

DANIEL BURRUS'

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THE BIG IDEAS THAT ARE
CHANGING EVERYTHING

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3 Levels of Creativity: Leverage Your Unique Gifts

By Daniel Burrus, CEO of Burrus Research

Every company I consult with or speak to wants their employees to be more creative and innovative when solving problems. The big question is always "how."

First, it's important to understand what exactly creativity is. In its simplest sense, creativity is a function of knowledge, curiosity, imagination, and evaluation. The greater your knowledge base and level of curiosity, the more ideas, patterns, and combinations you can achieve, which then correlates to creating new and innovative products and services. But merely having the knowledge does not guarantee the formation of new patterns. The bits and pieces must be shaken up and iterated in new ways. Then the embryonic ideas must be evaluated and developed into usable ideas. In other words, there really is a process.

To help you master that process, you first must understand three important levels of creativity, which are discovery, invention, and creation.

Discovery: The lower level of creativity is discovery. Just as the name implies, it's when you become aware of or stumble upon something—discover it. For example, there is art called "discovered art." It might be a rock with a unique shape or a piece of wood with an interesting pattern. If you have ever purchased a piece of natural stone or wood art, that art was discovered art. Many inventions start with a discovery.

Invention: A higher level of creativity is invention. For example, Alexander Graham Bell invented the telephone. But you have to ask yourself, "Would the telephone have been invented without Bell?" The answer is yes.



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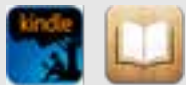
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TECHNOLOGY NEWS HIGHLIGHTS

“4D” Printing

Colorado researchers recently developed a method that takes 3D printing into the fourth dimension. With the help of shape memory polymers embedded into



traditional composite materials, they have been able to print an object using standard 3D methods and later change it to take on a new shape.

The key is in the architecture of the fibers themselves, including their design, location and orientation within the object. This allows the degree and effect (such as folding, curling, stretching or twisting) to be controlled in a predictable manner. The materials can be engineered to change shape over time or through a variety of activation mechanisms including temperature changes or mechanical forces.

These new, adaptive materials will offer exciting possibilities for manufacturing and packaging. For example, a product could be produced in a flat configuration, changed into a more stable, compact form factor for shipment, and then reactivated to its original shape for installation.

For information: H. Jerry Qi, Colorado University, Department of Mechanical Engineering, Materials Science and Engineering Program 596 UCB, Boulder, CO 80309-0596; phone: 303-492-1270; fax: 303-492-3498; email: qih@colorado.edu; Web site: www.colorado.edu

Versatile Robots

While robotics has made some amazing advancements over the last several years, most of the robots available today are designated for specific tasks and applications. But a new design approach is taking hold that will make robots more



practical, flexible, and affordable than ever before.

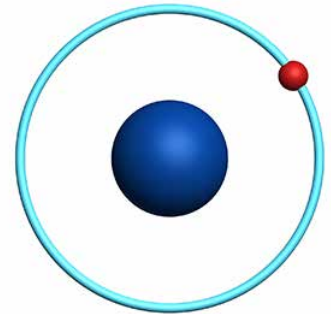
For example, a new robot was recently introduced that is programmed via modular software packages. Similar to downloading apps to your tablet or phone, UBR-1 will allow users to customize its capabilities to meet their needs. The mobile platform can travel anywhere that is wheelchair accessible on its circular base with hidden wheels. Its 30-inch (75 centimeter) jointed arm with interchangeable fingertips allows it to manipulate a variety of objects or perform a range of functions. It comes equipped with a microphone, speaker, 3D RGBD camera sensor and 2D laser for navigation, however, mounting points on the head and base allow additional sensors and devices to be added for specific applications. With a continuous run time of 3.5 hours and idle run time of 10 hours, it can complete long-running tasks, and with a price tag of \$35,000 it's affordable enough for "real world" businesses.

The developers envision creating a network of users to share code and datasets which could transform the way we buy and use robots in the future.

For information: Melonee Wise, Unbounded Robotics, San Jose, CA; email: info@unboundedrobotics.com; Web site: www.unboundedrobotics.com

End of the Hydrogen Dilemma?

The promise of hydrogen as a limitless source of clean energy is still largely unfulfilled because the cost to develop an infrastructure to support it has been prohibitive. But the cost won't come down without sufficient demand, so Japanese automakers and oil refineries are teaming up to spark the needed development in a country that relies heavily on fossil fuel imports.



