

# 70 Jobs for 2030

## Emerging Careers and How to Create Them

By Cynthia G. Wagner

We can think about our “jobs” as how we earn a living, how we spend our time, or how we find inspiration, but one thing is sure: The nature of jobs is changing along with the corporations, societies, and other environments in which we do the work.

Cameron: I don't know what I'm gonna do.

Sloane: College.

Cameron: Yeah, but to do what?

Sloane: What are you interested in?

Cameron: Nothing.

Sloane: Me neither. ... What do you think Ferris is gonna do?

Cameron: He's gonna be a fry-cook on Venus.

(*Ferris Bueller's Day Off*, John Hughes, 1986)

In February 1984, *THE FUTURIST* published one of its most popular articles ever: “Emerging Careers: Occupations for Post-Industrial Society” by psychologist and career counselor S. Norman Feingold. What made the article unique among all of the “how to get a job” pieces that regularly appear in magazines was the focus on trends that were reshaping the world of work and on how individuals could use these ideas to shape their own futures.

The trends that Feingold was tracking at the time included the advancing information and communication technologies that were improving office productivity, as well as the opportunities created by medical breakthroughs and the challenges associated with resource depletion.

The principles on which Feingold based his forecasts for tomorrow's job titles are still sound. The emerging careers he identified (such as genetic counselor, ocean hotel manager, and artificial intelligence technician) all would develop from preexisting career areas and would become possible through advances in technology, changes in the environment, and other megatrends. And the jobs he described were not just momentary fads, appearing and disappearing over a very short period of time. You could forget becoming a “Mood Ring Interpreter.”

So with this in mind, the editors of *THE FUTURIST* felt it was time to

revisit some of the megatrends shaping tomorrow's careers and invited several experts and World Future Society members to contribute their thoughts.

Interestingly, many of those megatrends from the early 1980s are still very active: environment and resource issues, accelerating technological development, and the drive to explore (or exploit) the frontiers of ocean and space. So though many of Feingold's forecasted careers are well established (solar energy research scientist, laser technician, aquaculturist), new opportunities are still likely to emerge in these same areas.

### Futuring for Job Creators

One of the easiest ways to begin thinking about future careers is to focus on what may be a problem in the future and invent a job that will solve it. We can do this through trend analysis, applying trends to

# The List: 70 Jobs for 2030

The following are sample emerging job titles identified in this special section; we hope the ideas discussed in the section will stimulate your own thinking about the future and the jobs that may be needed in the decades ahead.

Alternative currency banker	Holodeck trainer
Amnesia surgeon	Mobile biomass therapist
Astro-banker	Office concierge
Astro-clergy	Online community organizer
Astro-doctor	Organizational quartermaster
Astro-farmer	Personal brand manager
Astro-lawyer	Personal care coordinator
Astro-psychologist	Plant psychologists
Astro-teacher	Post-normal jobs counselor
Augmented reality architect	Rationator police
Autonomous vehicle operator	Residence technician
Avatar relationship manager	Robot polisher
Bio-botic physician	Robotic earthworm driver
Bio-botist assistant	Robotician
Bioregenerative integrator	Seed capitalist
Brain quant	Sensuality simulator
Brain signal decoder (mind reader)	Smart car interior advertisement sales representative
Chef-farmer (agri-restaurateur)	Smart car interior designer
Chief experience officer	Smart road designer/engineer
Clinical choral consultant	Smart road sensor control monitor/analyst
Clone rancher	Space junk hauler
Digital archaeologist	Space junk recycler
Digital identity planner	Space resource reclaimer
Drone dispatcher	Space sweeper
Energy harvester	Talent aggregator
Environmental health nurse	Telecop
Exobotanist	Terabyter (lifelogger)
Exozoologist	Time hacker
Extinction revivalist	Transhumanist consultant
Financial technologist	Tree-jacker
Future-guide	Universal ethics proclaimer
Global sourcing manager	Unmanned cargo vehicle operator
Global system architect	Wiki writer
Grassroots researcher	
Gravity puller	
Green career coach	
Healer	

functions that will need to be performed. Many functions will be more automated in the future, including professional services, but people will still find creative ways of using their skills and talents to make a living.

Here are three basic approaches:

**1. Retrofitting:** Adding new skills to existing jobs.

**2. Blending:** Combining skills and functions from different jobs or industries to create new specialties.

**3. Problem solving:** Necessity is still the mother of invention, and the supply of future problems for people to solve seems limitless.

## Retrofitting: Apply New Trends to Current Careers

Let's take the long-term trend toward space commercialization as an example of an area where new careers could be retrofitted onto existing occupations. As space tourism grows, what services will be needed to support customers and businesses? Other prospective areas of development include construction, energy or other resource harvesting, and general services. Who's going to

repair your spaceshoes, make your bed, lead your tour group? How do you get your hair trimmed or styled in space? If you're planning a celestial wedding, who will design your low- or zero-gravity bridal gown?

Space debris has become an increasing problem as the byproduct of human exploration and exploitation of space; spent rockets, broken parts, and other debris now orbiting the

planet get in the way of active satellites and craft. Space junk watchers now track bits of debris, but the future may offer opportunities for **space sweepers, space junk recyclers, haulers, and resource reclaimers.**

Long-term space habitation means we'll also need **astroteachers, doctors, psychologists, lawyers, clergy, bankers, farmers,** and yes, perhaps even fry-cooks. We'll also need all sorts of repair persons—or at least the engineers and technicians to build robots with AI to perform these needed functions.

