High School, and it says a great deal that our two class heroes were John Wayne and Lee Kuan Yew—one cannot invent such a perfect pairing. Demography is reality, democracy is inherently corrupt as it is practiced now. This in no way yields the future to those who dictate and loot the fortunes of their publics, but rather it acknowledges the intellectual and ethical primacy of demography over democracy—it is more important to assure the integrity of the public body—its education, its ethics, its evolution—than it is to play the theatrical farce of a White House sleeping with Saudi despots and cravenly begging from Wall Street financiers, while betraying the public trust. *Authentic democracy* must respect the demography of Brazil, China, India, and Indonesia, particularly. **St.**

Glossary

24/7	24 hours a day, 7 days a week	CBRN	Chemical, Biological, Radiological, Nuclear
9/11	September 11	CCASG	Cooperation Council for the Arab States of the Gulf
AF	Arria Formula		
AID	Agency for International Development (US)	CCC	Coalition Coordination Center (USCENTCOM)
AIDS	Acquired Immunodeficiency Syndrome	CDI	Center for Defense Information
AO	Action Officer	CE	Combat Engineers
AO	Aerial Observer	CE	Conscious Evolution
Arab League	League of Arab States	CEN SAD	Community of Sahel-Saharan States (AU)
ASEAN	Association of Southeast Asian Nations	CEO	Chief Executive Officer
ASG-DS	Assistant Secretary General for Decision-Support (UN)	CI	Collective Intelligence
		CI	Counterintelligence
		CIA	Central Intelligence Agency
AU	African Union		
B	Billion	CINC	Commander-in-Chief
BENELUX	Belgium, Netherlands, Luxembourg	CINCCENT	Commander-in-Chief USCENTCOM
BMW	Bayerische Motoren Werke	CIO	Chief Information Officer
C&SC	Command & Staff College	CIS	Commonwealth of Independent States
C/O	Case Officer (Clandestine Service)	CMOC	Civil-Military Operations Center
C3I3H3	Command, Communications, Computing; Interagency, Interdisciplinary, Inter-Operability, Heuristics (Cube) of the Community Intelligence Cycle	CO2	Carbon Monoxide
		COG	Continuity of Government
		COMESA	Common Market for Eastern and Southern Africa (AU)
		CPI	Center for Public Intelligence
CA	Civil Affairs	CRS	Coordinate Reference System
CATALYST	Computer Aided Tools for the Analysis of Science & Technology	CS	Cognitive Science
		CSTO	Collective Security Treaty Organization

GLOSSARY

CTBTO	Preparatory Commission for the Nuclear-Test-Ban Treaty Organization	ECLAC	Economic Commission for Latin America and the Caribbean
DARPA	US Defense Advanced Research Projects Agency	ECOWAS	Economic Community of West African States (AU)
DefAtt	Defense Attaché	EEl	Essential Elements of Information
DESA	Department of Economic and Social Affairs	EIN	Earth Intelligence Network
DFS	Department of Field Support	EISAS	
D-GA	Democrat-Georgia	EOSG	Executive Office of the Secretary General (UN)
DGACM	Department for General Assembly and Conference Management	ERC	Emergency Relief Coordinator
DIA	Defense Intelligence Agency	ESCAP	Economic and Social Commission for Asia and the Pacific
DIOSC	Defense Intelligence Open Source Center	ESCWA	Economic and Social Commission for Western Asia
DM	Department of Management	EU	European Union
DocEx	Document Exploitation	EWCP	Early Warning and Contingency Planning Units
DoD	US Department of Defense	F/OSS	Free/Open Source Software
DPA	Department of Political Affairs (UN)	FAC	Forward Air Controller
DPI	Department of Public Information	FAO	Food and Agriculture Organization of the United Nations
DPKO	Department of Peacekeeping Operations	FIU	Field Information Unit
DSS	Department of Safety and Security	G	Gram
DTG	Date Time Group	GA	General Assembly
E3i	Ethics, Ecology, Evolution, and intelligence (not secret)	GAO	US Government Accountability Office
EAC	East African Community (AU)	GDP	Gross Domestic Product
ECA	Economic Commission for Africa	GIS	Geographic Information System
ECCAS	Economic Community of Central African States (AU)	GPI	Genuine Progress Indicator
ECE	Economic Commission for Europe	GPS	Geographic Position System
		GSA	US General Services Administration

