THE FUTURE HUNTERS™
WEINER · EDRICH · BROWN

WHITE PAPER SUMMARIES

WP

INTRO

Once a quarter, we prepare for our Whiteboard clients six new trend-based White Papers. These papers have covered hundreds of emerging issues and trends—and their implications—the great majority of which have come to pass. Below you'll find brief synopses of past White Papers (original papers range between three and six pages apiece), dating back to 2003, as a way to highlight how we have picked up on critical issues and trends, and helped our clients understand what they mean to them and the businesses they are in. This downloadable compendium includes eight White Paper summaries per year—for a total of 88 summaries. It represents only one-third of the body of white papers that we have generated during that time.

2013

March 2013
INTER SPACE

Much like how designers draw inspiration from nature through biomimicry, inter space is all about the development of new and diverse "nets" that draw inspiration for their engineering and design from the architecture of the Internet itself. And while the Internet is a human creation, it—like elements of nature—has evolved. Some new networks are artificial; others partly organic. We will increasingly hear about the Internet of Things—"real" things increasingly connected to each other virtually in an Internet-like structure. In the near future, low cost smart chips will be added to each device in circulation to give it an IP address. The "Internet of Everything" will extend intelligence, distributing control over and between objects that surround us. We are fast approaching a future when there will be a "net" for everything (e.g., sharenet, matternet, genomenet, quantumnet, mindnet, gridnet, makernet).

March 2013
ALTERNATIVE CURRENCIES

The very notion of global currencies is changing significantly. We've talked before about how virtual currency has been fast to emerge for the past several years. We've also talked about the spending power of loyalty reward points. But, increasingly, other global currencies are giving rise to an alternative financial system that may become harder to regulate, control and predict. As more people lose faith in financial institutions, many national currencies are falling prey to alternatives. Economic hard times, coupled with advances in technology, have produced a wave of new channels of exchange, which let people extract value and do business in completely new ways. A variety of sanctions on countries, institutions and people are also creating a need for new ways to pay and be paid. To skeptics, virtual currencies may seem like a newfangled version of Monopoly money. To others, virtual currencies may seem like the end to a money monopoly. But the answer is somewhere in the middle. Rather, what we are seeing is the gradual decentralization and democratization of currency.

June 2013
BORED GAMES

There has been considerable dialogue around the issue of attention—with special emphasis on global youth populations. However, the focus of the discussion is now shifting from attention to boredom. Boredom studies are a fast-growing, formal field of inquiry. Researchers suggest that boredom has serious consequences for health and productivity, linked to depression, overeating, substance abuse, gambling and even mortality. Smartphones and other digital technologies may also change the way people experience boredom. If we understand that boredom is increasing, and that it

is often not rooted in biological or psychological "malfunction"—but it is increasingly becoming a normal part of the human experience—then we can take a more positive approach to the issue. A focus on better integration of the concepts of fun and play will be integral in dealing with boredom in the future.

June 2013
THE NEW HUMAN BIONICS

Disruptive technologies, in combination with advancements in science, are altering our understanding of our own biology. We are crunching big data, tapping into social networks, leveraging health apps, relying on sophisticated medical diagnostic tools, enabling real-time mapping of outbreaks, sequencing the genetic code, mapping the brain, learning more about the interplay between senses and discovering the intricacies of the mind. New tools, materials and automation techniques promise great possibilities. We are entering a future where our biology is becoming self-defined, assembled, manufactured, and increasingly unique. For instance, advancements in new materials technology are leading to potentially game-changing health innovations. When combined with rapid improvements in 3D printing, the applications for human biology are manifold. And as design software merges with molecular biology, and the emerging nanoscale world of synthetic biology, the lines between designing for science and designing a building may be based on similar principles—each just uses different building blocks.

September 2013
LIBERTARIAN "ME" CORPS

The principle tenet of libertarianism is that liberty—including individual liberty and political freedom—is more important than anything else. In contemporary and more moderate libertarianism, basic libertarian principles are not necessarily at odds with capitalist principles—in fact, the two can coexist very nicely given the right ingredients. Given this framework, we now see the rise of a new model of libertarian-inspired capitalism, in which individuals avoid traditional institutions and processes. One clear manifestation of this is a phenomenon we have dubbed "Me corps." This is an entirely new entrepreneurial ethic. Instead of individuals or sets of partners starting a business and looking for outside investment in the future of that business (and by extension, the "management team"), we now see people who are looking for direct investments in themselves. They are literally selling shares in themselves, their success, their data and their lives as if they were their own corporation.

September 2013
COMMUNICHASMS

There is a vast and growing gap between the maximization of our issues and the minimization of our abilities to talk—and think—about them: communichasms. For instance, one highly-significant direction for language is the growing use of images and symbols rather than words. The impetus for this comes from several factors, including: (1) the increasing universality of communication, spanning different cultures and parts of the world; (2) the burgeoning human/machine interface, with its need for easily-understood communication; and (3) the "Internet of Things," requiring unambiguous language between objects. While technology can enable the communications essential to organizational functioning, it can be offset by trends that seem to be contributing to declining communication skills—and to both growing gaps in understanding between people, and the growing disconnect between what we are faced with and the language tools we have to think and talk about them. To help fill the communichasms, there will be a growing need to focus more on design thinking, digital thinking, mindful attention and critical thinking.

September 2013
TECHNO-FASHION

Wearable technologies—defined as what can be worn close to the body, on the body or in the body—are being increasingly refined to address basic human needs and desires. Wearables will revolutionize health and fitness, the workplace, homes, schools, personal and professional relationships, and everything in between. Advances in microelectronics, data storage and new materials technology will also mean more powerful, smaller, cheaper, more transparent and less detectable technologies. Techno-fashion has the potential to revitalize the in-store shopping experience by engaging shoppers in an entirely new way. Retailers that do not adopt, or prevent, the use of wearable technology in-store may lose favor among consumers interested in new shopping experiences. As wearables become smarter, they may also open the door to a more granular and targeted understanding of people's behaviors. This oncoming flood of real-time information will likely provide the backbone for the next evolution of big data analytics.

December 2013
RECALLITY VS. REALITY

Recall refers to the retrieval of events or information from the past and, along with encoding and storage, is one of the core processes of memory. But what we think we recall might not always be what actually happened. Despite our efforts to remember past memories, our "recallity" is oftentimes not synonymous with reality. In fact, according to scientists, no matter how good our recall is, we still have false memories. The way real memories and false memories form in the brain appear to be the same. Even people with "perfect memory" can be tricked into recalling fake events. As scientific and technological discoveries uncover more about everything from sensory and time perception to sleeping and dreaming, we are learning that recallity and reality are not always congruent. More will be uncovered in coming years about lucid dreaming and how this affects our experiences, behaviors and relationships in the real world, including how it may affect performance, productivity and motivation.

2012

March 2012
THE YOTTASPHERE

In the world of information technology, 'big data' is rapidly expanding. Big data presents a tremendous challenge in the business world, the policy arena and the scientific community. How do we capture, organize and analyze all of this data effectively? Big data also presents a tremendous opportunity in that it allows those who effectively leverage it to make more sophisticated decisions than ever before—thus increasing output, effectiveness and profitability. Big data as a concept is nothing new, but the scale of big data—and the corresponding rate-of-change—is expanding at breakneck speed, possibly leading to a mind-bending threshold that has until recently seemed unfathomable. It is now at least within the realm of possibility that in the near future we enter a "yotta world" (the binary prefix "yotta" being equivalent to 1,000 trillion gigabytes) of digital data.