The possibility of finding life forms on Earthlike planets in other solar systems certainly inspires new career possibilities, such as **exobotanists** and **exozoologists** to study interplanetary plants and animals.

Back on Earth, other trends suggest retrofitting opportunities. For example, what kinds of jobs can be done by telecommuting? Technological advances as well as social change will create opportunities for jobs that you wouldn't normally think could be done remotely. Can a police offi-

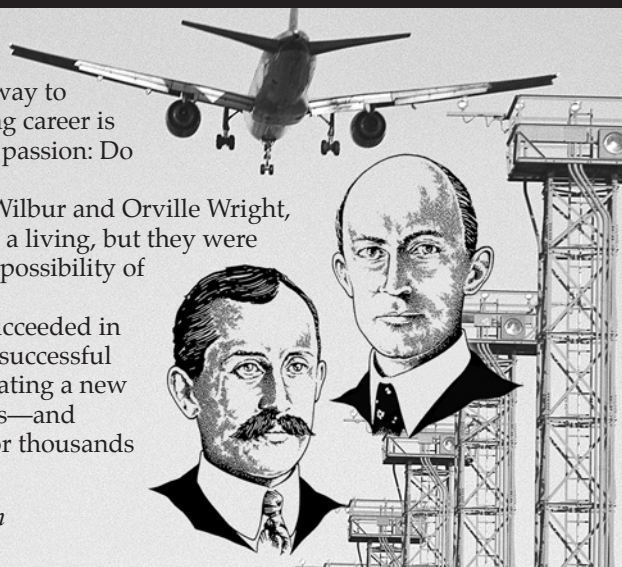
## Doing What You Love

An additional way to create an emerging career is to monetize your passion: Do what you love.

Two brothers, Wilbur and Orville Wright, made bicycles for a living, but they were fascinated by the possibility of flying machines.

In 1903, they succeeded in building the first successful airplane, thus creating a new job for themselves—and eventually jobs for thousands of other people.

—Edward Cornish



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cer, for instance, be effective telecommuting? Yes, if it means strengthening ties to his/her own community. Job title: **Telecop**.

What kinds of jobs can be retrofitted to reduce their environmental impacts? **Green career coaches** could advise employers/workers about the environmental impacts of their tasks. How could you make beauty salons more eco-friendly? Department stores? Office supply stores? Office Depot, for instance, has been touting its greening efforts.

**Energy harvesters** will combine construction and engineering to collect the kinetic energy of humans through the materials they come in contact with, from floors to everyday objects, and even clothing. The power created by a single individual could operate his or her personal ICT devices; the power collected by a group (office workers, apartment dwellers) could run a city block.

Another trend that could retrofit existing occupations is the growing incorporation of sensors, batteries, and other technologies into textiles, such as for our clothes. So how are “smart textiles” going to be cleaned or altered? Drycleaners may need to retrain themselves in handling electronics. Tailoring/garment customization will include not only design details but also communications customizing.

The same issues will affect trans-

portation systems and infrastructure that become increasingly embedded with these technologies. Job titles could include **smart road designer/engineer, sensor control monitor/analyst, smart car interior designer, and smart car interior advertisement sales representative**.

### Blending Careers

Another way of looking at trends from a future-career perspective is to make connections among two or more different areas. For instance, blending work in human and environmental health resulted in the emerging field of **environmental health nursing**, which involves treatment of patients exposed to toxins. After receiving her master’s degree in this new field, Sinai Hospital nurse Janel C. Parham used the information “in conjunction with my other passion—maternal/child health. I looked at how all these toxins affected female reproduction and fetal development.”

You may be a wonderful sales person but currently working in an industry that is in decline. By focusing on your transferrable skills (persuasiveness, interpersonal communications) as well as your interests (singing, painting), you may be able to create a new occupation in an indus-

try on the rise. Perhaps you would lead music-therapy programs in hospitals or nursing homes as a **clinical choral consultant**.

While some may not view a return to an agrarian economy as “progress,” we have seen a surge of interest in organic and local farming. Today, many urbanites subscribe to a favorite orchard or farm for their supplies of fresh, healthy foods. Merge this with a trend (or perhaps simply a fad) in celebrity chefs, and you have opportunities for **agri-restaurateurs** (or **chef-farmers**).

We also see more agricultural activity taking place within cities themselves; people may increasingly choose to spend less time in monetized work (“jobs”) and more time producing food for their own and/or their community’s needs.

Another “blend” opportunity is to become a specialized generalist. For instance, if you want to be a journalist, become a specialized one in a growth sector such as health. Opportunities right now are in business journalism, particularly the finance and investment categories. Look for growth in health and medicine journalism and communications.

Some critics have feared a media future where anyone can write (or create content) for the public without the training and experience in communications theory, ethics, law, and so on. But there will still be a market for ideas and news—i.e., information—that is authoritative, balanced, and useful. This authority-journalism may come from professional experts (e.g., neurosurgeons, astrophysicists, financial advisers) who do cross-training in journalism. They’ll assure audiences of their accurate reporting (they’ll get the facts right), and they’ll communicate in language that everyone can understand. And that’s all good, even if traditional outlets for “journalism,” like newspapers and broadcast news, disappear or transform into new platforms.

