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TRIZ, CREATIVITY, INNOVATION

Newsletter from ICG T&C, November, 2007

WELCOME TO THE INNOVATIVE WORLD!

This year has been immensely packed with all kinds of events dedicated to innovation: workshops, conferences, projects, training courses... And it is not surprising, since "innovation" is a word which I hear each day many times in business and all other environments. The year of 2007 has definitely given a further boost to innovation – I even recently heard the term "innovation overload". But transition to the "innovation economy" has not been something that appeared overnight: innovation has always been there; and what is happening is not appearance but tremendous acceleration of innovation; and no one would probably doubt that today innovation is not just a means of outperforming competitors, but also a matter of survival. But just decorating rooms in fancy colors, and saying people, "Now, innovate!" is not enough. Two essential ingredients are needed for success: innovation management and innovation culture. Without them, any long-term innovation initiative is doomed to fail.

Acceleration and complexity growth always mean a growing demand for management, no matter we like it or not. For example, we do not need much control over a bicycle rather than using our own instincts and muscle power, but if we want to safely run a train with the speed of 400 km/hour, we need quite sophisticated means of management and control. Thus if we want to effectively manage innovation in a "flat world", we need theories, methods, and tools to enable a process of innovation on demand and to make it sustainable and repetitive. Probably, modern TRIZ, as no other method or a tool meets the demand of accelerated innovation since it has deep scientific roots based on exploring a vast massive of innovation-related information; and understanding TRIZ means understanding innovation and its driving forces. TRIZ, combined with reinforced creativity and complexity management, enables most effective management of the front end of innovation.

But we all know that modern TRIZ is not perfect. This is why we also invest efforts to bringing TRIZ developers together to share their new discoveries, opinions, and visions. And the number of TRIZ events worldwide is steadily growing: only in 2007 one can mention TRIZ conferences in China, Germany, Japan, Korea, Mexico, Russia, US, Taiwan. It is nice to hear that recently large corporations, such as Airbus, General Electric, Intel, Siemens started to deploy corporate-wide TRIZ programs. It will not only help innovation, but also will help to further advance TRIZ itself.

In this newsletter, as usual you will find an overview of the past and forthcoming events, as well as other topics related to TRIZ, innovation and creativity. This newsletter is in PDF format, and all links are clickable.

Successful innovations,
Valeri Souchkov

FORTHCOMING EVENTS

TRAINING IN TRIZ, CREATIVITY & SYSTEMATIC INNOVATION:

Do not miss! In Spring 2008, ICG T&C organizes the following international courses:

One-day Introduction to TRIZ for Business and Management:	January 19, 2008 Utrecht, The Netherlands
One-day Introduction to TRIZ for Technology and Engineering:	February 2, 2008 Utrecht, The Netherlands
1.5-day TRIZ For Kids: a workshop for teachers and parents:	March 20-21 The Hague, The Netherlands
One-day Creative Imagination Development (for all areas):	April 12, 2008 Utrecht, The Netherlands
5-day Extended TRIZ and Systematic Innovation for Business and Management:	April 16-18 & 24-25 2008 Utrecht, The Netherlands
5-day Advanced TRIZ and Systematic Innovation for Technology and Engineering:	May 7-9 & 15-16, 2008 Arnhem, The Netherlands

More details about each course and registration can be found at http://www.xtriz.com/Training/. Please note that if you are interested in "TRIZ for Kids" workshop, please send us a message for further details to training@xtriz.com.

CONFERENCES AND CONGRESSES:

- **TRIZCON 2008:** April 13-15, 2008, Kent State University, USA http://www.aitriz.org/ai/index.php?page=2008/trizcon2008&article=information
- **The Fourth TRIZ Symposium in Japan**: September 10-12, 2008, Laforet Biwako, Moriyama City, Shiga Prefecture, Japan. Details will be available at http://www.osaka-gu.ac.jp/php/nakagawa/TRIZ/eTRIZ/
- **ETRIA TRIZ Future Conference 2008**: November 5-7, 2008, Enschede, The Netherlands. Details soon will be available at http://www.trizfuture.net/

PAST EVENTS IN SUMMER-FALL OF 2007

TRIZ FUTURE 2007

TRIZ-Future Conference 2007 — Current Scientific and Industrial Reality TRIZ future 07 — nov. 06 - 08, 2007 frankfurt - germany

The 7th Global Conference TRIZ Future 2007, organized jointly by ETRIA, European TRIZ Zentrum, Chamber of Commerce of Kassel and Technical University of Munich, was holding on November 6-8 in Frankfurt am Main. 140 participants arrived to the conference. The conference opened with two tutorials: on Technology Forecast by Dmitry Koucheriavy and Advanced TRIZ by Nikolai Khomenko (both Graduate School of Science and Technology in Strasbourg). The conference featured 5 keynote talks: by Lucienne Blessing (University of Luxembourg), Guillaume Vendroux (Alstom Transport, France), Vincent Bontemps (Commissariat à l'énergie Atomique, France), and Greg Yezerski (Institute of Professional Innovators, USA). 44 papers, selected for presentation, were divided to two sections: scientific and practitioner.