March 2012
THE METASPATIAL WORKFORCE

We refer to the emerging economy as the Metaspace economy, defined by 10 growth areas for the future that are more intangible and virtual than anything we have seen before. As digital technology spreads, the classic relationship between rising output and rising employment appears broken. Okun's Law postulates that every 3 percent gain in output should reduce the jobless rate by a percentage point. Will Okun's Law hold in the Metaspace economy? What will the 'Metaspatial' workforce look like? The long-standing, accepted relationship between rising output and rising employment now faces serious scrutiny. While technological change of previous economies has always brought about myriad new employment opportunities, the Metaspace economy appears to operate differently. The sheer pace of change is making it difficult for the formal workforce to play 'catch-up.' Many people may be forced into entrepreneurship, constant makeshift employment, micro labor, or other more fluid and less tangible channels. This sets the stage for a future in which transitions between employment, semi-employment and unemployment are more frequent and less well-defined.

March 2012
THE ENERGY/ MATERIALS MATRIX

Advancements in materials technology are leading to potentially game-changing innovations in the energy sector. These materials are critical components of emerging technologies that promise to be major economic engines for growth. The development of these new materials may ultimately usher in a new era of energy-focused innovation, and a range of applications that stem from their development. One of the most promising avenues for research in this direction is the search for efficient solutions at the molecular and chemical level. The potentially low manufacturing costs of new materials, too, could significantly improve the economic viability of their use in energy-focused technologies.

June 2012
POP-STARTS: THE EMERGING BUSINESS ETHIC

We are entering the era of a "pop-up" world. Consumers have already begun to grow accustomed to several facets of this: Here-one-day, gone-the-next retail pop-up stores; pop-up ads; pop-up office space; pop-up food trucks, stand-up (or pop-up) meetings; and flash mobs (an extreme form of social pop-ups). But perhaps most profound will be the effect of this pop-up world on the future of entrepreneurship.

There is now a rapidly bourgeoning "pop-up" business ethic—one that is very different from traditional "serial" entrepreneurship. Underway now is a transformation in the types of enterprises started, who starts them, and why they are even started in the first place. Pop-up entrepreneurship is a huge market opportunity for many B2C and B2B companies. Woven into the DNA of pop-up entrepreneurs is a near-immediate-term focus with an instant gratification. There is a highly impermanent—almost transient—quality to this market that will dictate what types of office space, technology infrastructure, and financial instruments they are willing to pay for or invest in.

June 2012
SUPRA-URBAN VISIONS

More than 50 percent of the world's population now lives in urbanized areas. In fact, the human population is growing at such a staggering rate that the way we organize ourselves more closely resembles ant super-colonies than chimpanzees. All of this is continuing to challenge the way in which we view a world of rapid urbanization. But what if we moved beyond that? What would the future look like if we re-envisioned the make-up and mission of our dense urban centers? Reengineering, reimagining and re-envisioning how we live, where we live and what we live in will be needed to make cities really livable in the future. While newer urban centers have an advantage in terms of design knowledge, eco-based thinking and access to newer technology, there is still a lot of imagination that can be done to completely re-conceptualize traditional notions of urban design. For instance, over the last decade, floating architecture has evolved from a fringe niche market into a realistic opportunity for expanding the urban fabric beyond the waterfront.

September 2012
SPELL CHECK ME

Somewhat paradoxically, many people are relinquishing management of more organic facets of their lives to software platforms and apps in an effort to better exercise control of their lives. Similar to how we type and then allow for spell check or auto-correct to fix our mistakes, people now "spell-check" behaviors that have long been more human, instinctual or serendipitous. This is driven by four primary, underlying factors: (1) Time pressures; (2) Big data and the rise of "transactional me" (the "self-quantification" trend, whereby people leverage big data in order to measure the more transactional elements of their lives); (3) Fear of missing out; and (4) self-distrust. Many people simply no longer trust themselves to make the right decision or remember the right things when it comes to several aspects of their lives. They need a system of spell checks to either correct and/or validate their decisions and behaviors.

December 2012
ERUPTION OF THE SENSES

We have always been taught that there are five basic senses (sight, hearing, taste, smell and touch). There is continued and rapid advancement in the study of how complex and integrated those five senses can be, and scientists are building applications around that integration. Many other senses—including kinesthetic sense, balance, direction, time and acceleration—beyond those governed by the basic five have not traditionally been considered "sensory." However, we are now beginning to realize that the framework of five senses might be entirely too limited, like playing a piano with only five keys, and that there may be an unlimited number of human 'senses.' This eruption of our understanding about human sensory systems will revolutionize technology, research, health, environments, consumer products and customer service.

December 2012
THE NEW URBANITES

For the first time in human history, more than half of the world's 7 billion people live in cities. And according to the U.N., that number is expected to reach as high as 65 percent by 2050. Considering that we are fast approaching a time when nearly two-thirds of the world's population will live in cities, it will be more important than ever to understand the dynamics of cities. And it will be equally as critical to understand city-dwellers themselves. Global policy makers throughout both the developed and developing worlds will need to account for city-dwellers as the single most important growth market of the future—perhaps more so than any individual geographic market (e.g., China or India) or demographic market (e.g., global women). As the world's population further concentrates in cities, individual cities—as opposed to entire countries—will develop their own cultures, identities and economies. The world is increasingly about "city states," as opposed to nation states. Many of the world's consumer-facing businesses will be tasked with continuously evolving most (or all) that they do to address the ever-changing dynamics of this bourgeoning market—the 'New Urbanites.'

2011

March 2011
DIGITAL SWAP MEET: THE RISE OF COLLABORATIVE CONSUMPTION

Thanks to a host of new social networks and other web platforms, people can now trade, swap, rent or barter goods, skills, services or expertise with considerable ease. What we are seeing emerge is a more fluid approach towards ownership, and a dramatic shift in consumption habits. The decades-old model of inefficient hyper-consumption is rapidly giving way to a new swapping-based model called collaborative consumption. Rooted in the principle of separating product benefits from product purchase or ownership, people can save money without forfeiting any product advantages—all they sacrifice is individual ownership. But it's not just about changing our consumption habits; it's also about a widespread value shift. A shift from valuing possessions to valuing usage. A shift from valuing ownership to valuing access. We can expect that in the coming decade, a shift towards collaborative consumption will lead to the invention and reinvention of many new "meshed" business models.

June 2011
VALUATION VS. VALUE

There are fundamental and profound paradigm shifts evident among the world's most influential, contemporary technology companies. The "best of breed" technological enterprises of today are collectively rewriting the traditional rules of business, and exhibiting remarkable adaptability in the process. These companies make their money either exclusively through virtual products and services, or through a blend of tangible products and virtual platforms. These companies are highly profitable, while maintaining a relatively tiny human workforce. Thus, profits and subsequent wealth creation are concentrated in the hands of few. In many ways, these companies are considered to be the emerging gold standard in global business. An important equation is emerging when we assess the success, sustainability and integrity of these enterprises: Does High "Valuation" = High "Value" Delivered?

June 2011
THE FUTURE OF CONNECTOMAPPING

Much has been written recently about the "Internet of Things." The Internet of Everything will extend intelligence exponentially, distributing exceptional control over and between the objects that surround us. Companies ranging from Google to small start-ups are touting the interconnectability of people and objects. Eventually, these ubiquitous entanglements will lead to "connectomapping," deciphering the intentions between Humans Systems «-» Things. Or, in other words, the creation of a global map of connections. Connectomapping involves the leveraging and harnessing of the following 11 variables: (1) the mapping of metadata systems, (2) multi-scale data integration, (3) predictive intelligence models, (4) environmental tracking, (5) impact monitoring, (6) the semantic web, (7) new sources of real-time data, (8) remote sensing, (9) social network analysis, (10) crowd-sourcing, and (11) innovative data-analyzing technologies.