Journalism schools will evolve





with these changes; the City University of New York, for instance, has introduced a master's degree program in entrepreneurial journalism that will prepare students for the business and technological environments in which they will be working.

### Problem Solving as Career Opportunity

The communications age brought with it a host of unexpected problems, most notably privacy and security. Facebook and Twitter keep us connected but also vulnerable, often to our own missteps. (Try killing that video of your cowboy-singing karaoke adventure once it goes viral on YouTube.) Enter the new world of digital footprint management.

Elizabeth Charnock, author of *E-Habits: What You Must Do to Optimize Your Professional Digital Presence* and CEO of the digital analytics firm Cataphora, suggests that new career opportunities are rising for those who would help you manage your online image by correcting your blunders. Others (such as prospective employers, political opponents, or spurned lovers) may pay good money to dig up that which you tried to bury, such as an impulsively sent e-mail deriding your co-workers. Job title: **digital archaeologist**.

Bridging the remaining gap between what our technologies can do for us and what they cannot do is another rich area of problems to solve. As business futurist Edie Weiner has pointed out, science's growing understanding of the human brain is a major area of potential economic growth for the future, whether the goal is to create artificial intelligence or to enhance human lives.

Recent research at the University of Utah with severely paralyzed people enabled bioengineers using implanted microelectrodes to translate the patients' brain signals into words. The method needs improvement in order to help patients who cannot speak due to locked-in syndrome. "This is proof of concept," says lead researcher Bradley Greger. "We've proven these signals can tell you what the person is saying well above chance. But we need to be able to do more words with more accu-

racy before it is something a patient really might find useful." Future job title: **brain signal decoder** (or **mind reader**).

### Putting It All Together

It has been said that "futurist" is (or should be) everyone's second profession, but for many it is their first profession. Futurist was a featured job title in the U.S. Bureau of Labor Statistics' *Occupational Outlook Quarterly* (spring 2009), which explores a variety of unique job titles in its "You're a What?" series.

Professional futurologist Ian Pearson, formerly an engineer with BT Laboratories, describes some of the problems that futurists face when explaining what they actually do for a living.

"The most common [misconception] is that it can't work—no one can predict the future. Ergo, I must be an idiot and wasting their time," he said in an interview with the blog

Vault Careers. "In fact, many things are quite predictable, such as progress in technology, and many of the impacts of that technology are pretty obvious too when you think about it."

Where futurists may be able to make themselves most useful in the future would be as what Janna Quitney Anderson described in the January-February 2010 issue of *THE FUTURIST*: "Maybe what we need is a new employment category, like **future-guide**, to help prepare people for the effects of disruptive technology in their chosen professions so they don't find themselves, frankly, out of a job."



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## A Clash of Ideas and Ideals On the Jobs Front

By Patrick Tucker

At a recent Washington, D.C., summit, top economic minds gathered to debate long-term solutions to current economic woes.

It's a crisp September day in Washington and economist Lawrence Summers, head of the Obama administration's Council of Economic Advisors, appears as relaxed as the weather outside. This unshakable confidence is in keeping with Summers's reputation, but he's attempting to address (or evade) a difficult issue, and what many consider the single biggest failure of the \$7 trillion fiscal policy he orchestrated: jobs.

"The overwhelming problem is a shortage of demand" for workers, said Summers at the National Jour-

nal Workforce of the Future conference.

While the U.S. stock market has largely recovered since reaching its recession low in March 2009, and corporate earnings over the last two quarters have largely beat analysts' expectations, the U.S. labor market remains in dire shape. Some 14.9 million people are officially unemployed in the United States. The Obama administration originally forecast that the stimulus would keep the U.S. unemployment rate near 8%. In September 2010, it stood at 9.6%. It's a



Lawrence Summers (left), head of the Obama administration's Council of Economic Advisors, discusses the recession's effect on jobs with Ronald Brownstein of the National Journal Group.

U.S. born-problem with global consequences; fewer working Americans means far fewer customers for export-led economies like Germany, Japan, and China.

How does the United States protect the jobs it has and grow more jobs in the future? This was a matter of some dispute among the economists, captains of industry, and labor leaders in attendance. According to Emily DeRocco, senior vice president of the National Association of Manufacturers, the United States needs to revitalize its factory sector.

"The majority of the innovation that occurs in the [U.S.] economy is in manufacturing," DeRocco argued. "If we allow our production to move offshore, design and research will move as well." She also emphasized the need for more robust public/private partnership.

That means that the government should play a larger role in directing the economy, said *Washington Post* columnist Steven Pearlstein. "If you lose too much of the manufacturing, you will lose the development and the research. But you have suggested a limited role for government as a competitiveness policy. ... Do Brazil, Germany, and China have weak governments? I don't think so."

Projected increases in health-care jobs over the coming decade won't help job growth long term. Pearlstein cautioned: "Every time you read about health-care jobs, it's a dead-weight loss on the economy. We can't get rich taking in each other's health-care needs."

A publicly funded but privately run "innovation fund" could better direct capital to where it's most productive, according to former Clinton advisor Martin Baily. "If you look across the world, you can't find a high-tech industry that was started without help from the government," he said.