The conference produced very nice impression, thanks to efforts of its organizers and the participants. Being a founding member of ETRIA, I am personally very happy that each edition of the TRIZ Future conference gains more and more worldwide audience and recognition. Although the quality of papers was varying, overall the majority of papers either provided the participants with new valuable information or triggered some further thoughts. It was also interesting to observe that TRIZ is getting accepted broader on a corporate scale: David W. Conley (Intel, USA) informed audience that approximately 1.000 Intel specialists took basic TRIZ training, Robert Adunka (Siemens, Germany) presented a corporate training program in TRIZ which is currently under deployment at Siemens.

A beautiful surprise was prepared by the organizers just prior to the conference dinner: a one-hour show at which two artists demonstrated how to teach physics in a new way: by showing physical effects "alive" in a very funny and enjoyable manner. I doubt I will ever forget any of the effects presented!

The conference ended with 2-hour ETRIA members meeting, a summary of which will soon be posted to the ETRIA website (www.etria.net). One of the important notes was that in general, TRIZ is known today at the level of the 1980s despite its recent progress. Certain efforts should be undertaken to make the worldwide TRIZ community familiar with current trends in TRIZ and bring an overview of TRIZ advances.

Summarizing, the conference had a high degree of quality of integrity, was very energizing, and became an excellent place for networking and communication.

Impressions from the TRIZ Future 2007 Conference

As usual, Ellen Domb, the editor of the Online TRIZ Journal, provided live blogging from the conference. You can read more about each conference day:

- Day 1 Morning: http://www.triz-journal.com/commentary/archive/european_triz_association_triz_futures_2007day_1_morning.html
- Day 1 Afternoon: http://www.triz-journal.com/commentary/archive/etria_day_1_afternoon.html
- Day 2: http://www.triz-journal.com/commentary/archive/etria_day_2.html
- Day 3: http://www.triz-journal.com/commentary/archive/etria_day_3.html

The conference proceedings are available in electronic form for ETRIA members for free at www.etria.net in the membership section. A published version is available at amazon.de:

http://www.amazon.de/Proceedings-TRIZ-future-conference-November-Frankfurt/dp/389958340X/ref=sr_1_2?ie=UTF8&s=books&qid=1195719679&sr=1-2

The next TRIZ Future conference will be conducted in cooperation with the University of Twente, in Enschede, The Netherlands, on November 5-7, 2008. The conference will also be supported by ICG T&C, CIRP and VRL. We also plan to organize a day with pre-conference workshops on specific subjects. More details will follow soon. If anyone of readers of this newsletter has an idea of what to add or change at our next conference, please send me you ideas to: souchkov@etria.net

TOTAL INNOVATION LEADERSHIP TODAY

On November 15, I was invited to present a keynote on TRIZ at the "Total Innovation Leadership Today: How Innovation Helps Innovate Innovation" Congress organized by New Shoes Today in Utrecht. With 140 energized participants, it was certainly a very inspiring event. Although most of the "working places" were dedicated to "classical" approach to creativity enhancement, the main message of the congress was very clear: innovation leaders of today and tomorrow are creative people, and creativity can and should be studied and guided. Time of chaotic creativity seems to be over.

More details about the congress can be found at http://www.newshoestoday.com/site/innovation/tilt/ (in Dutch only).