June 2011
NEOCAPITALISM AND ITS IMPACTS ON THE MIDDLES

The longstanding conflict between capitalism and socialism seems increasingly to be becoming a contest between competing forms of capitalism. Over decades, Europe has developed another form of capitalism, blending in elements of socialism. Now we are seeing a transformation of the U.S. version of capitalism as well. The

landscape is increasingly dominated by high tech companies whose "shares are essentially speculative investments," who don't pay dividends and who don't employ many people. The main result of all this is twofold: (1) a decline in regulation, and (2) a decline in the underlying principles of stockholder democracy. The newly developing capitalism is characterized by an expanded interlacing of business and government. What many have called a recession has masked the transformation capitalism is undergoing. Throughout its existence, capitalism has been the creator and beneficiary of a thriving middle class. If neocapitalism no longer grows a middle class, as may now be happening in the developed world, what will be the consequences?

September 2011

INTRODUCTION TO A NEW MARKET SEGMENTATION: GLOBANS & PROXIMALS

We see several powerful indicators of two divergent dynamics that lead to the identification of an important market segmentation framework. In this case, trend and countertrend translate into market segment We call these new market segments globans (the increasing number of persons educated and employed outside their country of birth, and those who travel and live abroad on a much more frequent basis) and proximals (the population segment defined by their comfort with—and desire for—that which is nearby, local, familiar and traditional). What we may see, for example, are individuals who are technological and geopolitical globans but sociocultural proximals. The combinations are limitless, especially if we further segment these populations by important demographic criteria. As a result, we should conceive of this segmentation not as a linear or 2-diminsional framework, but as a multi-dimensional framework.

December 2011

THE ERA OF INDIG'NATIONS'

Protest, civil unrest and other conflicts have been a reality of the world since the beginning of human civilization. However, what we see today is the profound genesis of indignation on a truly global scale in a manner like nothing seen before. Taken in a vacuum, the Arab Spring may look like regional fervor. Taken in a vacuum, European and American protests may appear to be reactions to cyclical economic pressures. Taken in a vacuum, Chinese unrest may seem like the logical consequence of exponential growth and prosperity subject to the constraints of iron-fisted government. But taken as a composite whole, it becomes clear that all of the above examples—along with indignation across much of the rest of the world—are interconnected.

December 2011

MIND OVER MATTER—ADVANCEMENTS IN AUGMENTED REALITY

Recently, considerable evolutionary—and in some cases, revolutionary—progress has been made in the study, development and engineering of augmented reality (AR) applications. AR, while sometimes involving virtual platforms, is very different from the concept of virtual reality (VR). AR is the process through which the elements of a real-world environment are literally augmented by technology-enhanced sensory input, translation of electromagnetic signals in the brain, GPS data, interactive apps, the "Internet of Things" and smart, adaptive physical spaces. As a result, technology completely enhances someone's current interaction with the real world. AR-related smartphone apps will continue to proliferate—particularly among CPG marketers and retailers. Some of these will be considerably more utilitarian, while others more gimmicky. In a crowded marketplace, app development is only the tip of the iceberg as far as where companies will make truly sustainable AR inroads.

December 2011
3D PRINTING

For almost two decades, we have been discussing the prospect of nanomanufacturing and stereolithography, including its application to 3D printing. Now, new advancements are increasingly pushing 3D printing into the mainstream, and are being applied to a greater variety of diverse product groups. 3D printing has been opened up to a broader market, and an influx of startups have begun producing reasonably-priced, open-source, build-it-yourself machines. 3D printing will inevitably lead to commoditization in the marketplace, the democratization of design and innovation, the creation of new materials, bioprinting and a rapidly changing health landscape, tremendous revolutions in manufacturing and the process of invention, advancements in construction and transportation, new jobs and forms of labor, a completely reconceived retail landscape, and challenges to our concept of ownership, copyrighting and trademarking.

2010

March 2010
EFFRESHENCY

In the context of today's rapid change, organizations around the world are faced with a daunting set of challenges. Traditional thinking is no longer optimizing results, and an entirely new model is emerging—one that we call effreshency. Effreshency refers to the implementation of new and "fresh" strategies that improve upon and revolutionize traditional thinking about six distinct areas of organizational performance that are often viewed separately. Effreshency breaks tradition in all of these six areas simultaneously, and moving forward it will increasingly be the recipe for a sustainable, profitable and competitive organization. The equation for this new model can be expressed as follows: Efficient + Effective + Innovative + Adaptable + Inclusive + Accountable = Effreshent

March 2010
SOCIAL CONTAGION: THE "NETWORK" EFFECT

A wealth of emerging data signals a profound shift in our understanding of "contagion." Traditionally, there are two different paradigms of contagion—one biological and one social; one involuntary and the other voluntary. We now see an emerging hybrid of these two paradigms—an involuntary social contagion developing among people whose interpersonal, psychological and attitudinal characteristics are being passed virally along to others with little or no conscious awareness that it is even happening. Perhaps most profound is the reality that this social contagion will only increase as social networking and personalized mobile technology continue to become more ubiquitous.

March 2010
FROM BIG BROTHER TO BIG SYSTER

The Internet was always about connecting people. But increasingly it is about connecting things. Systems, networks, structures, electronic devices and virtual entities are now connecting wirelessly, without human inclusion. Humans were typically central to the equation, serving, in large part, as intermediaries between various data systems. But control is shifting, from the hands of humans into the hands of systems—and the many networks of systems these systems control. Up until recently, humans and systems coexisted, mutually supervising and monitoring each other (Big Brother). But with Big Syster, people are removed from the equation altogether. Self-contained data systems will increasingly pool their resources and capabilities to create new, more complex and fully independent meta-systems which will offer more functionality, operability and computing power.

June 2010
PRETAILING

An extraordinary revolution is taking place on the front end of retailing. Not only are traditional advertising messages being massively moved to alternative media like outside-the-house video screens and the Internet, but communities of strangers are transacting with each other. The setting up of a buy and sell situation has gotten farther away from the traditional marketing and sales channels, spurring wholly new messaging and businesses. All of this new technology will transform the retail experience into an immediacy, a personalization and a transaction far from the traditional purchase experience.

September, 2010
THE 4TH WORLD

The 20th Century framework of global economic development may no longer be accurate in capturing the true state of global markets. Long-accepted delineations between Developed and Developing or Less Developed (3rd) World markets are being challenged in the face of rapid geopolitical change. What we see emerging now is an entirely new way of looking at the world. This new world consists of several important nations moving up the economic ladder very rapidly, and calls into the question the continuing validity of a 3rd World classification. The categorization of BRIC countries is also in flux. This is the emergence of a 4th World—the combination of developed and developing markets into a more structurally flexible and adaptive model.

September, 2010
THE "BRAINS" RACE

Global supremacy among nations has long been determined by several factors—including military might, geopolitical strength, capitalization of natural resources, and international commerce. However, what we now see emerging from both the developed and developing worlds alike is a drive to global supremacy through renewed investment in education, innovation and intellectual capital. Eastern policy makers have identified the need to highlight education in order to remain sustainably competitive. China, India, South Korea and Singapore are all spearheading this movement toward educational excellence and endemic innovation. Those nations are looking to tip the balance, after a long period of Western educational dominance. U.S. businesses may have to re-examine how they conceive of "innovation," and how they source skilled labor. All global businesses are going to have to consider making a serious and well-conceived investment in education if they want to achieve sustainable success.

September 2010
PRIFECTA

Networks are becoming more intricate and pervasive, and systems more interconnected and embedded. Computer processors and smart technology are becoming fully integrated into day-to-day life. Smartphone technology is advancing rapidly, alongside RFID technology, geographical information systems (GIS) and global positioning systems (GPS). As the technology becomes more affordable, it is being used in new applications and areas of innovation. This "prifecta" of RFIDs, smartphones and geographic positioning is being developed arm-in-arm with the imagination of businesses and governments, which are creating new ways to use these tiny electronic sensors to monitor and track both consumer behavior as well as their own supply chains and product inventory.