A more important role for government is enforcement of regulations of worker protections, according to several attendees. "[U.S.] wages have been stagnant over the last 25 years, so people have been making less but working more with more bills to pay. How do we give workers a voice so they can unionize to earn higher wages? We need to look at regulatory reform and enforce the trade regulations that we have," said Anna Burger, secretary-treasurer of the Service Employees International Union.

Drew Greenblatt, president of the Baltimore-based company Martin Steel Wire Products, sees a dearth of

training in science, technology, and engineering as the key obstacle to U.S. job growth. He suggested a national skill certification test that employers could give to potential employees to determine their qualifications, instead of relying on the degree an applicant has acquired. "If [employers] had confidence in a national certification standard, we could bring people into the workforce faster," he said.

Economic Policy Institute president Lawrence Mishel agreed on the value of a national certification standard but dissented sharply on the subject of qualified workers or the lack thereof. "The claim that we don't have workers with the right skills or workers in the right place, so people who were useful six months ago are now obsolete—I haven't found evidence for it. Investment in plant and equipment is at the lowest level in the postwar period. Every education group has seen their unemployment rate double. This [recession] is something that has affected every education group," he said.

On what issues did the participants *generally* agree?

- The United States needs to revise its visa program to allow more highly skilled workers into the country.
- The workforce of the next decade will draw more heavily from African American and Latino populations, so improving education among these communities is critical to future competitiveness.

- Disruptive technologies like automation and information technology will destroy the jobs as surely as they create new ones.

"You can't look at the data from the last 18 months and not think something profoundly important and structural is happening all over the world. No matter how successful we are in creating demand for employment, some skills will be less relevant than they were," said Summers.



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# The Coming of the Terabyters: Lifelogging for a Living

By Thomas Frey

A new breed of workers, equipped with über-geek data-capturing tools, are about to usher in a whole new information era.

A person's worth is usually calculated based on a hard number, such as money in the bank account, personal assets, or earning power. As our ability to capture and process information improves, we are able to assign many more numbers to the intrinsic value of an individual's influence, reputation, and talent. In the coming years, we will see new systems designed to monetize these attributes, and a completely new type of "job" will emerge: the "terabyters."

In 2008, Americans consumed 1.3 trillion hours of information, or 12 hours of information per person per day, thanks to TV, radio, games, social networking, and the Internet. This translates to 34 gigabytes of data consumption each day.

As impressive as these numbers sound, they are tiny compared with what the terabyters—walking information nodes—will consume in the near future.

A terabyter is a person who produces more than a terabyte of new information every day. Today, only a handful of these people exist, but the numbers will soon swell along with

the development of new data-capture equipment.

Consider the following scenario:

Each morning, Winston rolls out of bed, takes a quick shower, and begins to strap on the trademark Gargoyle gear. Named after the characters described in Neal Stephenson's novel *Snow Crash*, Gargoyles equip themselves with a wearable computer to constantly collect visual and sensory data about their surroundings, while continually jacked into the Metaverse (Internet).

Winston's role in life is to serve as a human information node in the rapidly growing world of extreme data immersion. His income is both directly and indirectly dependent upon the amount of information he is able to amass on a daily basis.

The information Winston collects is being continually streamed to the server farms for search engines designed for the physical world. Each video stream coming from Winston is layered with object-recognition software, geospatial coordinates, and other sensory response data, translating the physical world around him into digital information that is searchable.

He represents a human version of the spidering bots that tech companies currently use to scan the digital world. But spidering the physical world requires a more human approach, and that's where Winston comes in.

Search technology companies such as Google, Yahoo, and Microsoft have agreed to buy the incoming data streams from Winston, and from thousands of others like him, based on a percentage of ad sales associated with the display of his information.

The lifestyle of the terabyter had become the planet's hottest new profession: For a mere \$5,000 of equipment and a commitment to wear the gear relentlessly, virtually anyone can become a terabyter, and the money rolls in. Full-fledged terabyters can do whatever they want to, anytime, anyplace, and still make money.

Admittedly, it isn't a lifestyle that will appeal to everyone. The equipment is a hassle and the income is rather sparse to begin with. But those who stick with it will see their income grow. Over time, the equip-

# More Jobs for Tomorrow

- **Alternative Currency Bankers.** According to Javelin Strategies, 20% of all online trades are already being done with alternative currencies. The stage is being set for next-generation alt-currency banks.

- **Amnesia Surgeons.** Specialized doctors will be skilled in removing bad memories or destructive behavior.

- **Augmented Reality Architects.** Much like the paint we put on houses and the flavorings we add to our food, the future will seem boring if our reality hasn't been augmented.

- **Avatar Relationship Managers.** As the foibles of humanity enter the realm of autonomous, freethinking avatars, people will find it necessary to both manage and limit the often dangerous relationships that avatars get themselves into.

- **Brain Quants.** This is where the stock market manipulators of the past meet the brain manipulators of the future to usurp control of Madison Avenue. (A quantitative analyst, or "quant," is a person who works in finance using numerical or quantitative techniques.)

- **Clone Rancher.** Raising "blank" humans will be similar in many respects to cattle ranching. But once a clone is selected, and the personality download is complete, the former clone will instantly be elevated to human status.