GLOSSARY

GV2TN	Global Volunteer Virtual Translation Network	IJIC	International Journal of Intelligence and Counterintelligence
HAARP	High-Frequency Active Auroral Research Program	ILO	International Labour Organization
HABITAT	UN Human Settlements Programme	IMF	International Monetary Fund
HEWS	Humanitarian Early Warning System	IMINT	Imagery Intelligence
HIC	Humanitarians Information Capability	IMO	International Maritime Organization
HIV	Human Immuno Deficiency Virus	IMTF	Integrated Mission Task Force (UN)
HOPE	Hackers on Planet Earth	INSTRAW	UN International Research and Training Institute for the Advancement of Women
Hr	Hour		
HTT	Human Terrain Team		
HUMINT	Human Intelligence		
I&W	Indications & Warning	INT	Intelligence
IAEA	International Atomic Energy Agency	IO	Information Operations
		IOU	I Owe You
IBRD	International Bank for Reconstruction and Development	IR	Infra-Red
		ISI	Inter-Services Intelligence (Pakistan)
ICAO	International Civil Aviation Organization	ITC	International Trade Centre
ICC	International Computing Centre (UN)	ITSD	Information Technology Services Division (UN)
ICRC	International Committee of the Red Cross	ITT	Interrogator-Translator Team
ICSID	International Centre for Settlement of Investment Disputes	ITU	International Telecommunication Union (ITU); OSINT Branch, USSOCOM
ICT	Information and Communication Technologies	J-23	US Joint Forces Command
		JFCOM	John Fitzgerald Kennedy
IDA	International Development Association	JMAC	Joint Military Analysis Centre
IFAD	International Fund for Agricultural Development	JOC	Joint Operations Centre
IFC	International Finance Corporation	Kg	Kilogram
		kWh	Kilowatt Hours
IGAD	Intergovernmental Authority on Development (AU)	LA	Los Angeles
		lb	Pound (weight)
		LEA	Law Enforcement Agencies
		LNO	Liaison Officer

GLOSSARY

LtGen	Lieutenant General	NGO	Non-Governmental Organization
M	Million		
M4IS2	Multinational Multiagency Multidisciplinary Multidomain Information-Sharing and Sense-Making	NIO	National Intelligence Officer
		NL	Netherlands, The
		NORAD	Northern Air Defense Command
MAG	US Military Advisory Group	NRBC	Nuclear, Radiological, Biological, & Chemical
MB	Mega-byte	NSA	US National Security Agency
MCIC	Marine Corps Intelligence Center (today a Command)	NSC	National Security Council
		NSSM	National Security Study Memorandum
MCU	Marine Corps University		
MD	Medical Doctor	OAS	Organization of American States
MDSC	Multinational Decision-Support Centre	OCHA	Office for the Coordination of Humanitarian Affairs
ME	Multinational engagement		
MIC	Military-Industrial Complex	ODA	Office for Disarmament Affairs (UN)
MIGA	Multilateral Investment Guarantee Agency	OIT	Office of Information Technology (CIA)
MIIC	Military-Industrial-Intelligence Complex	OMB	US Office of Management and Budget
MINUSTAH	UN Stabilization Mission in Haiti	OODA	Observe, Orient, Decide, Act
MLK	Martin Luther King	OOTW	Operations Other Than War
MP	Military Police		
MPS	Military Planning Service (DPKO)	OPCW	Organisation for the Prohibition of Chemical Weapons
NAFTA	North American Free Trade Agreement	ORCI	Office for Research and the Collection of Information (UN)
NASA	National Aeronautical and Space Administration		
NATO	North Atlantic Treaty Organization	OSA	Open Source Agency
		OSIF	Open Source Information
NBC	Nuclear, Biological, Chemical	OSINT	Open Source Intelligence
		OSS	Open Source Solutions Network, Inc.
NCTC	US National Counterterrorism Center	OST	Open Space Technology
NEO	Non-Combatant Evacuation Operation	OSWR	Office of Scientific and Weapons Research (CIA)