December 2010
TOOLKIT FOR THE FUTURE

The forces of change, coupled with the compression of time between periods of change, are necessitating the development of an entirely new skill set that is unlike anything seen before. A new "toolkit" for the future includes competencies driven largely by technological and social change, and will be equally important to individuals, employers and policy makers alike.

2009

March 2009
VIRTUAL FAITH

In many ways, the Internet has led to the creation of a distorted reality. Myths, opinions, judgments and falsehoods get circulated and digested without a second thought. The more popular or relevant the topic, the faster it gets transmitted and the less research gets done to confirm its authenticity and accuracy. What is emerging is a blind acceptance of the validity of both real and virtual information. It will therefore become increasingly important for management to learn how they can help their employees sift through this influx of information, discern the truth and ask questions.

March 2009
THE SEMIOTIC CENTURY

Semiotics is the study of signs, symbols and metaphors. In the coming visual age, semiotics becomes ever more important in marketing, human relations, product design and media. Workplace environments are semiotically-rich settings for embodied meaning. Semiotics can help guide an analysis of communicative practices, social interaction, spatial configurations, infrastructures, architectures and body movement. Semiotic goods, services and experiences will gain value. Semiotic goods derive their economic value from the meanings people give them, rather than their functionality. Design (and more specifically, sensorial design) is a critical component of this.

June 2009
WHEN TRANSFORMATION MEETS DEMOGRAPHICS

We are currently in a period of transformation. Our current systems, our current ways of living, our societal norms and our social groups are all being redefined. This time of profound change is creating demographic ripples which can be felt in the workplace, in our homes, in our institutions and in our own lives. When transformation collides with demographics, the social, technological, economic, political and cultural ramifications are widespread. As we move into a world in which boundaries do not exist, in which traditional delineations do not apply, we will increasingly experience a marked removal from the tangible. As the lines become increasingly blurred, absolute demarcations between populations, processes and dynamics will no longer exist. Demographic variables and measurements will be increasingly hard to quantify, as the lines between them become more nebulous.

September 2009
PRICING STRUCTURES: FROM REDUCTION TO REINVENTION

We are approaching a very different pricing model. We're now seeing that pricing is front and center when it comes to reinventing the business model throughout the economy. The disintermediation, the technological displacement, the do-it-yourself movement, the emerging nations' demand, the move toward intangible goods and services, and a proliferation of auctions all combine with cost-conscious shopping to blast through the pricing structures and reinvent the institution of pricing.

September 2009
BOYS IN TROUBLE

According to some observers, the focus in recent years on "girl's issues" has resulted in neglect of boys and their issues. As a consequence, we are seeing among boys an increase in illiteracy, lower grades in school and higher drop-out rates, higher suicide rates and other manifestations of troubled and troubling behavior. Products that can channel and contain the restless energies of young males should continue to grow in demand. This includes often criticized but effective video games. Online competitions of all kinds should also be increasingly profitable in this context.

September 2009
ANTI-"TRUST"

There have been a lot of recent indicators of systemic, organizational and individual distrust surfacing both domestically and abroad. What we see today is a complex and systemic anti-"trust" dynamic, a consequence of the rapid pace of change that we have been experiencing, and the inability of many participants in the system—be they individuals, companies, or governments—to keep up. Organizations need to make sure that their customers, stockholders, members and employees never lose trust. Transparency and accountability will become the true currencies of the future. The key is to always remain true, practice what is preached, and not run astray in an effort to keep up—and, above all, be believably authentic.

December 2009
THE QUIRKY LEADING-EDGE

Today, there are countless quirky behaviors, trends, and social groups sprouting up across the world. The concentration of much of this quirkiness appears to be in the developed world, where people have, in many ways, tackled the lowest-order needs of Maslow's hierarchy and are now refocusing their energies on new outlets that advanced technology and economic unrest are awakening. We see curious quirky behaviors emerging throughout North America, Europe and Asia. However, it appears that the "leading edge" or epicenter, of quirkiness is in Japan. Many of these odd adaptations and emerging subgroups could be a harbinger of similar things to come both here in the U.S. and more broadly. The "quirky" leading-edge, while easy to marginalize, could be an important predictive tool for global business going forward.

December 2009
INNOVOCRACY

There are signs of a global renaissance of innovation, fueled by three major influences. The first is the acceleration of what we have long seen as a great megatrend: democratization. The second is the promising creative responses by some to current crises: financial disarray, climate change and energy needs. And the third is the continuing rapid development of relatively low cost enabling technology.

2008

March 2008
THE FEEDBACK FRONTIERS

We are living in a time when all manner of feedback is undergoing profound change, and this will have implications for ourselves and our institutions. Now, with risks and needs rapidly changing, feedback has to be prospective rather than retrospective. Employee feedback used to be a core competence of management; now that feedback can be done with a host of software. Romance and friendship used to rely on personal conversations and body language; now they rely on text messages and legal contracts. Military models relied on arms and personnel; now they must factor in the human condition, the Internet, network vulnerabilities and rogue actions. Educational models used to rely on how people compared to their peers and interacted with their teachers; now students have no need to personally interact with their peers or their teachers. People will become more accustomed to being told about themselves, about their interests, about their whereabouts, about their needs and about their choices from sources other than other people. And that means that they will turn increasingly to new media to enable them to escape difficult interpersonal feedback. The products and services that alleviate the need for people to deliver uncomfortable feedback will see enormous growth in the coming years.

March 2008
SOULS REVEALED: THE PROMISE OF REALITY MINING

The collection of real-time behavioral data (known as reality mining) refers to the collection of technology-based data, collected primarily from mobile phones. Electronic devices are increasingly being used to control, regulate and predict our behavior, as they simultaneously gather information on us. The speedy, and widespread, adoption of mobile phone technology has given companies the ability to collect a much larger, and more unbiased, assortment of real-time data. These devices are also revealing things about your personality, your daily habits, your social network, and where you go and who you meet. These patterns in data can then be translated into maps of social relationships and dynamics. As human interaction becomes increasingly virtual, rather than physical, our ability to analyze speech, interpret movements, and anticipate consumer behavior will compound exponentially.

March 2008
PRIME METRICS

As the world enters the next stages of technological revolution, the era of BAANGFUEL (Bits, Atoms, Antimatter, Neurons, Genes, Frequencies & vibrations and Ultra/infra-spectral Energy and Light) is coming fast upon us. What we are beginning to unravel about the universe is rapidly propelling us to the frontiers of the unknown, and all of our bodies of understanding will be profoundly changed. What we did, what we made, what we believed and what we valued are all undergoing fundamental transformation. And we are only beginning to realize that we need to learn how to measure different things differently if we are to thrive as people and as institutions. What we measure, still, is what we can see, touch and replicate. These were perhaps inadequate, but appropriate for an Industrial Era. We now understand that these are only derivatives of what reality may be now and in the future. Our metrics are based on stuff and input, whereas the future is about intangibles and output. Our current metrics are second and third order. We will need to quickly design new dashboards to get to first order understanding—to the primary metrics—if we are to succeed and prosper in the coming years.

June 2008
DIGITAL TRIBALISM

Sociologists describe two kinds of social ties: strong ties to family members and those with shared values, beliefs and identities; and weak ties to acquaintances and other people with shallow connections. The Internet and, in particular, mobile devices are enabling the strong ties to be reinforced, often at the expense of the weak ties. At a time when technology is being lauded for encouraging diversity and facilitating cross-cultural communication, there is, consequently, a strong and growing countertrend: digital tribalism.