- **Drone Dispatchers.** Drones will be used to deliver groceries and water, remove trash and sewage, monitor traffic and pollution, and change out the batteries on our homes. Skilled dispatchers will be high in demand.

- **Extinction Revivalists.** A specialty in genetics will be people who revive extinct animals.

- **Global System Architects.** National systems are transitioning into global systems. Architects of these new global systems will play a crucial role in future world affairs.

- **Gravity Pullers.** These will be the first wave of people to unlock the code for influencing gravity.

- **Plant Psychologists.** An entire profession will be dedicated to undoing the damage caused by the Tree-Jackers [see below].

- **Robot polishers.** The robots are coming, and they will invariably need to be polished.

- **Robotic Earthworm Drivers.** The most valuable land on the planet will soon be the landfills, because that is where we have buried our most valuable natural resources. In the future, robotic earthworms will be used to silently mine the landfills and replace whatever is extracted with top-grade soil.

- **Seed Capitalists.** In the startup business world there is a huge gulf between initial concept and fundable prototypes. This dearth of funding options will require an entirely new profession. Seed capitalists will specialize in high-risk, early-stage startups. If they get more than 100% return on their investments, they will be docked for not taking enough risk.

- **Time Hackers.** If we think cyberterrorists are a pain, it will seem like nothing compared to devious jerry-riggers who start manipulating the time fabric of our lives.

- **Tree-Jackers.** Plant and tree alteration specialists will manipulate growth patterns, create grow-to-fit wood products, color-changing leaves, and personalized fruit.

—Thomas Frey

ment will become far less intrusive.

However, for the committed terabyters, this is the ultimate lifestyle. Every day is an adventure, finding new places to explore and new people to meet, and never bound to a desk or a computer. Their livelihood is directly related to how active their lifestyle is.

## Creating the Terabyte Network

There will likely be many players involved in developing a system to ramp up data collection to this level. All of the Internet service providers will have to gear up, new bandwidth must be allocated, routers and switching systems have to be changed out, browsers and operating systems will need to be updated, and search engine thinking will have to be revised.

Terabyte gear is already available, but still in crude, marginally usable formats. Video-capture goggles, helmets, and other devices will quickly morph into sleek, barely visible equipment that can be mounted in, on, and around the wearers.

Once the world gets a glimpse of the potential, along with the right incentives, terabyte gear will begin to fly off the shelves, system registrations will skyrocket, and a whole new income-producing lifestyle will spring to life.

In addition to the ongoing video stream of a terabyte's surroundings, the video images will be overlaid with biosensor response data, assigning emotional values to individual objects, places, and people. This is why humans will be needed for this massive data collection, though the equipment could easily be strapped onto cars, bicycles, or robots. The most valuable data will come from the places that only humans can go, experiencing and feeling the world from a human perspective.



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# Careers for a More Personal Corporation

By Jim Ware

- **Personal Brand Manager.** Because most people will hold many jobs over the course of their working lives, personal brands will become as important for individuals as product brands are today. Personal Brand Managers will serve as talent agents, coaches, and scouts—helping individuals plan their careers, match their skills and preferences to jobs, seek out promising opportunities, evaluate their successes and failures, and “package” their personal brands. Brand Managers will also act as personal coaches and career managers for their clients.

- **Talent Aggregator.** Large organizations will continue to shrink down to their essential core functions, depending on contractors, out-sourcers, and contingent laborers to get needed work done. The entire economy will become more project-based, much the way Hollywood now assembles cast and crew for movie productions. Talent Aggregators will maintain databases on thousands of independent “free agents,” assembling (often on short notice) the talent that is needed for any given project.

- **Office Concierge.** As work and workers become increasingly mobile, commercial office space will be transformed. There will be many more kinds of workspaces (and hopefully no more cube farms). Individuals’ “home base” offices will most likely be home offices; they will “rent” space on a short-term, as-needed basis in corporate facilities.

The Office Concierge will be much more than a space reservation clerk; he or she will proactively help managers and teams determine what kind of space they need for what time periods, and will direct the rearrangement of desks, chairs, technology, and even walls to meet the specific individual and collaborative needs of the workforce. The Concierge will also be a source of information about local resources—not just caterers but also team facilitators, graphic recorders, production specialists, and any other extra talent

the workers need.

- **Global Sourcing Manager.** As the economy becomes more global, organizations will have many more choices to make about where to get what resources—whether they be physical, informational, or human. A Global Sourcing Manager will be a



logistics expert who understands supplier relationship management, energy costs and trade-offs, international customs requirements and other legal factors, overall cost considerations, and project deliverable timelines. The complexity of where, when, and how materiel and people must come

## Unmanned Cargo Vehicle Operator: A Scenario

By Karen W. Currie

5 July 2030

Hey Uncle Steve,

I've just finished my first week of Air and Space Basic. The robotics design exercises were especially intense. The members of my flight weren't strangers since we've been visiting MyJointBase in Virtual World together for the past six months, ever since we were accepted into the U.S. Air and Space Force. The application process was so competitive that participating in that special science and math track ever since middle school was essential. Being fluent in Chinese made the difference, I'm convinced.