Impressions from Total Innovation Leadership Today

ROUNDTABLE MEETING "TRIZ FOR KIDS"

On November 16, we organized a roundtable meeting in the Hague, The Netherlands, where Nikolai Khomenko presented the "Jonathan Livingston" project dedicated to improving education and developing creative thinking skills for kids and young adults based on the recent advances of OTSM-TRIZ (OTSM is a Russian acronym for "A General Theory of Power Thinking", and was developed together with the TRIZ founder, G. Altshuller). The project has been running for 20 years (mostly in Russia), and those kids who have been following the project educational programs demonstrate better thinking performance and productivity, which results in obtaining higher school marks and improved skills to deal with all kinds of problems.
The roundtable was dedicated to starting a network for building a platform to disseminate the results of the project to Holland and Belgium and further to Europe, and was rather fruitful: every participant seemed to be very enthusiastic and shared his/her vision on the future. We also decided to organize a 1.5 day training workshop by Nikolai Khomenko for parents and teachers on March 20-21 in the Netherlands.
More details about the Jonathan Livingston project can be found at http://www.jlproj.org/new/index_.php?lang=en.
Is anyone interested in joining our "TRIZ for Kids" network? Please send me a message to info@xtriz.com.

Impressions from the "TRIZ for Kids" roundtable

OTHER EVENTS

There were other interesting TRIZ-related events in which I, unfortunately, could not participate due to a very tight agenda. Among them were:

- **TRIZ Fest in Russia**, July 2007: Short summary in English: http://www.realinnovation.com/commentary/archive/news_from_triz_fest_in_moscow.html and overview in Russian (with photo report): http://metodolog.ru/01062/01062.html

- **Third TRIZ Symposium in Japan**, Yokohama, August 30 – Sep. 1, 2007: In total, 202 participants joined the event. Toru Nakagawa (Osaka-Gakun University) presented a detailed personal report from the conference: http://www.osaka-gu.ac.jp/php/nakagawa/TRIZ/eTRIZ/eforum/e2007Forum/eTRIZSymp2007Rep/eTRIZSymp2007TNRep.html
- **Iberoamerican Innovation Congress**, October 2007, Monterrey, Mexico: Commentary by Ellen Domb:
  - Day 1: http://www.realinnovation.com/commentary/archive/report_from_the_2nd_iberoamerican_technological_innovation_congress.html
  - Day 2: http://www.triz-journal.com/commentary/archive/2nd_iberoamerican_technological_innovation_congress_day_2.html
  - Day 3: http://www.triz-journal.com/commentary/archive/2nd_iberoamerican_technological_innovation_congress_day_3.html

FROM THE AUTHOR…

I recently added two blog entries in form of "articles" that might be of interest to the readers:

- **Thinking Skills for Innovation.**
  A review of 12 differences between regular and "power" thinking.
  http://xtriz.blogspot.com/2007/09/thinking-skills-for-innovation.html
- **Creative Problem Solving: Four types of Thinking**.
  A short article presenting different approaches to solving creative problems along two dimensions: abstract vs. specific and chaotic vs. structured.
  http://xtriz.blogspot.com/2007/06/creative-problem-solving-four-types-of.html

The July 2007 issue of the Online TRIZ Journal published my article on differentiating among 5 levels of solutions – to introduce a more clear approach to classification solutions – both inventive and non-inventive. Please note that a new classification is not only about 5 levels of inventive solutions as introduced by G. Altshuller in classical TRIZ.

- **Differentiating Among the Five Levels of Solutions.**
  http://www.triz-journal.com/archives/2007/07/02/

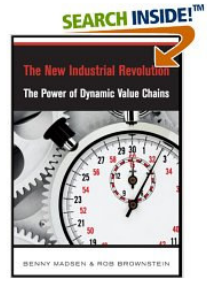
In addition, an updated October 2007 version of a **Quick Guide to Root Conflict Analysis (RCA+)** is available: both business and technology versions. Customers of ICG T&C might contact us for your free download at info@xtriz.com.

MORE TO READ AND WATCH…

- **A Special Report on Innovation** by *The Economist* (October 13, 2007).
  A series of articles dedicated to innovation.
  http://www.economist.com/printedition/index.cfm?d=20071013 (see the list of articles at the right side of a page).
- **Ken Robinson: Do schools kill creativity?**
  Excellent video talk by Sir Ken Robinson: "We are educating people out of their creativity". http://www.ted.com/index.php/talks/view/id/66
- **What Drives Innovation?**
  Video of a presentation of Google's CEO Eric Schmidt at the conference at Stanford Graduate School of Business (video is available at the right top of the page).
  http://www.gsb.stanford.edu/news/headlines/cgbe_innovationconf.shtml