September 2008
COMPLOYMENT

There are many developments pointing to the merging of the roles of consumers and employees in ways that change the relationship of both to any organization. It was once the mandate of any enterprise to utilize the input of its employees in order to enhance the output for its customers. Today, however, it is imperative to employ the input of customers to enhance the organization's output in order to retain talented and capable employees. We might call this state of affairs complOYment, a term that evokes the emerging complementary role of consumers and employees. In every facet of life, from medicine to tourism to education to home entertainment, the public is increasingly doing the work that employees and professionals used to do with regard to designing and configuring product offerings.

September 2008
ACCUMULOUS CLOUD

The majority of our computing lives now reside inside the cloud—a centralized network made up of hundreds of thousands of servers, each storing staggering amounts of data. The cloud is a metaphor for the Internet—and leveraging the Internet to access web-based software or services. Information is stored in a centralized off-site data center instead of on your computer. Over time, these individual pieces of information can coalesce into a highly sophisticated portrait of people's lives. People will increasingly enter this space through a variety of cloud-friendly devices: PCs, smart phones, PDAs, RFIDs. These need only to connect to the cloud rather than store the intelligence themselves. Interactions with the cloud will undoubtedly increase in both number and diversity, which will provide valuable information on how people and systems think, respond and interact with each other.

December 2008
THE NEW, NEW WORLD FINANCIAL ORDER

The current financial crisis will eventually be resolved; they always are. But in its wake, it seems likely to leave fundamental changes. The changes will profoundly alter both the appearance and the underlying structure of national and global financial systems. Governments will become more interventionist. Regulations will become more prevalent and stringent. Whether that will be a major inhibitor of capitalism and entrepreneurialism will be debated for some time to come. Capitalism will see more restraints, and there will be efforts to impose more transparency and accountability. Because this crisis is so deep and seems likely to last for a good while, the remedies proposed and enacted will in all likelihood be more than merely surface corrections.

December 2008
SMALL IS BIG: MICRO INNOVATION

As the current financial stresses occupy center stage, there is rising concern that the many things that need fixing or change may be ignored. Some pessimists believe that innovative initiatives will dry up in the face of funding shortfalls. This may actually be true for a number of large-dollar ventures and big projects, but the exciting news is that so many innovative initiatives are small and potentially extremely effective. Over the next few years, most organizations will be feeling the need to cut costs and hunker down. Now, perhaps more than ever, we need to see innovation that leads

the way out of the current crises—and that innovation need not be huge or costly. New avenues for value extraction need to be explored. Markets are eager for new solutions that are workable, more secure and less costly. Ingenuity is most necessary in times of great challenge, and what we must focus on is how to extract and apply that ingenuity so that many phoenixes can rise from the ashes on the horizon.

2007

March 2007
NON-CARBON LIFE FORMS: THE NEW DEMOGRAPHIC

We are entering into a future in which decisions in the home, in the marketplace, in the workplace, and perhaps even in the voting booth, will increasingly be made by non-carbon life forms—networks, robots, structures, electronic devices and virtual entities. As non-carbon life forms instruct us about healthy choices, appropriate style, necessary and luxury products in virtual worlds, aspects of behavior, security, risk, education and work, we will increasingly be giving software designers—and ultimately self-learning and autonomous entities—our proxies in all forms of decision-making. Since all of our market and social studies are based on humans, we will have to become far more prepared for a world in which the real gatekeepers are not.

March 2007
ONLINE DATING VS. DATING ONLINE

Online dating sites were once considered an innovative and exciting way to meet and connect with new people. Dating online grew so much in popularity that it began to be a significant point of origin for new marriages. But as it matures, and problems arise with real world connections that are abused or not productive, virtual communities are rising in importance. The relationships forged in virtual space are just as real to increasing numbers of people as those formed in the real world, and are safer, can remain more anonymous, and can become more adventuresome. Advancements in brain research, software that learns and multi-sensory perception will continue to enhance virtual reality, and the experiences will more closely approach expectations, allowing human emotions to follow.

June 2007
CONTINUING TO DEFROCK THE DOC

Guttenberg's invention of movable type allowed for the wider dissemination of information, which accelerated the challenges to priesthoods, from those serving the church to those serving institutions to those serving people. We have called this the "defrocking of the professional priesthoods." Over the past several hundred years, doctors have seen tremendous evolution in their profession, and that evolution continues. New developments include hundreds of high-tech introductions that can affect health, medicine or care at lower cost, ability to manipulate wellness via brain research, genetic advances, distance medicine and alternative and spiritual healing. E.O. Wilson, the famed biogeneticist, has put forth the theory of "consilience"—the Unity of Knowledge—in which all knowledge is intrinsically linked, not only within science but between science and the humanities. As technologies and bodies of understanding merge and intermingle their results, we will see a very different future for healthcare.

September 2007
THE DESIGN IMPERATIVE

As goods and services become more competitive and commoditized, design will gain in importance and sophistication. The ingredients of the emerging design imperative include: simple and easy, green, ethnically and culturally derived, malleable, affordable, protectable, interactive, safe, urban, multipurposed, brain directed, fast, female, aesthetically pleasing, ergonomic and spiritually aligned. Design encompasses a wide range of skills and applications, from software development to furnishing to packaging. It relates to conceptual alteration of products and services, as well as construction and delivery processes. Because of

the limitless applications of design, it will become one of the fastest growing job areas. Diversity will increasingly become not only a social good for companies but a competitive necessity as the various elements of design require moving away from standardized perception and thinking.

September 2007
THE NEW SILK ROAD

The ancient Silk Road is one of the oldest and most historically important trade routes in history. A new silk road is emerging today between Asia and the Southern Hemisphere. The economies of the energy-rich Persian Gulf and energy-hungry South and East Asia are becoming intertwined. This new version is characterized by authoritarian capitalist players, and their version of capitalism is not dependent upon a liberal democracy or transparency. As a result, the world's strategic map has been redrawn, and the Northern Hemispheric powers, including the U.S. and Europe, are becoming less relevant to the destinies of southern nations. The new consortium will likely participate in the global economy on its own terms, establishing an influential authoritarian capitalist order that connects manufacturers, political elites and the military.

September 2007
MANCHINES

Throughout history, humans have been engaged in physical labor. Modern history marks the domestication of animals for physical labor, and then the use of machines to replace living muscle. Recent trends point to the increasing substitution of machines for human brain power. Human energy, however defined, is now increasingly combining with far more intelligent machine energy, and the boundaries between what will be done by humans for machines and what will be done by machines for humans are blurring.

December 2007
RISKY BUSINESS

Companies and organizations are transforming the way they think about and manage risk, broadening it to include the concept of risk. Integrated, or enterprise-wide, risk management is becoming essential. The imperative is driven by technologies (from virtual offices to interlinked networks) that create vulnerabilities, to environmental and energy challenges, to disaffected populations, to supply chain problems, to epidemic diseases, to operating in a totally transparent environment.

December 2007
JOBBING: THE FUTURE OF GETTING, DOING AND LOSING JOBS

Locally and globally, we continue to see that the nature of jobs is profoundly changing, and what we do in order to earn our incomes, and how we do it, will never be the same. Importantly, none of this will ever again conform to what were the norms or rules or expectations across companies or through the years. The business of getting, keeping, being rewarded for and losing jobs has become a virtual free-for-all. The workplace itself, where it continues to exist, will be a patchwork of new opportunities and challenges. In many buildings, it is coming to resemble more of a design studio than an industrial center. Emerging core values are collaboration and innovation. The processes, protocols and cultures of organizations are divergent as never before. While people are being accorded more flexibility in the workplace, the competition for many jobs is intense, and there are no "career paths" any more in one place or one industry. Plus, there is no longer any guarantee that the job will even be there as long as a year later. There are no longer any rules, there are no longer any promises, and there is no longer much trust. That means there will have to be evolutionary change, if not revolutionary change, in the way people are prepared for work, for life, and for life between jobs and after work.