Part of Basic includes testing our physical, intellectual, and emotional reactions in a wide range of virtual environments. It's all part of the process our mentors use to develop our career prescription (CP), an individualized plan for our education and training designed to meld our individual talents with the needs of the USASF. After we complete our three weeks of Basic, we'll go to our home bases to begin the CP virtual coursework. My Air Force specialty is Unmanned Cargo Vehicle Operator. Some of my training will be supervised by the robotics experts from the Japanese Air Force, and some of it I'll get from FedEx.

I'll probably remain at Scott Joint Base for my first four years. At that time I can choose to remain on active duty, or transfer to the reserves, with return rights to active duty. I'll be contributing to my Thrift Savings Plan from the get-go, because military pension arrangements have changed considerably since you retired.

More later!

Your niece, Amelia



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This article reflects the author's personal ideas and does not represent any official position of the U.S. Air Force or Department of Defense.



together to produce value will require expertise that is both broad and deep.

- **Organizational Quartermaster.** Just as the Global Sourcing Manager will sort out supply chain logistics for making and distributing both physical and informational products, the Organizational Quartermaster will provide staff (and contractors) with the resources they need to get their work done—whether it is technology, Web access, office space, office supplies, training, other employees, or any of the many other things it takes to produce work effectively and efficiently. The Quartermaster's job, like that of a military quartermaster, is to ensure that the mobile and widely distributed "troops" (the workforce) have what they need, when and where they need it, and at

a reasonable cost to the organization. This job will combine what we know today as end-user computing, workplace services, employee training, project management, talent management, and purchasing, for starters.



#### About the Author

James Ware is a co-founder of the Work Design Collaborative and the Future of Work program. He has held senior management positions at several leading-edge professional services firms, including KPMG (now Bearing Point), Computer Sciences Corporation, Unisys Corporation's Information Services Group, and The Concours Group. He is the author of such books as *Cut It Out! Save for Today*, *Build for Tomorrow* (IFMA Foundation, 2009) and *Corporate Agility* (American Management Association, 2007).

## Careers Inspired by Nanotech Trends

By Anne Gordon

- **Bio-botic Physicians and Bio-botist Assistants.** These individuals would look at the integration between biological functionalities and implanted enhanced life extensions (nano-robotics). People in this field would repair internal chips, resolving complications between the natural biology and nanobots (biological machines) in the "evolved" man.

- **Bioregenerative Integrators** might ensure that nanotechnology is operating and regenerating as programmed or coded. These professionals might be like today's experts in remote monitoring centers for pacemakers.

- **Mobile Biomass Therapists** would entail home physical (not virtual) visits. These therapists would physically assess, monitor, and create physical insertions.

For example, they might be responsible for adding new *mems* (microelectric machine stimulators) or injecting engineered nanoviruses for healing.

- **Rationator Police** may be created to monitor thought, so that the proper medications or electromagnetic frequencies would be uploaded/downloaded to ensure joy, peace, and happiness. These frequencies could be sent wirelessly by another new type of professional: Sensuality Simulators.

- **Sensuality Simulators** might control dosages (like today's pharmacists and physicians) to enhance all senses so that virtual reality becomes the preferred reality. This would allow recipients to be sustainably content and productive.

- **Transhumanist Consultants** may emerge in the early 2030s as counselors to help integrate that which remains of human emotion and what we call consciousness today. These consultants might work with therapeutic *nanologists* (like

## Managing Our Feelings

By Joyce Gioia

- **Chief Experience Officer (CExO).** Reporting to the chief executive officer, this C-Suite player will oversee a wide variety of functions, from marketing and sales to human resources. The CExO will be responsible for all of the experiences offered, to both employees and customers, and for the outcomes.

This position will be created because businesses will have realized that, for all of the stakeholders of any enterprise, "It's about the experience!" Whether it's the experience of being an employee or the experience of being a customer, people will decide to be associated with companies based on how it feels. Offer a good experience, and the company will prosper.

- **Holodeck Trainer.** Imagine the grandchildren of the current games' consoles creating whole rooms where people can play in virtual reality. This Holodeck environment can be used for corporate training as well. The person who will assist people in learning the skills they will need will be called a Holodeck trainer.

- **Residence Technician.** A combination of today's appliance repair person, alternative energy capture, and HVAC and medical equipment technician, the residence technician will be responsible for all of the house systems.

This wide responsibility will include monitoring the health statistics of the residents and controlling the heating, air conditioning, and ventilation of the building, especially ensuring that the solar panels and/or wind turbines are in good working order. The systems will work together to maintain the health and well-being of the inhabitants.



#### About the Author

Joyce L. Gioia is president and CEO of The Herman Group ([www.hermangroup.com](http://www.hermangroup.com)), author of *The Herman Trend Alert* e-mail newsletter, and THE FUTURIST's contributing editor for workforce/workplace. E-mail [joyce@hermangroup.com](mailto:joyce@hermangroup.com).

"Offer a good experience, and the company will prosper."

psycho-neurologists of today) in virtual clinics.

#### About the Author

Anne Gordon is a registered nurse, social psychologist, artist, writer, and thinker. She recently created and produced a DVD, *Robots in Babylon*, which takes place in 2020. E-mail akaliuga@comcast.net.

## Online Community Organizer

By Seth Godin

If you want to hire a union organizer, you probably know what to look for: someone with resilience, passion, persistence, and excellent interpersonal skills.

