



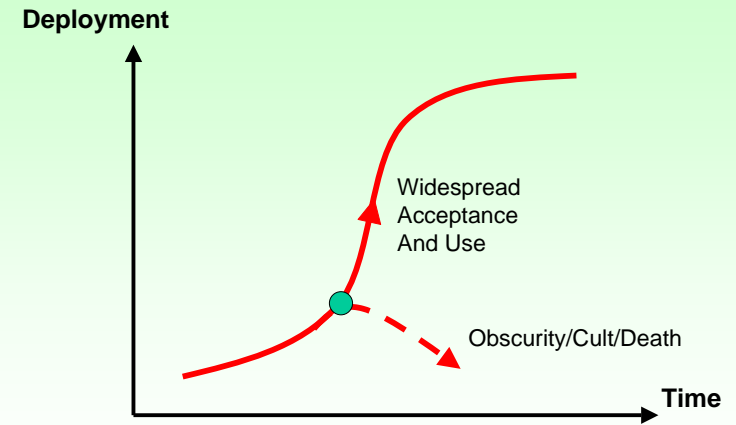
TRIZ Critical SWOT: Systematic Innovation Today And Tomorrow

Darrell Mann



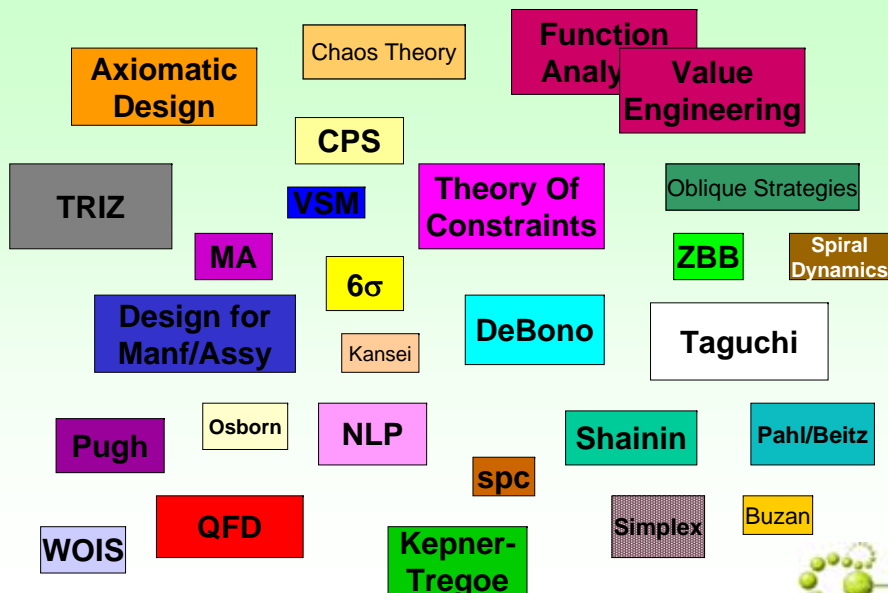
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TRIZ – At A Critical Point In Its Evolution



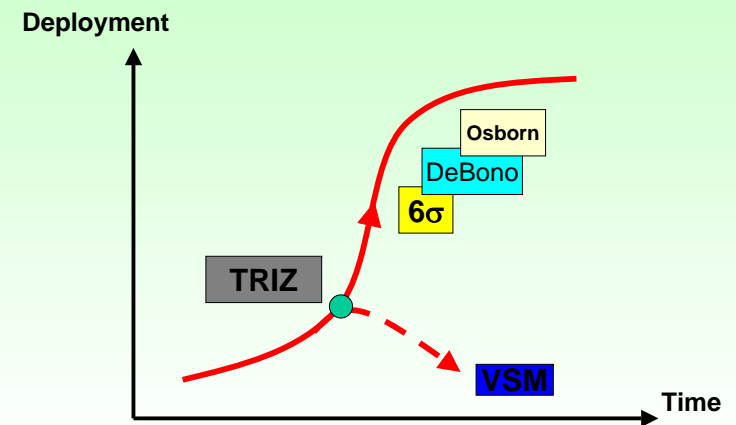
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The Ideal Creativity & Innovation Method?