2006

March 2006
E-ME FOR ETERNITY

We enter appointments into our computers, dial calls on our cell phones, purchase products with our credit cards, send e-mails and text messages—dozens of seemingly trivial tasks like these are performed every day by millions. In doing all this, we are continually adding chapters to our electronic autobiography, or what is sometimes referred to as our data shadow, a term which describes the concept that bringing together different records could completely track an individual's life. And now all this will reside inside data systems for indefinite periods of time. In fact, whatever we blog or video in digital and online format will remain for all to see, disseminate and utilize for years to come.

March 2006
NEOLESCENCE

The Industrial Revolution created, among other things, adolescence, prolonging the dependency and education period for young people. The pre-career education phase is lengthening, which may well extend adolescence into the 30s. Smaller families often mean that parent-child bonds remain in place longer. Online activities increasingly keep young adults in a play world, delaying their maturity and their growth into fully functioning adults.

June 2006
GAME WORLD

The era of Game World is unfolding, and life in the 21st century will be increasingly about playing games. Various stages of the life cycle will be affected differently. Infants and children constantly stimulated by Game World will continue to have a harder time with education systems that do not equally stimulate. ADHD will undoubtedly increase as a diagnosis. Young adults will approach dating, work and community as games, and play them accordingly. That will pose a problem for those who don't know how to manage or interact in the same way. Gaming will only become more ubiquitous and serious as the years go by, and every organization will be involved in multiple ways in Game World. It would benefit all of them today, in a highly competitive world, to begin to understand just exactly what gaming could do in all aspects of enterprise, and to begin to develop a mindset that allows for everything and anything to be approached as a game.

June 2006
REDEFINING THE MIDDLE CLASS

In the 21st century, emerging middle classes are not based on the "welfare" state or unionization, but rather on attracting jobs from elsewhere via efficiencies and cost-cutting. While the middle class will continue to be marked by homeownership, education and consumerism, jobs that were once considered middle class are shifting. Currently, and in the years to come, the development of the global middle class will be defined by services that can be delivered electronically over long distances and those that cannot. For example, while the work of computer programmers, accountants, radiologists, and even security guards can be automated—personal chefs, athletic trainers, plumbers, electricians and janitors are less vulnerable to foreign competition and offshoring. Therefore, the traditional distinctions between high-end and low-end work do not apply to the new shift in the labor market. Impersonal services have become tradable through offshoring and outsourcing, while personal services have not. However, as members of the growing middle class in developing countries immigrate to developed countries, they will also be able to displace incumbent employees in personal service jobs as well.

June 2006
MORPHED TECHNOLOGY PLATFORMS

The initial stages of innovation give birth to simple solutions, meant to achieve singular tasks. But now, technologies and applications are being fused. It is commonplace, for example, to use cell phones (initially designed for telephony) for sending emails, paying bills, getting directions, browsing the Internet, watching video, listening to music and playing games. The cell phone is used to pay for parking in France, to pay for refreshments and gain entry to stadiums in the Netherlands, and to buy bus tickets in Germany. Beyond the intentional steps companies are taking to create revenue streams, there are the spontaneous eruptions of user-based creativity that are carving out new and unforeseen areas. The challenges will include accounting for the rights to value creation arising out of the morphing, the ease of skills transference that enables videogame players to rescue victims of earthquakes and perform brain surgery because everything uses platforms similar to gaming, the inability to delineate between industries as they cross over into each other's businesses, and the U.S.-centric nature of the internet as more people from elsewhere dominate its use.

September 2006
TIME SPACE

Time/space might be defined as all those endeavors that seek to compress, alter, amplify or eradicate real time in real or virtual space. That space might be the human body, the community, any place we might visit or work from, a warehouse—just about any physical or imagined place. We are learning more about how to manipulate time, and how to apply that to all manner of existence, enterprise or activity. The increasing focus on time as a value-added proposition will have numerous significant effects on society. For one thing, the shift of focus away from tangibles to time will be environmentally beneficial. For another, it will greatly change the nature of expectations. Speed and multi-tasking will become of paramount importance, and that will alter the human resource talent that many organizations need in order to survive and thrive. Having adequate information for decision-making will be weighted with a time factor; it will not be the amount of information but the efficiencies of time, as well. Growing impatience with wasted or prolonged time will also reshape many products and services. Time, like energy, is becoming a precious resource. Just as no entity has the luxury anymore of frivolously wasting energy, no entity will have the luxury in the future of failing to value time.

December 2006
"LEARNING" IN THE 21ST CENTURY

As a result of the multimedia explosion, the emphasis in education will be forced to shift from teaching to learning. New tools enable people to experience in virtual environments, to engage in context, to learn throughout their lives—starting earlier and continuing indefinitely—and to be reached in remote and underserved regions or settings. Self-direction and design are more popular with children, downloading lessens the cost of curriculum materials for everyone, private enterprise is innovating in the education space and social network sites enable peer learning.

December 2006
COUNTER-AGING

As a result of vast scientific and technological advancements, it is possible to reverse age-related conditions. Getting old has for the first time become a conscious choice. The most important consequence of counter-aging will be a smoothing of the "age trajectory," from a steady uphill climb to a horizontal plane. What that does is enable people of all ages to move more easily along the aging pathway, both ways. Today's seniors do not see themselves coasting downhill to retirement and senescence. They will increasingly see no reason why employers should not see them as vital and dynamic, because they will see themselves that way.

2005

March 2005
THE CHIMUSPANIC WORLD

Very often we think of global struggles as nation against nation, or region against region, or religion against religion. But there is now a three-way contention for the detraction of power from the U.S. and Europe, and it is a blend of each of the three: a country: China, a religion: Muslim, and a region: Latin America. These three vast elements, increasingly in combination, form the Chimuspanic world, and this is a challenge that, taken together, is more potent than any of the three individually. While China is significant by itself, it is expanding into Latin America. Latin America is overtaking the U.S. and Europe in agricultural exports. The Hispanic population is growing rapidly within the U.S. Southern hemispheric blocs are being created independent of the developed North. Islam is gaining traction not only in the U.S., but seems to be replacing communism throughout much of Europe. French, English, Canadian and American Muslims are reshaping their beliefs by combining East and West. France's population is beginning to pick up again as a result of births that are majority Muslim, much as in Holland. One of the most significant aspects of the Chimuspanic world is the rise of the importance of the Chinese, Hispanic and Muslim underclass and poor.

June 2005
FROM MANKIND TO MINDKIND

As a result of the growing understanding of the mind, the lines between man and animal, and natural vs. artificial intelligence, are blurring. There is a movement of intelligence out of the human realm exclusively. To entertain or care-take or employ humans requires a very different set of materials and energy than the entertainment, caretaking and employment of the mind. And since the mind can increasingly be anywhere, and in anything, it is fascinating to look at what the related resource applications of the future might be. Churches, museums, universities and the like are moving into the commercial space, even as businesses move into the cultural space. The mind will no longer make profound distinctions between cultural and commercial. This will mean everything from product design to marketing messages must increasingly attach to bored or synthetic minds. Virtual reality is gaining strength, and the material resources that go into real-world entertainment and employment will be rivaled by the creative input and output of virtual endeavors. Instead of hiring whole people to do work, employers can hire minds, wherever and whatever they may be. The major battles of the future—political campaigns, religious envangelicism or marketing wars—will be for minds and not bodies. Women, animals, plants, children, thinking machines and people located in remote places will take a more prominent position as what is considered humanity evolves from mankind to mindkind.