What if you want to hire someone to build an online community? Somebody to create and maintain a virtual world in which all the players in an industry feel like they need to be part of it? Like being the head of a big trade association, but without the bureaucracy and tedium. ...

It would help if these individuals understood technology, at least well enough to know what it could do. They would need to be able to write. But they also have to be able to seduce stragglers into joining the group in the first place, so they have to be able to understand a marketplace, and do outbound selling and non-electronic communications. They have to be able to balance huge amounts of inbound correspondence without making people feel left out, and they have to be able to walk the fine line between rejecting trolls and alienating the good guys.

Since there's no rule book, it would help to be willing to try new things, to be self-starting and obsessed with measurement as well.

#### About the Author

Seth Godin has written 12 bestselling books that have been translated into more than 30 languages. As an entrepreneur, he has founded dozens of companies, most of which, he admits, have failed. His latest company, Squidoo.com, is ranked among the top 125 sites in the United States (by traffic). Web site [www.sethgodin.com](http://www.sethgodin.com).

## Digital Identity Planner: A Scenario

By Timothy Ferriss

Background: In 2008, the Internet Crime Complaint Center (IC3) Web site received 275,284 complaint submissions, representing a 33.1% growth rate over 2007.

In 2030, you are six months away from having your second child. What are you doing? Naturally, among other things, you're meeting with a certified Digital Identity Planner (CDIP). In 2030, quality of life is only as secure as your "Google fingerprint," which now extends far beyond Google. The CDIP, viewed as a blend of estate planner and insurer, helps answer:

- What information about your child do you want recorded and searchable/findable (medical, imaging, home address, school address, etc.)? Omitted, deleted, or hidden? There are suggested templates based on asset allocation, geography, and other characteristics, all determined through an initial "information audit."

- Which companies and agencies will you have to periodically contact to request deletions, or feed legal alternative misinformation? The CDIP

will automate this for an additional quarterly fee, most often through an associated law firm.

- What safeguards—whether software, hardware, or behavioral—can you put in place to prevent older children from endangering themselves or others in the family? Common advice in a first session: Disable GPS-tagging on all recording devices so that film and photos can't be taken at home and correlated to an address.

Proactive CDIPs aren't cheap, but neither are good accountants. Just be sure to certify credentials and run a background check on all CDIPs prior to disclosing personal data, as 314 organized counterfeit operations were reported in 2029 alone.



#### About the Author

Timothy Ferriss is an angel investor (StumbleUpon, Digg, Twitter, etc.) and author of the number-one *New York Times*, *Wall Street Journal*, and *BusinessWeek* bestseller, *The 4-Hour Workweek* (Crown, 2009), which has been translated into 35 languages.

## Fixing Our Machines and Ourselves

By Charles Grantham

- **Robotician** (Motto: "If it moves I can fix it").

Demand will be high, as robots will become as ubiquitous as common electrical appliances. Every household will have at least one. Besides working in factories, they will be used heavily in retail businesses, such as food order and delivery in restaurants. Shrinking labor markets for low skilled occupations in administrative, assembly, and customer service applications will drive demand.

A new type of service person will be needed who can service a wide variety of robotic devices. This will

"Robots will become as ubiquitous as common electrical appliances."

require a blend of mechanical, electrical, and computer engineering skills.

Journeyman level probably with an undergraduate-level education will be the

sweet spot. The primary task is the assembly and maintenance of robotic devices. Sub-specialties for residential, commercial, and industrial applications will follow.

- **Autonomous Vehicle Operator, or AVO** (Motto: "I can fly anything, anywhere, anytime").

AVOs are what we used to call “pilots.” Vehicles traveling in remote environments (airspace, undersea, and underground) will be “flown” by operators in other locations. We began to see this development with military drone aircraft, underwater repair vehicles, and remote-controlled vehicles on extraplanetary surfaces.

The nucleus of this group will be those who grew up in the “gaming” world, where excellent hand-eye coordination and the ability to multitask are highly valued. A new psychological skill is what could be labeled “extrasensory empathy,” or the ability to mentally project yourself into a virtual environment that is beyond your physical senses.

Further, these skills will be transferable across economic sectors. Flying an armed drone over hostile territory isn’t that much different from controlling an underground vehicle in a hazardous mine environment.

- **Healer** (Motto: “Balance in all things physical, emotional and spiritual”).

This specialty will represent a blending of Western and Eastern medical traditions. In the future, this concept will be extended to include the ancient practice of the shaman, or “medicine man” in the North

American Native tradition. Being skilled in one discipline will not be adequate to treat either human or animal patients.

Should I go to a doctor, an herbalist, a pastor, or a shaman to have my body healed? There won’t be an answer. These special people will also live and work among those they minister to. The twentieth century medical profession will evolve into a highly connected and trained group of community providers. Provision of healing will be a right of residents.

Healers will be compensated by patients who are in good health. Patients won’t pay for service when they are ill.



#### About the Author

Charles Grantham is a co-founder of the Work Design Collaborative and the Future of Work program. He is also the founder and chief scientist of the Institute for the Study of Distributed Work,

based in Prescott, Arizona, where he manages an extensive applied research program focused on the emergence of the electronic workplace.

Grantham’s most recent book, *Corporate Agility* (co-authored with Jim Ware and Cory Williamson), was named one of the best business books of 2007.

