



DECISION SUPPORT SYSTEMS, inc.

DSSI

METATEMPO: SURVIVING GLOBALIZATION

QUEEN ISABELLA RISK FUND

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WHY 'QUEEN ISABELLA'?

Queen Isabella of Spain heard a plea for support; the amount of investment was trivial to Her, already much in possession of wealth and power. The man making the plea, Columbus, turned out to have been wrong in his assumptions and discovery, but as mistakes go, it turned out to be more valuable than what he was originally after. Well-reasoned risks pay off, even if not always as intended.

PURPOSE OF QUEEN ISABELLA RISK FUND

Found and operate a fund, or partner with an existing structure, oriented at taking advantage of historical trends in global, social, business, technological, and human progress through acquisition of key players and technology, sensible merger of appropriate corporations, venture capital of critical start-up companies, bootstrapping individual efforts in key domains, and initiation of projects overlooked by conventional market-driven models. Traditional funding models are oriented at opportunistic funding opportunities—catch as catch can, waiting for viable proposals to be made.

The Queen Isabella Risk Fund orients around specific potential futures with the intent of early investment at the beginning of a trend, or creation of a trend through spot investment of risk capital. The Queen Isabella Risk Fund also takes a different view of return on investment (ROI), since real 'breakthrough' advances cannot be justified on a conventional model; one of the 'proofs of concept' for this is the Defense Advanced Research Projects Agency (DARPA) under J.C.R. Licklider—the original funding source for 'interactive computing' and 'the galactic network' (Licklider's terms, in fact) that led to much of modern computing and the Internet. Licklider funded projects using the rationale that a) projects that you could show immediate probably ROI for could be handled by conventional mechanisms, and wouldn't be 'breakthroughs'; and b) he was after profound social and cultural changes that he knew would be the consequences of the technology.

The Fund follows two investment strategies:

- Pro-actively identify future trends and players that are directly or collaterally positioned to capitalize on breakthroughs. Explicitly avoid conventional ROI-model investments, including 'marginal additional value' approaches with massive investment required to extend a trend a small additional percentage;
- Social Return on Investment (SROI), rather than 'gee whiz' technology; breakthroughs in social, political, cultural, financial, and philosophical systems that first profoundly change the human condition and human nature, and then the nature of humanity.

THINKING ABOUT THE FUTURE

While it's a popular and convenient way to look at historical progress, Toffler's 'wave' model—an Agricultural, Industrial, and Information Age—glosses over the historical fact. Progress is continual; there are indeed 'punctuations' that occur—when spheres converge, or when transformational breakthroughs occur that change the very ground rules—but a 'punctuated equilibrium' approach to futurism is less than useful in predictive models necessary for financial investment.

Looking at historical developments in key areas—power/energy, transportation, control/cybernetics, information systems, intellectual models, material resources, organizational structure—it's clear that there is a general corollary to Moore's Law. Moore's Law is used in the computer industry and roughly states that every 24 months the processing power of semiconductors will double (or the price will halve); Moore's Law itself is 'speeding up'—the threshold of doubling is now between 12-18 months. Early on, when Moore's Law was first stated, the predictions of computation capacity that it was stating would trend out were considered absurd; only after a breakthrough technology like x-ray lithography came along did the numbers begin to make sense. On four separate occasions, Moore's Law has reached what has been considered 'physical limits'—the existing technology appears to limit further progress; each time, something new has occurred which allows development to continue, and even speed up the Moore's Law cycle.

Casting an eye back through history, this has regularly occurred. Transportation is an interesting example: muscle power of humans on foot can only get you so far; use of animal muscle power improved that cycle; application of simple machines (such as wheeled carts) further advanced the trend; then sail shipping; then rail shipping; then internal combustion engines (trucks and cars) on a national highway system, air transportation, and the leap into space have made earlier applications of trending forward 'meaningful,' even if they seemed absurd at an earlier time. It's worth noting that this is in direct opposition to Malthus and the 'Club of Rome' approach, which divorced the coupled 'value web' of integrated emergent processes in order to only focus on the negative trends; the 'scare scenario' of the demographic extrapolation leading to overpopulation needed to be offset with technological and social trends promoting scientific agriculture and political freedoms.

It is possible to look at history and current trends, and with some eye on the potential futures, position key investments in a number of places such that even a small number of them coming to fruition have such explosive impact—not just financially, but socially, politically, technologically—that justify the risk aspect of the investments. The trick, obviously, is to have some understanding of what the future might hold. Below are some example points, from the 'initial trend' but not attempting to map the connections and consequences.