- **Innovation 2007: BCG Senior Management Survey** (*Boston Consulting Group*).
  A report presenting survey on innovation based on responses of 2486 senior executives from 58 countries. http://www.bcg.com/publications/files/Innovation_Aug_2007.pdf
- **Award-Winning Innovations in Consumer Electronics** by *Business Week.*
  http://images.businessweek.com/ss/07/11/1114_ces_innovations/index_01.htm
- **The Best Inventions of the Year** by *Time* Magazine.
  http://www.time.com/time/specials/2007/0,28757,1677329,00.html
- **3M Shelves Six Sigma in R&D** (*Design News*).
  It has been known for a while that 3M, one of the most innovative companies in the world, was loosing its innovative leadership by largely deploying Six Sigma practices. An article discusses the needed balance between quality and innovation, especially in a new product development environment. http://www.designnews.com/article/CA6500647.html
- **A Culture of Innovation at 3M**
  3M staff vice president of research Larry Wendling speaks about 3M's culture of innovation, *Design News*.
  http://www.designnews.com/index.asp?layout=article&articleid=CA6500585
- **Presentation: An Introduction to a Killer Innovation Approach** by *Phil McKinney*.
  http://www.philmckinney.com/2007/11/presentation_an_introduction_t.html
- **Design Features for Next Generation Technology Products** by Prakasan Kappoth (*The TRIZ Journal*).
  An interesting article showing how TRIZ, especially Multi-Screen diagram (9 Windows) can be used to identify future evolution of technology for a service company.
  http://www.triz-journal.com/archives/2007/11/05/
- **Integration of a Service Taxonomy** by Reuven Karni and Maya Kaner (*The TRIZ Journal*).
  Another article which provides "a bridge" between "technological" TRIZ and non-technological TRIZ applications. http://www.triz-journal.com/archives/2007/10/04/

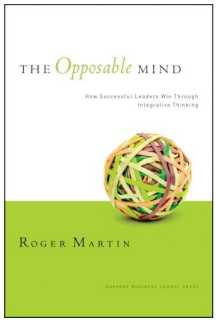
NEW BOOKS



The New Industrial Revolution: The Power of Dynamic Value Chains. (Hardcover) by Benny Madsen, Rob Brownstein.

This book is not directly about innovation, but it uncovers how the electronics industry manages to compete and produce new products within 6 months. The power of the books is based on historical analysis of evolution of the electronics industry, and explains why things happen and how. In short, this book is about understanding what drives innovation.

http://www.amazon.com/New-Industrial-Revolution-Dynamic-Chains/dp/0979700205/ref=sr_1_8?ie=UTF8&s=books&qid=1195951261&sr=8-8



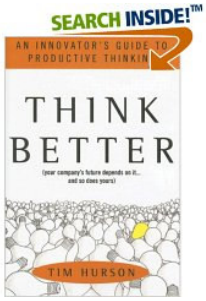
The Opposable Mind: How Successful Leaders Win Through Integrative Thinking by Roger L. Martin.

"If you want to be as successful as Jack Welch, Larry Bossidy, or Michael Dell, read their autobiographical advice books, right? Wrong, says Roger Martin in The Opposable Mind. Though following "best practice" can help in some ways, it also poses a danger: By emulating what a great leader did in a particular situation, you'll likely be terribly disappointed with your own results. Why? Your situation is different. Instead of focusing on what exceptional leaders do, we need to understand and emulate how they think. Successful businesspeople engage in what Martin calls integrative thinking—creatively resolving the tension in opposing models by forming entirely new and superior

ones. ..Martin shows how integrative thinkers are relentlessly diagnosing and synthesizing by asking probing questions—including "What are the causal relationships at work here?" and "What are the implied trade-offs?" Amazon.com

Although the book has not been published yet, this review sounds very close to key TRIZ ideas: independent thinking, logical analysis and contradictions.

http://www.amazon.com/Opposable-Mind-Successful-Integrative-Thinking/dp/1422118924/ref=pd_bbs_sr_1?ie=UTF8&s=books&qid=1195952514&sr=8-1



Think Better: An Innovator's Guide to Productive Thinking
by Tim Hurson

Although there many books written on the subject, this book has a deep insight on how to separate creative thinking from critical, how to focus, and offers a number of exercises. In short, useful book for many to start thinking better. I only wish the author would be familiar with the TRIZ way of thinking.

http://www.amazon.com/Think-Better-Innovators-Productive-Thinking/dp/0071494936/ref=pd_bbs_sr_1/105-3504319-0472453?ie=UTF8&s=books&qid=1193338368&sr=8-1

Country of Riddles
by A.A. Nesterenko (1994, translated from Russian).

"*I hope this book will be profitable for those teachers who deal with 5-10 years old students and want to start mastering OTSM-TRIZ approach in Education. I also address this book to parents who decide to develop their kids instead of waiting when scholars start to pay attention to this problem*." A.A. Nesterenko.