## Future World Shapers

By Alireza Hejazi

Who will shape the future world? Will it be the politicians, military commanders, regulators, economists, or scientists? In fact, there are many other professionals who may shape our future world, in both positive and negative ways.

- **Grassroots Researchers.** In the near future, research will go beyond universities’ walls and embrace general people of every social class. It is simple: Those who generate and own knowledge will lead the world. Those who don’t will just be followers.

This will make an attractive competition for generating applied knowledge, and some scientists may even abandon universities in order to find more time for thinking. Academic degrees may no longer seem so valuable.

Research capacity in different societies will find new ways for growth. True democracies will encourage their people to be active partners in research, and research projects will be done by the people, not just the researchers.

- **Universal Ethics Proclaimers.** The endless war between believers and atheists has so far yielded no tangible result, and the same story may continue in coming years. Meanwhile, religious discussions on theological matters have caused other problems, such as groups of fanatical believers rising up against each other.

One type of future world shapers will be those pursuing universal ethics. Believers, secular humanists, and even atheists have in common a natural ethics that transcends their faiths or the ways of life they follow. This kind of ethics, regarded as universal brotherhood, will be proclaimed increasingly in different parts of the world as a way out of religious, tribal, regional, and even universal clashes.

- **Wiki Writers.** The world of general knowledge has come online, and wikis play a growing role in recording and retrieving that knowl-

## Personal Care Coordinator

By Alexandra Levit

By 2018, one out of every 10 American jobs will be in the health-care management and technology sector. This explosive growth is due primarily to an aging population and expanding coverage.

One new job title I believe will arise in the next 20 years is the **Personal Care Coordinator**. This person will serve as the bridge between the individual and all of the health-care organizations and services that will provide care to him or her.

The Personal Care Coordinator will understand the complexities of the modern health-care system and will also be familiar, on a granular level, with each client’s unique

health-care situation and history. She will have all records at her fingertips electronically, and her presence will ensure that all providers work together to ensure the best possible patient outcome.



#### About the Author

Alexandra Levit is a former nationally syndicated columnist for the *Wall Street Journal*, bestselling author, and renowned speaker. Among her books are *They Don’t Teach Corporate in College*,

*How’d You Score That Gig?*, *Success for Hire*, *Millennial/Tweet*, and *New Job, New You*. Web site [www.alexandralevit.com](http://www.alexandralevit.com).



edge. The Web is a powerful tool for sharing general knowledge, and yet a significant portion of its capacity is going to be discovered through linking to social media. In fact, a new generation of wikis is on the way, embracing multimedia and interactive capabilities.

This will open opportunities for wiki writers to launch new projects. For example, an intelligent Wikipedia will diagnose your knowledge needs by analyzing your searched key words.

Wiki writers will be quite an active community, and they will have to produce more articles in response to their clients' and users' needs. This will make wikis increasingly popular places to share information and knowledge. New wikis will be generated in other languages rather than just in English, French, Spanish, or Chinese.

- **Financial Technologists.**

While information and communication technology impacts us in many ways, a major channel of its impact is going to be felt through the way in which it is reshaping finance. In coming years, increasing amounts of capital will come into the financial technologies market, stimulating development, breaking through access barriers, and bringing down transaction costs to a fraction of what they are today.

Financial technologists will enable mutual fund companies to sell and service much smaller investment units and insurance companies to sell much smaller policies than they are able to do now.

- **Post-Normal Jobs Counselors.**

The problem of finding a proper job will never end, at least in the near future. Journalist Ziauddin Sardar has described today as the beginning

of "the Post-Normal Era," a time of new uncertainties and different types of "ignorance."

One of the main kinds of ignorance will be simply an inability to identify possibilities, which will create opportunities for post-normal job consultants. These counselors will be masters at identifying and even creating post-normal opportunities in the market, such as those that create new cultural products and meet new needs. □



**About the Author**

Alireza Hejazi is founder and developer of the FuturesDiscovery Web site for Iranian futures scholars and a member of the Iranian Society of Futures Studies. His article "Futures Studies in Iran: The

Past and the Future" was published in the April-May 2010 issue of *World Future Review*. E-mail [arhejazi@hotmail.com](mailto:arhejazi@hotmail.com).

# Call for Nominations

## Edward Cornish Award: Futurist of the Year

The World Future Society has created a special award to recognize outstanding achievement in contemporary futures work.

The Edward Cornish Award: Futurist of the Year recognizes an individual (or organization) whose work in the past year advanced the development or application of futures methodologies or effectively promoted the importance of foresight.

Named for the Society's founding president, the first Edward Cornish Award: Futurist of the Year was presented in 2010 to Theodore J. Gordon, senior fellow of the Millennium Project, during the Society's annual meeting in Boston.

Nominations are now open for the second annual award. The nominations will be reviewed by the WFS Board of Directors, and the winner will be honored during the 2011 meeting in Vancouver, BC, Canada.

There is no fee for nominators or nominees to enter this award program. There is no monetary award for the winner.

For nomination guidelines and submission form, please visit [www.wfs.org/content/edward-cornish-award-futurist-year](http://www.wfs.org/content/edward-cornish-award-futurist-year).

**The deadline for nominations is Monday, January 3, 2011.**