THE GLOBAL FUTURE

- Governance models are in flux; power is devolving down from States and Powers toward the individual;
- Geography and land, once the key productive resource, are increasingly less important; other than 'symbolic' areas (still held to be inestimably valuable to different sorts of overembedded approaches—process, viewpoint, social, location), land and location, even 'distance' is rapidly becoming meaningless
- Resources are becoming less expensive in some ways (aggregate developments of technology necessary to locate and economically exploit material resources have and will continue to reduce the costs associated with acquisition of raw materials); 'despotic' control of access to resources is increasingly an issue (potable water, grey water for agriculture, petroleum, etc.);
- Ecology is soon a potential survival issue; technological change is outpacing the homeostatic tendency inside the global ecosystem, spawning disastrous natural events (weather) as the ecosystem attempts to 'correct' trends;

- Risks and threats in safety and security are increasing; balkanization of control is rapidly occurring, capacity for mass destruction is being 'defined down,' and the larger social contracts are breaking down (international borders, population diversity, etc.);
- Exploitation of space is passing out of State hands; launch platforms are decreasing in cost, material science will make unit cost per unit lifted out of the gravity well cheap, positional control of the 'high ground' may lead to trouble, material resource in space is there for the taking (cheap power, abundance of material resources, etc.).

THE SOCIAL FUTURE

- New social contracts are being initiated and tested in virtual communities, and will increasingly be a factor in evolution of 'real world' social interaction;
- Virtual and 'spot' communities are becoming more prevalent, even over 'real' communities; locality is inessential to Internet-enabled affinity communities, 'spot' communities are developing around singular issues;
- Mobility is a rapidly increasing trend; physical ability to relocate is improved, as is capital mobility, and mobility of intellectual capital; 'physical' arbitrage is available—if you don't like the rules in one place, you can go elsewhere with great ease;
- Epidemiology is becoming difficult to manage, and disease trends are on the upswing, as well as emerging pathogens and strains resistant to available therapies;
- Freedom is increasingly desired in unfree places; 'free' countries are experiencing a slippery slope of increasing and embedded limitations;
- Privacy is a commodity that is no longer to be assumed, but requires overhead to acquire and maintain;
- Safety and security issues are devolving down to the individual; whether terrorism or conventional warfare directed at infrastructural support structures, or the range of non-violent crimes that can occur to anyone electronically;
- Class structures are not eroding; wealth is still collecting and increasingly divorced socially from the poor by a great distance; new distinctions are developing in terms of technology sophistication, racial and cultural bias, linguistic differentiation, etc.;
- The 'meme pool' or information environment, critical because it's the structure that progress is built upon, is caught in a tension between large, consolidated organizations (media companies, backbone structures), and the population trying to avoid infosphere control (thus trends such as the Internet being increasingly turned to for 'reliable' information).

THE BUSINESS & ECONOMIC FUTURE

- Money, most recently a State monopoly, is devolving from central control and clearing; e-cash and micropayments are one aspect, but control of money is also transferable outside the conventional funds network; alternate financial networks are being established outside constraints, including havens for capital and intellectual property;
- New economic models, including risk models, need to be developed that engage a more complete understanding of valuation;
- Resources are not necessarily the limiting factor in development; intellectual capital is a larger impediment to progress in underdeveloped regions, as well as despotic control of access;
- Power/energy generation isn't an issue so much as storage and delivery of energy; petroleum products are currently favoured because they are portable and of high-caloric output; delivery grids are hitting diseconomy of scale points;
- Sunk costs are acting as a factor toward embeddedness, an anchor against progress; technological development isn't favoured until the previous sunk costs are amortized out and recouped. Large-scale projects requiring significant capital thus quickly become 'legacy' systems, and technology- and approach-generations behind;
- Transportation costs per unit shipped are dropping; large invested distribution networks will suffer as these costs drop, including intermediation networks (postal, shopping malls, etc.);
- The nature of ownership, property, and intellectual property in particular is transforming; the fact that a digital copy provides a perfect representation and is easily transported (with time not a factor) has yet to impact the economy significantly; patent law is now essentially meaningless;
- Mobile data-information-knowledge-wisdom (DIKW) are the key commodities; local production using local resources is enabled if production know-how and specifications themselves are portable;
- Content industries, such as publishing, media, entertainment, etc. are going to devolve down to the 'garage' production level; disintermediation is going to dramatically impact the players, and digital distribution with improved throughput, bandwidth, and interactivity will completely shift the market out of their hands.