Last month, Toyota unveiled a prototype fuel-cell-powered sedan with a range three times that of currently available electric vehicles – about 650 kilometers (400 miles) – bringing the technology to a level where it's almost ready for commercialization. At the same time, the country's largest oil wholesaler announced the development of a proprietary membrane technology that can produce nearly pure hydrogen from the enormous amounts of impure gas that are generated as a by-product of the refining process. They plan to begin installation of the new equipment starting in 2016.

Together, these developments could finally break the stalemate that has been plaguing hydrogen development for years. It's been estimated that, by 2030, the worldwide hydrogen infrastructure could be worth upwards of 37 trillion yen (US\$370 billion) with fuel-cell cars making up more than 20 percent of that total.

For information: Toyota Motor Corporation, 1 Toyota-cho, Toyota City, Aichi Prefecture, 471-8571, Japan; phone: +81-0565-28-2121; Web site: www.toyota-global.com

For information: Srirang Manohar, University of Twente, Zuidhorst AZ262, P.O. Box 217, 7500 AE Enschede, The Netherlands; phone: +31-53-489-3164; fax: +31-53-489-1105; email: s.manohar@utwente.nl; Web site: www.utwente.nl/en/

Early Cancer Detection



A new type of imaging tool has been developed that could enable earlier detection of breast cancer. While traditional mammography uses X-rays to generate a two-dimensional image, the new device, known as a photoacoustic mammoscope, combines infrared light and ultrasound to produce a 3-dimensional map of the breast.

It works by delivering pulsations of infrared light to the tissues where it is absorbed by the blood. This increases the temperature in the blood vessels, causing them to expand and generate ultrasonic waves. The image of the underlying vasculature is similar to other ultrasound images, and tumors can be distinguished from normal tissue by the larger concentration of vessels present.

The researchers are currently preparing for clinical trials to begin next year. If approved, it could replace costly MRIs and eliminate the dangers of repeated exposure to X-rays for breast cancer detection.

Algae Lamp Absorbs CO₂

A tube of glowing green algae could reduce energy costs and clean up the environment at the same time. Invented by a French biochemist, the lamps are designed to improve air quality inside and out through the process of photosynthesis.



Microalgae are among the oldest life forms on earth. They are capable of absorbing large amounts of carbon dioxide and at the same time they produce nearly half of the oxygen present in the atmosphere. Inside the tube-shaped lamp, algae is illuminated by a light source to activate the process of photosynthesis. A single algae lamp is capable of absorbing as much carbon dioxide as 150 to 200 trees per year – or approximately one ton of the “greenhouse gas.” When combined with solar power capabilities, the lamps could even be made to run using no electricity at all.

Other products from microalgae that are already in commercial use include vitamin supplements, cosmetics and biofuels. Prototypes of the algae-based lights are currently undergoing testing in France.

For information: Pierre Calleja, Fermentalg, 4 Rue Riviere,
33500 Libourne, France; phone: +33-05-57-250-220; Web
site: www.fermentalg.com or [www.tedxlausanne.org/
pierre-calleja](http://www.tedxlausanne.org/pierre-calleja)

For information: Square Inc., 901 Mission Street, San Fran-
cisco, CA 94103; phone: 415-281-3976; fax: 877-769-7945;
Web site: <http://square.com/cash>

Cash Via Email

The market for online payment systems is estimated to be about \$1 billion per year, and is expected to reach more than \$50 billion per year by 2017. Although most of these transactions are conducted using mobile devices, a new service called SquareCash makes it possible to forward money to family and friends quickly and easily just by sending them an email. Here's how it works...



Compose an email to the person who will be receiving the cash with the amount in the subject field and a copy to cash@square.com. You will receive a request from Square to provide a link to the debit card from which the money is to be deducted. The recipient will receive an email from Square with a link to deposit the money into their account via their debit card. The transaction takes one to two days. The service is also available as an iOS or Android app.

High-Tech Manhole Covers



By early next year, hybrid and electric vehicle owners in parts of New York City will be able to charge their vehicles wirelessly at various locations known as Green Parking Zones. The charging stations, which resemble manhole covers, will be embedded into streets, parking garages and other high traffic areas as part of the sustainable infrastructure, to make charging easier and more affordable and to eliminate the need for EV power cables.