GLOSSARY

PAP	Pan-African Parliament (AU)	SG	Secretary General
PB	Participatory Budgeting	SICA	Central American
PfP	Partnership for Peace (Eastern Europe, with NATO)	SIGINT	Integration System
PhD	Doctor of Philosophy	SIPR	Signals Intelligence
PIF	Pacific Islands Forum	SME	Secure Internet Protocol Router
PKO	Peacekeeping Operations	SMS	Subject-Matter Expert
PMC	Private Military Contractors	SOLIC	Short Message Service
POE	Peace Operations	SPU	Special Operations and Low Intensity Conflict Strategic Planning Unit (SPU)
POW	Prisoner of War	SRS	Spatial Reference System
PSC	Peace and Security Council (PSC)	SSI	Strategic Studies Institute (US Army)
R&D	Research & Development	TCM	Traditional Chinese Medicine
REC	Regional Economic Commission	TECHINT	Technical Intelligence
REG	Regular (Budget)	TOOZL	One-Ounce Laptop (STRONG ANGEL)
RMDSC	Regional Multinational Decision-Support Centre	TX	Texas
RN	Royal Navy	UAV	Unmanned Aerial Vehicle
RSO	Regional Security Officer (US Department of State)	UK	United Kingdom
S&R	Stabilization & Reconstruction	UMA	Arab Maghreb Union (AU)
S&T	Science & Technology	UN	United Nations
SA (V)	Specialized Agencies (Voluntary Contributions)	UNAIDS	Joint United Nations Programme on HIV/AIDS
SA(A)	Specialized Agencies (Assessed)	UNASUL	Union of South American Countries (Portuguese)
SAARC	South Asian Association for Regional Cooperation	UNASUR	Union of South American Countries
SADC	Southern Africa Development Community (AU)	UNCCD	United Nations Convention to Combat Desertification
SASC	Senate Armed Services Committee	UNCDD	Convention on the Rights of Persons with Disabilities
SCO	Shanghai Cooperation Organisation	UNCDF	UN Capital Development Fund
SEATO	Southeast Asia Treaty Organization	UNCTAD	UN Conference on Trade and Development
		UNDCP	UN Drug Control Programme

GLOSSARY

UNDEF	United Nations Democracy Fund	UNRWA	UN Relief and Works Agency for Palestine Refugees in the Near East
UNDP	UN Development Programme	UNSAS	United Nations Stand-by Arrangement System
UNEP	UN Environmental Programme	UNSSC	United Nations System Staff College
UNESCO	United Nations Educational, Scientific and Cultural Organization	UNU	United Nations University
UNFCCC	United Nations Framework Convention on Climate Change	UNV	UN Volunteers
UNFIP	United Nations Fund for International Partnerships	UNWTO	World Tourism Organization (UN)
UNFPA	UN Population Fund	UPU	Universal Postal Union
UNHCR	Office of the United Nations High Commissioner for Refugees	US IC	US Intelligence Community
UNICEF	UN Children's Fund	USA	United States of America
UNICRI	UN Interregional Crime and Justice Research Institute	USAF	US Air Force
UNIDIR	UN Institute for Disarmament Research	USB	Universal Serial Bus
UNIDO	United Nations Industrial Development Organization	USCENTCOM	US Central Command
UNIFEM	UN Development Fund for Women	USG	US Government
UNITAR	UN Institute for Training and Research	USIA	US Information Agency
UNODIN	UN Open-Source Decision-Support Information Network	USMC	US Marine Corps
UNOPS	United Nations Office for Project Services	USMC	US Marine Corps
UNPROFOR	United Nations Protection Force	USS	US Ship
UNRISD	UN Research Institute for Social Development	USSOCOM	US Special Operations Command
		UZAN	Union of South American Countries (Dutch)
		WFP	UN Food Program
		WHO	World Health Organization
		WIPO	World Intellectual Property Organization
		WMD	Weapons of Mass Destruction
		WMO	World Meteorological Organization
		WOG	Whole of Government
		WTO	World Trade Organization

Annotated Bibliography

I had intended to list the individual titles so each could be selected from the online version (and so readers of the hard-copy could understand the decade of thinking by others that contributed to this book), but it ran toward 30 pages and would have increased the book size and cost by 10%. So instead, I list here the categories and in parenthesis the number of books in each category. The lists below are the “good news” categories and do not repeat all the books listed in Chapter 20. The list of lists with all links active can be directly accessed at <http://www.phibetaiota.net/?cat=2796> .

- [Africa](#) (4)
- [Analysis & Problem-Solving](#) (62)
- [Atlases](#) (6)
- [Bio-Economics](#) (32)
- [Capitalism Reincarnated](#) (16)
- [China](#) (7)
- [Civilization-Building](#) (6)
- [Collective Intelligence](#) (16)
- [Common Wealth](#) (26)
- [Conscious, Evolutionary, Integral
 Activism & Goodness](#) (33)
- [Dialog for Truth & Reconciliation](#) (27)
- [Diversity of Voices & Values
 \(Other than USA\)](#) (46)
- [Diversity of Voices & Values \(USA\)](#) (46)
- [Education for Freedom
 & Innovation](#) (19)
- [Evolutionary Dynamics](#) (14)
- [Future](#) (9)
- [Health](#) (3)
- [History](#) (10)
- [Innovation](#) (28)
- [Leadership for Epoch B](#) (29)
- [Peace](#) (20)
- [Philosophy](#) (6)
- [Priorities](#) (11)
- [Self-Determination & Secession](#) (7)
- [Stabilization & Reconstruction](#) (17)
- [Strategy](#) (23)
- [Technology & Web 2.0 to 4.0](#) (30)
- [Visualization](#) (8)
- [World Brain and Mind](#) (6)
- [Universe](#) (5)