June 2005
THE EXPANDING MORTALITY HORIZON

The mortality horizon is our term for the length of time in one's life which extends from the adult age during which 10% of one's still-living cohort begins to die off to the point when the last 10% of the cohort will die off. The mortality horizon has expanded greatly during the 20th century, as the global average life expectancy from birth rose from 51 years to 69 years. According to the UN, by 2050 another 10 years will be added. It is projected that 1 in 9 U.S. Baby Boomers will live to be 100 years old. What this means in most of the industrialized world, with the exception of Russia,

is that the mortality horizon at the dawn of the 21st century extends from about age 50 to about age 100. We have gone from a time when much of life was coming to a close as we passed the age of 50 to a time when we will spend half a century not knowing how soon we will die or how long we will live. Living with that uncertainty will change all of our institutions, ideas of risk, lifetime financial concerns, linear career patterns, psychological self-assessments, law, continuing education, employment patterns, life styles, and relationships.

June 2005
A DISTANT MIRROR—THE NEW SLAVE SOCIETY

The word robot describes entities that do more and more of our manual labor, perform domestic duties, fight wars, clean up messes—all with no say or control over what they do and when they do it. They get no pay, and they can be terminated at any time. Another name for such entities is slaves. What will it mean as our economies become increasingly based on robotic slave labor?

September 2005
NANO-NARCISSISM

The intense focus on self that began with the self-absorption of the Baby Boomers has now evolved into an expectation of personalized attention to every detail of one's life as people of all ages feel entitled in a world where it seems anyone can say, "It's all about me." There are so many opportunities available now or coming in the near future for individuals to have personalized products and services that cater to their specific needs and desires of any specific moment—down to the nanoscale. And, nano-narcissistic desires are increasingly met within personalized time-frames, an outcome fostered in part by the growth of technologies that enable continuous computing. Nano-narcissistic expectations will impact every arena of life. In business, customer and employee relationships will be affected as demands for personalized service and understanding of personal needs increases. Product development and marketing decisions will also to continue to focus on personalization options. As consumer attention is broken down into nano-seconds, and the number of marketers clamoring for that attention grows, the ability to deliver a message quickly and succinctly, and personally, will be beneficial.

September 2005
OTHERSOURCING

There has been much attention paid to—and political furor about—outsourcing and offshoring, the movement of jobs to places with lower labor costs. The real underlying issue, however, is othersourcing, the increasing ability to have work done by non-humans. Software programs and robots will increasingly assumed prominence in higher and higher level brain work as well as physical labor.

September 2005
THE GALLOPING SUBSTITUTION EFFECT

Throughout history, the transformation of economies has been marked by the substitution of new products, services and processes for existing ones. The current era is no different, but the speed and the cumulative impact with which that substitution effect is occurring is startling. This means that as soon as organizations and societies get used to the new, they have to meet the challenges posed by the new new. Organizations are scrambling to save their existing lines of business and their revenue streams as marauders of all kinds seek to render them obsolete. It will be harder for companies anywhere in the world to make their people feel secure, because no company knows if its lines of business are safe. On the other hand, this trend forces everyone to leverage their strengths and capabilities in new and uncharted territory, or risk leaving the opportunities to others.

December 2005

THE TRANSFORMATION OF CRIME IN THE 21ST CENTURY

Advances in both information technology and biotechnology, along with expanding globalization and political shifts, are fostering changes in the types of crimes that are committed, the scope of those crimes, and the methods used. Identity and data theft are rampant. People will soon be at greater risk of having their genetic and medical records stolen. Virtual possessions of online populations are being stolen. In China and Indonesia, sweatshop teams send software "bots" on virtual crime sprees. Libel and slander proliferate online. Hate crimes continue to broaden in scope globally. Intellectual property rights are flouted. Global criminal operations are in constant motion across borders, and there are greater opportunities for corruption, bribery and money laundering. Kidnapping is on the rise. Among the new crimes: stealing thoughts and ideas out of people's brains using neuroimaging, ecological and energy trespasses enforced by "green police," custom drugs that cater to unique individual desires and increased trafficking in body parts.

2004

March 2004
BABES IN THE CREDIT WOODS

Credit card usage by Gen Y and young consumers elsewhere around the world is rising at a rapid rate. Immediate gratification and a redefinition of luxury are spurring excess spending, causing problems in China, India and Latin America. Role models for responsible use of credit do not necessarily exist in those societies where newfound wealth and middle-class aspirations are emerging. Increased spending and reliance on credit tend to go hand-in-hand with decreased saving. While businesses and governments look with favor on increased spending to boost economies, there is a limit to how much debt should be carried. For example, subprime borrowers who continue to borrow cash on their overvalued homes may ultimately face foreclosure—which will benefit neither the borrower nor the lending bank.

March 2004
THEARCHY

The fundamental struggle over governance in the western world in the last 200 years has been between rule by man and rule by law. We are increasingly seeing another element introduced into this conflict, and that is rule by God. Clearly there is the impetus coming from outside the West fueled by terrorism. But there are other factors as well, such as developments in science and technology that threaten to introduce human power over life and death, a search for morality, the need for anchors in a time of rapid change, and concern over what is seen as an overly secular, liberal domination of international political and legal arenas. In Russia, there is an increasing link between intense religious devotion and fervent nationalism. All over, the Internet is used more by anarchists whose stated objective is the destruction of lay governing institutions. Africa will become a battleground in which Muslim and Christian extremists will fight ferociously for the right to impose their own versions of thearchy.

June 2004
THE SPACE IMPERATIVE

Space exploration appears to be heating up everywhere around the world. Space agencies in China, Japan, India and Europe, along with NASA in the U.S., are all planning missions to the moon. The discovery of large hydrogen deposits in the South Pole region of the moon changes the perception of that celestial body from one of scientific interest to one of strategic value. Pressures on natural resources like oil, water and arable land are spurring the search into space, including using Mars for terrafarming. Space may eventually offer resources for use in the rapidly developing field of industrial biotechnology, as microbiologists search in unexplored environments for new genes with potential use in the artificial production of proteins. Space is also being looked to for answers or help in the areas of climate change, tourism, transportation, communication, health care, new materials and storage.

June 2004
THE NEW SOCIAL UNIT: THE EVOLVING FAMILY VS. THE APPROACHING SINGULARITY

Throughout human history, the basic social unit has been the family, and beyond that, the tribe. In Western societies, sociologists have seen the rise of the individual. The family has gone through many transitions in modern times, and today a household can be anything its members accept it as. Now, well beyond the computing world and devices we have come to know, there is the ongoing development of scientific replacement for human organisms—natural or synthetic production of brain power, emotions, sensory perception, human likeness and human behavior. The Singularity is the term scientists now use to describe the

point at which ultra intelligent beings, created initially by humans, challenge human supremacy, but are so programmed with human rules, ethics, responses and emotions that they begin to be the inheritors of the trajectory of human evolution. As younger people find themselves inextricably attached to various forms of technology, their world will be completely reshaped by the emerging cyber-culture. Their different notions of family and self will profoundly influence all products, services, employing organizations and communities in the 21st century.

June 2004
DENAISSANCE

The term Renaissance refers to the transitional time in Europe 500 years ago, when optimism spurred artistic and scientific innovation following the Dark Ages. We will see a reversal of that in the coming few years, as pervasive fears dominate. We will be confronted by a combination of costs that will turn our attention to problem solving rather than advancement. These include the costs of terrorism, conflict, climate-related dislocations, global aging populations, health care, software vulnerability and economic protectionism.