The cordless stations operate on the principle of electromagnetic resonance which is capable of transferring power to a vehicle's charging coil over a distance without a physical connection. Vehicles must be fitted with an on-board receiver in order to use the system. A mobile software platform automatically links up to a smartphone, tablet or console device for usage tracking and billing. It also provides mapping tools as well as information on the location of the nearest available charging station.

Other potential applications for the technology include smart loading zones that permit delivery trucks to charge at every stop, extending their daily range

considerably. In addition, real-time tracking of fleet vehicles may allow for more efficient utilization and scheduling.

For information: HEVO, Inc., 137 Varick Street, Second floor, New York, NY 10013; phone: 212-292-3191; fax: 212-675-0158; email: hello@teamhevo.com; Web site: www.hevopower.com

Synthetic Heart for Humans



A newly designed artificial heart will soon begin undergoing testing in humans. Unlike previous devices, which were basically designed to keep patients alive while waiting for a transplant, it's anticipated that the new heart will last at least five years – about 230 million heartbeats.

The CARMAT heart includes an implantable prosthetic and an external power supply. The implant, which is sutured to the upper chambers of the heart (atria), consists of two chambers (ventricles). Each chamber has two cavities – one for the blood to flow through and one that contains an “actioning” fluid – separated by a flexible bio-membrane. Two miniaturized pumps reproduce the movement of the heart wall by increasing and decreasing the pressure

of the hydraulic fluid to alternately draw blood in and pump it out. An electrical feedback device senses the patient's activity and adjusts operation based on their needs (e.g. increasing rate upon exertion).

The device will be tested initially on four to six patients suffering from end-stage cardiac failure. A second phase of the trial will evaluate additional qualitative aspects of the device on up to twenty patients.

For information: CARMAT, 36, avenue de l'Europe, CS 40533 – Immeuble l'Etendard, 78941 Velizy Villacoublay CEDEX, France; phone: +33-01-3945-6450; fax: +33-01-3945-6451; email: contact@carmatsas.com; Web site: www.carmatsa.com

3 Levels of Creativity: Leverage Your Unique Gifts

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Eventually the telephone would have been invented because the science was there. It might have taken longer, but it would have happened. So while invention is higher than discovery, it's something that is going to happen. If you don't invent it, someone else will.



Creation: Creation is the highest level of creativity. For example, the stage play Othello is genuinely a creation. Elizabethan drama would have gone on without

Shakespeare, but no one else would have written Othello. Similarly, there are things that only your organization can create! The key is tapping in to what those things are.

Here's an example of how this could play out in your company. While at a conference you might discover a tool, a technology, or a process that you didn't know before. You purchase the tool for your staff, and that discovery helps everyone work better. After some time, that discovery may also spur an innovative idea of how to apply the discovery. You may then use that innovative idea as an inspiration that yields something never seen before, something created by your company that helps you and your customers. That's how the three levels of creativity can work together.

So how can you develop your creativity and use it to innovate so you're not competing with others? So you're not copying what others do? So you're not chasing the hottest new trend and never quite catching it?

The secret ingredient is to identify and leverage the inner you; that's what makes your creativity come to life. You have to tap into that inner magic that comes from deep inside of you. And that magic is tied more to a gift than a talent.

Let's face it ... we all have multiple talents, but the key is to understand that we also have a unique gift. Some people have drifted into their current profession using their talents, and they have been struggling because there are others who are equally talented and can do the same thing. No matter how hard they try, they eventually get to a ceiling they can't seem to break through, and I would suggest that's because they're in the "talent zone."

Talent relates to competency, not your unique inner magic, and it can only take you so far. To maximize your

talents, you have to identify your unique gift. Once you identify your true gift, you can then direct your talents to support the gift. That's when your creativity, innovation, and career really soar.



I know this is true because I used my talents to start five companies before using my gift to start Burrus Research. The other companies did very well, but in reality, they were holding me back. I was so busy using my talents that I had no time to discover and use my gift. Once I identified my gift and made my talents support my gift, I was able to create Burrus Research. As a result, my speaking, writing, and consulting business has been growing for over 30 years, even during several recessions, because I continue to use my gift to innovate while always maintaining my focus.

So what's your gift? What makes you different from all the others who have the same talents as you? When you focus on your unique gift as you navigate through the three levels of creativity, you become a true innovator—one that others try to emulate.



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