Book Review: ***Innovation on Demand***
By Victor Fey and Eugene Rivin

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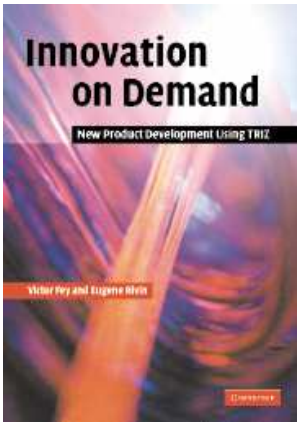

Publication Details*: Innovation on Demand: New Product Development Using TRIZ* by Victor Fey and Eugene Rivin.

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ISBN-13 978-0-521-82620-4
www.cambridge.org/9780521826204 £35 or $65

When I first encountered TRIZ back in 1997, there were two books in the English Language that were available; "***Creativity as an Exact Science***", and "***Suddenly the Inventor Appeared.***" These two books were supplied to me from ASI in hopes that I would take a short course on TRIZ because the course I had originally signed up for had been canceled. The course was taught by Victor Fey; the impact was significant in the way I approached the problem solving process, and has clearly changed the way I think. (43 patent disclosures, 21 submittals that met the company business plans, and 3 patents issued and more pending, all since 2001!)

Victor Fey is Adjunct Professor of Mechanical Engineering at Wayne State University and a Principal Partner and co-founder of the TRIZ Group. He is one of the few TRIZ Masters personally certified by G.S. Altshuller. He has authored seven patents, over thirty papers and two books. Eugene Rivin is a professor and director of the Machine Tool Laboratory in the Mechanical Engineering department at Wayne State University and co-founder of the TRIZ Group. He is a Fellow of ASME and SME and an active full member of CIRP. Rivin holds over 60 patents and has authored more than 160 papers and fifteen books. Fey and Rivin are also authors of TRIZ Journal articles that have helped many of our readers understand sophisticated concepts in TRIZ. (See Dec. 2001 and April 1999, for example).

The TRIZ Process is based upon the analysis of patents that Mr. Altshuller interpreted as showing that technological systems evolve as biological systems evolve—that is, there are predictable patterns of evolution. From this he and his associates developed the tools that would enable people to solve the correct problem in a creative manner. Although isolated for many years and actually suppressed in the former Soviet Union, in the 1980's and '90's, during Perestroika, TRIZ became known to the world. It has caught on as a methodology to solve problems through innovation.

One key element must be stressed is that TRIZ is based upon “Strong Thinking”; it is not a replacement for thinking. “***Innovation on Demand***” stresses this point that TRIZ is all about thinking.

The Book is divided into six chapters:

- Introduction
- Resolving Systems Conflicts
- Basics of Substance Field Analysis
- Algorithm for Inventive problem solving (ARIZ)
- Laws of Technological System Evolution
- Guiding Technology Evolution

The first three chapters provide the reader with keen insight, and the thought process that is necessary to solve inventive problems. Of particular interest is the absence of the popular beginner tool, Altshuller’s Contradiction Matrix, in the chapter on innovative problem solving process. In his book, ***Creativity as an Exact Science*** Mr. Altshuller did not include the matrix. He did , however describe its use, but stated that the removal of the Physical Contradiction was more inventive and better aligned with the concepts of what TRIZ is all about, which is the approach used by Fey and Rivin.

Chapter three provides detailed insight on how the Substance-Field Analysis should be performed. Key to this analysis is the flow chart that is contained within the appendices of this book. Two key points need to be made here

1. Modeling of a problem is of the utmost importance,
2. The Problem Solver is required to Think though this process to solve problems.

The chapter on ARIZ pulls the book together. Through this process the correct problem to solve is identified. In some instances the mini-problem (minimum changes to the system) is not the correct problem and the Problem Solver is now confronted with

What does the next generation of the system I am working on look like?

The last two Chapters of the book provide insight into the solution of the maxi-problem.

This text is an excellent addition to the TRIZ Literature. As we continue to introduce TRIZ to the Engineering Community at International Truck and Engine Corporation, this is the book that I will use. This is one of the best books that I have encountered to date on TRIZ.