THE TECHNOLOGY FUTURE

- Computation is following Moore's Law; dramatic improvements continue in processing power, storage, and communication;
- Computation models need to be shaken up; boolean logic is rapidly approaching its limits, and will need to be dropped in favour of improved approaches;
- User interface (UI) and computation/process models are converging; vector processing (including supercomputing) are limited, two-dimension approaches have already had their

'killer applications' (planar interfacing leaves computers as dynamic paper—spreadsheets and word processors), three-dimensional approaches are hitting consumer price points (virtual reality, 'game' consoles with 3D realtime graphics are a threat to 'traditional' computer systems and systems such as Microsoft Windows);

- Artificial intelligence (AI) is becoming more appropriately focused on applications such as agents/'knowbots', artificial life, and evolving, emergent complex systems rather than coding them;
- Intelligence amplification (IA) is becoming the field to be involved in, including UI issues, and the representation/language issue (for example, common encoding that is universal, similar to the Pantone system for colour in publishing). The 'hard problem' of objective, symbolic communication integrated with subjective, immersive/evocative communication remains to be addressed;
- Tetherless (no cables, no attachments) computing and integration of computing power into 'worn' products to augment and maintain connection as desired spawns a continually, completely connected society;
- Computer-supported cooperative work (groupware) is increasing the quality of output and on-going progress, enabled by improved interfacing and tetherless systems; on a larger scale, group efforts such as community memory, collective intelligence, and the open source movement are providing considerable benefits;
- Nanotechnology is now becoming technologically feasible; molecular manufacturing will radically transform computation, medicine, manufacturing, etc.; a 'replicator economy' will completely change the global financial system (after it potentially causes a crash); applications here are staggering in their implication;
- Physics and understanding the ground rules of the Universe have more surprises in store; the shift into Newtonian mechanics and then Einsteinian relativity will pale in comparison to what will happen next (including computers based on quantum mechanics that 'know' the answer even if computational 'impossible'; or communication systems that utilize the underlying 'digital universe' to transport data non-locally—instantly over any distance, with no 'medium' to transport).

THE INDIVIDUAL FUTURE

- Biology is experiencing the start of radical transformation, at many levels—'hardware' or the body will be able to be modified (gene therapy) or copied (cloning; use of stem cells to replace lost limbs or repair the spine); 'software' is starting to be better understood (the mind, where an 'upload' of the mind could then be used as a proxy in a computer, or help with later reconstruction after incidents such as a stroke);
- Nanotech can radically change the processes in healthcare—life extension by fixing micro-level damage, including DNA; a universal antimicrobial that distinguishes an individual's DNA and destroys anything foreign (thus killing any infection, bacterial or viral, and destroying any cancer);

- Individual empowerment through development of any of these breakthrough advances can instigate a fundamental change in the human condition. One approach to looking at human motivation is “Maslow’s Hierarchy of Needs”:
 - Physiological needs (survival, food, drink, health)
 - Safety needs (clothing, shelter, protection)
 - Affection needs (family, belonging, companionship)
 - Esteem needs (self respect, achievement, appreciation)
 - Self fulfillment needs (realization and utilization of one's potential)

- Many of the technological advances the Queen Isabella Risk Fund seeks to encourage satisfy the material needs (physiological, safety) of human motivation, but leave the more ‘advanced’ needs unaddressed—or more complicated than before. This must explicitly be addressed as the nature of the human condition changes; the current ‘e-generation’ of ‘new economy’ millionaires and billionaires provide a proof of concept that at least some percentage are concerned with new forms and mechanisms of philanthropy, and have integrated moral, ethical, social, and philosophical concerns into their life. The opportunity exists, during and post-breakthroughs, to tackle the larger issues of Maslow’s Hierarchy, leading to the comprehensive advance of human nature, and then the very nature of humanity.

CONCLUSION

We could go into much more detail; much of this is overwhelming in implication, so we have attempted to keep it constrained. Financially, the profits are to be made on the upside of any of these developments, as well as understanding that when they occur how they will undermine existing structures. The SROI that emerges from social, political, cultural, financial, and philosophical advancement is even more significant.

How do we get ‘there’ from here? A small team of us need to draw up the roadmap—look at all the endpoints of development and sketch out what moves the technology from ‘here’ to ‘there.’ This roadmap then becomes the ‘hit list’ to fund, buying into technological trends as they start, and making the future possible. If things follow the roadmap, we’re Columbus finding India; if we find the Americas instead, all the better.

ABOUT DECISION SUPPORT SYSTEMS, INC.

DSSi is a professional consulting firm, providing a wide range of services: intelligence and decision support, organizational safe and security, investment and finance, business process re-engineering, perception management, technology development and system integration. DSSi is considered to be the ‘cutting edge’ in these fields, and have developed proprietary methodologies to address cross-domain issues in these areas. The firm also has a number of domain experts in specialty areas such as defense and counter-terrorism, technology, finance, economics, and regulatory development, and an extensive resource network of strategic partners to draw upon on an as-needed basis. Our select client base includes public and private sector organizations in the US and other countries, multinational corporations, transnational organizations, and key individuals. More information on DSSi’s services, client projects, methodologies, and principals can be found on our web site at <http://www.metatempo.com>

DSSi can be contacted via electronic mail at info@metatempo.com, on the web at <http://www.metatempo.com>. One of our principals will respond to any inquiry on our services, arrange for establishing a relationship between DSSi and potential clients, and provide the attention of relevant staff to meet client needs.