September 2004
HURRY-UP RETAIL

Just-in-time manufacturing and inventory systems have been a tremendous boon to retail, and now retail itself is becoming just-in-time. Recent examples include simulated prototypes, pop-up stores that last for a week, the piggybacking on hot ideas, websites for the co-creation of product and advertising, using trendsetters to seed quick, new markets, syndication feeds over the Internet and virtual stores. In this environment, consumers tend to over-purchase, leading to the growth of the personal storage business, and product glitches are assumed. Customer service will have to speed up to match expectations in a hurry-up environment.

December 2004
GRASSROOTS GROUPTHINK

Groupthink was originally identified in 1972 by Irving Janus as it related to group dynamics. Taken from George Orwell's concepts in Nineteen Eighty-Four ("newspeak" and "doublethink"), the concept reflected a prevailing point of view imposed from above. Now it is becoming the perspective arising from individuals, on a grassroots level, that is eventually absorbed and accepted by the larger group. Marketers can no longer control or dictate what will succeed in the marketplace. People can now create their own products, push or downplay what they choose, independently produce music, books, movies or scientific research, and create predictive markets. Crowdsourcing will increasingly expand, and the public will find new and creative ways to tap into their interests and inclinations.

December 2004
THE DECLINE OF THE LINEAR NARRATIVE

The idea that there are definitive beginning, middle and end stages to an individual's life is shifting. People are now more likely to quit work and go back to school or retire and then take up a new career than ever before. As we have seen over and over again, life is less and less likely to follow a linear path. This will only become more common as the average life span grows longer. The move away from a linear life path for younger people is partially reflective of their expectations that you can invent your own story, choose your own endings, and not wait until the end for rewards. It is possible that in the networked world in which we now live, and in which connections are now made in a web-like pattern as opposed to a straight line, we will continue to move away from linear narratives in many aspects of our lives. As children and youth, with their more malleable brains, develop in an increasingly networked world, it does not seem unreasonable to assume that they will be comfortable creating and functioning in a culture where non-linear narratives are the norm.

2003

March 2003
THE HAL PHENOMENON

In Kubrick's classic movie, "2001: A Space Odyssey," HAL the computer, acting in what it sees as its own self-interest, tries to kill its human masters. HAL was an autonomic computer, capable of self-direction and independent thought. When Kubrick made his movie that was seen as an aberration — indeed, an unlikely one. Not anymore. Advances in both hardware and software are enabling computers to become, in many ways, independent of wetware (humans). As with all technological developments, autonomic computing has both positive and negative implications. On the negative side, it could very well increase societal and organizational vulnerability. The impersonality of a machine, incapable of emotional response or attachment, will continue to be unattractive to many people. Furthermore, the use of "machinery" is now left to the IT departments. As machines become more self-directing, and more "human," isn't it time to consider placing their organizational futures in the arena of Human Resources? People who populate IT are generally notorious for their lack of interpersonal and communications skills.

June 2003
CRITICAL COMBOS

A fundamental shift in society is taking place as powerful combinations of subgroups drive new demographic realities. Multi-raciality is mushrooming, with more people unable to declare a single race of origin. Latino-Asian couplings are more common. Single professional older women with children are on the rise. A major subculture of older, affluent, working women with retired or unemployed spouses is challenging traditional notions of empty nesting. There is clearly a breaking apart of the larger markets into combinations or overlapping of demographic variables that are coming together to provide critical mass. These will challenge preconceived notions of marketers.

June 2003
PHENOMENANO: THE NANOTECH TRANSFORMATION

For ten years before this paper, we had been exploring the implications of nanotechnology. The developments are updated here, including carbon nanotubes in optics, MEMS (microelectromechanical devices), nanocircuit boards, quantum dots (electrons confined to small spaces which will lead to programmable matter), and molecular self-assembly.

September 2003
THAT'S ENTERBRAINMENT!

A further look into psychopharmacology, neuroimaging and genetics, as we continue down the path toward acquiring knowledge about how the brain is formed, how it works, and how it can be manipulated. New advances include the abilities to "see into" people's memories, use brain energy (thoughts) to control mechanical devices, change moods, track how we learn, revise theories about neurogenesis (the ability of the brain to generate new cell growth), and even master skills without training. The ultimate goal is now to reach beyond curing illness, and rather to enhance human performance. Neuromarketing and neuroeconomics will be growing fields of study and practice.

September 2003
PRIVACY REDEFINED

People are more willing to "put themselves out there" for the world to see. Even as they demand that institutions guard their information, from the elderly who use home and body monitors to students who broadcast their every activity and thought, individuals are expanding the amount of information that they self-elect to make available. While software programs that track the activities and choices of consumers face backlash and lawsuits, phonecams are selling in the millions as individuals have no problem with what, in Japan, is called "snapshot sneaking." And while employees resent being monitored by their employers at the workplace, they are capable of gaining enormous amounts of information about each other from the new public information spaces.

September 2003
SPOTLIGHT ON THE WORKING CLASS

After several decades of marketers and politicians focusing on the middle class, the upper class and the underclass, it is the working class that is now coming to the fore as perhaps the most important and overlooked economic leveraging force. Around the world, higher paid people are being laid off and replaced by cheaper labor and software, with downward pressure on compensation and benefits for many who were marginally counted in the middle class, effectively moving them into the working class. For educated workers, unemployment and underemployment have become high with structural shifts in the economy, moving many of them, too, into the working class. Squeezed budgets lead to nations finding it difficult to keep funding the entitlements, education and infrastructure services that fueled the growth of the middle class. Members of the working class are increasingly being heralded as the new "heroes." Even farmers are being revered if they participate in the "local," "home-grown," "slow," food movement, as consumers choose to give preference to smaller, self-sufficient workers rather than larger industrial food providers. From NASCAR to DeVry (which has become one of the largest for-profit schools in the world), working class economics is on the upswing.

December 2003
SECULAR FUNDAMENTALISM

The increasing dominance of secular fundamentalism—a hard-nosed, militant mindset that matches the fundamentalism currently rampant in religion—is seen in the partisan bitterness of American politics and in gains by extremists on both sides in both Northern Ireland and the Middle East. Many are concerned that anger-driven politics could become more common. Disappointment lies behind this phenomenon, as the gap between what people expect and what they get widens (grating expectations), leading to discontent, unhappiness and anger. Grating expectations are seen in the U.S., where two-income families have less money for discretionary spending than one-income families did 30 years ago; and in both Saudi Arabia and Mexico, where well-educated youth are disappointed by a lack of opportunities. Technology plays a role, as the Internet makes it possible for resentments to be gathered together to create both engagement and clout. The spread of secular fundamentalism reflects the fears of people who see the world changing rapidly and who see themselves as helpless in its midst. As the pace of change accelerates, it is likely that the attractions of fundamentalist certainty will increase.

December 2003
MEMBRANOUS POWER

Traditional centers of power are struggling to maintain their relevance in the face of new technologies, large-scale migrations and fears of terrorism. As the potency of traditional power centers wanes, "membranes" growing around and between those power centers are gaining power. The Internet is usurping the power of advertising, polling and television. Lobbyists are struggling to wield influence where no center of

power is visible. Surveillance devices are clouding individual autonomy. Global corporations are casting their net over nation states. Small countries bring specialized military skill to conflict areas—speed and ability are more important than size in the new new world order. Fear of terrorism is reorienting security resources for both government and business. The spread of the principles of McDonald's—efficiency, predictability and control through non-human technology—are coming to dominate everything from education to housing developments to the courts. There will be backlashes against membranous power, as people feel a loss of control in political, personal and professional spheres. Businesses will have to prove themselves both sensitive and responsive to the local concerns of both customers and employees, whom the Internet is making awakening giants.