This short book uses basic ideas of TRIZ to create riddles. The book is available as a free download at
http://www.jlproj.org/new/index_.php?p=3&u=478

PRINCIPLES FOR CREATIVE INNOVATION: "BRINGING IN"

Someone once said that "the *history of evolution of our civilization is the history of evolution of creative imagination*". I completely agree with that. To innovate and create new "out of the box" ideas, we need creative imagination. Although TRIZ provides us with powerful analytical tools to deal with problems and find out what lies ahead, creative imagination remains essential to translating recommendations obtained with TRIZ to new creative ideas. Let us take, for example, one of the principles which is used for creative imagination development and known as "Bringing in" (there is also another "opposite" principle - "Taking Out", but it is for the next time).

What does it mean – "bringing in"? In fact, this idea has been used since ancient times, when people were creating fairy tales by attaching properties or living objects to non-alive ones: for instance, a talking stone, a walking mountain, and so on. We take a certain function, or a property of some object (or even non-existing object) and transfer it to another object. That another object can be anything: it can be material or immaterial object. Like air, water, person, watch, candy, TV, house, wall.

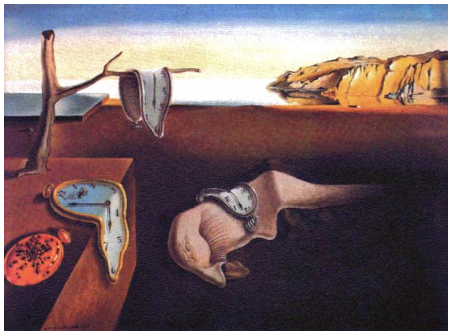
The principle of "bringing in" has three recommendations:

- Bring in some property/feature into an object/system which is a property of some other object or system.
- Bring in some new (unexpected) function to your object/system.
- Bring a new part to a system/object to deliver a new (unexpected) function or create unusual visual effect.

The easiest way to work with the recommendation is to take two totally different objects and transfer properties/functions of the first object to the second. For instance, the first object is water, and the second is an mp3 player.

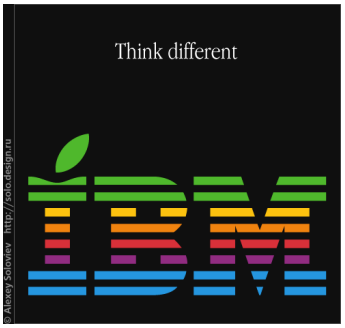
What are properties of water? It is liquid, transparent, flowing, cold, colorless, it can freeze, it can evaporate… Now try to imagine a "liquid" mp3 player, a transparent mp3 player, an mp3 player which can freeze or evaporate?… What are functions of water, what do we use it for, what are effects from water? Let's say, to refresh, to satisfy thirst, to clean, to produce waterfall noise. Now can you imagine an mp3 player which refreshes, cleans, or satisfies thirst, or sounds like a waterfall, or has a design element of a waterfall? Probably, it is difficult, but with some practice it becomes much easier. Developing our creative imagination is very important, and the good news is that it can be developed by practicing.

Let us have a look at some examples of "bringing in":



Salvadore Dali: "fluid time"

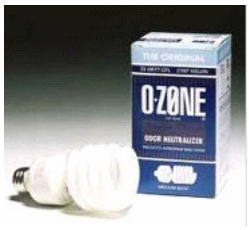
"Flying elephant"



A friendly joke by applying Apple's design to IBM logo

Mouse in a shape of a car

Cactus teapot



A lamp coated with air refresher

Vases in a shape of picture frames

A USB stick as a jewelry

Table in a shape of a cello

This principle is often used in business, advertisement, science fiction and fantasy, arts; there are several creativity techniques which are based on the use of this principle. Cubism was invented as an art movement by bringing straight angles to everything. In business, mobile phone operators adapted a "flat rate" payment model allowing us to talk as much as we want for a fixed price; as well as some software vendors propose to use their products for fixed monthly payments. Architectural design uses some shapes and features of natural objects. In short, opportunities are endless. Of course, the use of this principle might lead us to exploding number of ideas and might be less efficient for, let us say, radical technology innovation or dealing with a complex system which requires a sophisticated analysis (and this is where we use relevant TRIZ tools); but its use for thinking out of the box and obtaining new creative ideas in less constrained areas can be very fruitful in addition to creativity development exercises.

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