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Comparison With Other Methods



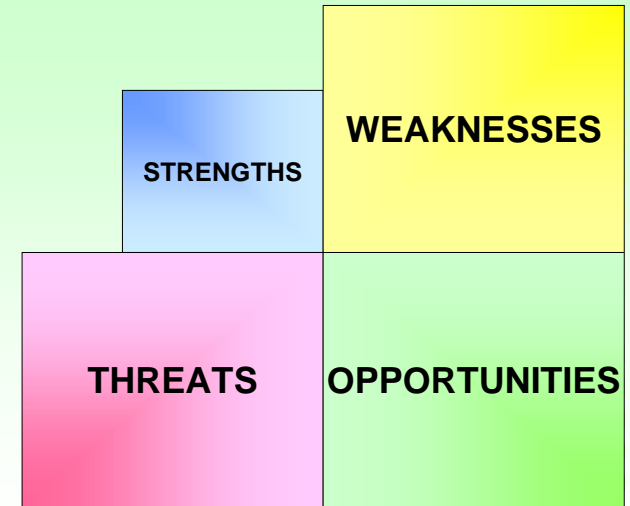
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Structure Of Presentation



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Structure Of Presentation



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STRENGTHS

s	w
T	O

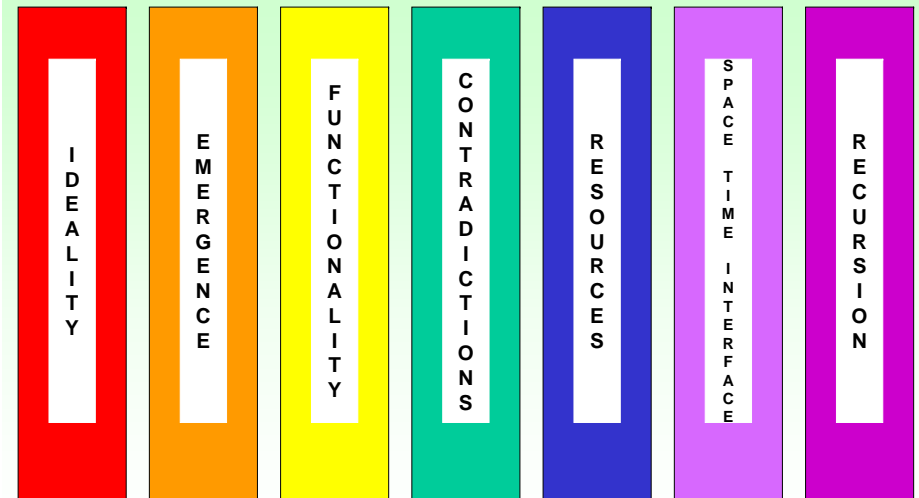
- 1) Extensive Research Foundations
- 2) Re-Definition Of 'Success'
- 3) It Works!



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Tests Of Successful Solutions:

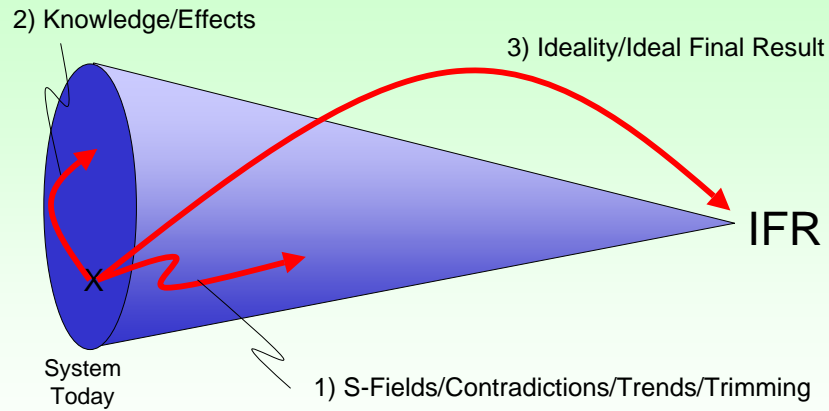
s	w
T	O



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Maps Of The World

S	W
T	O



WEAKNESSES

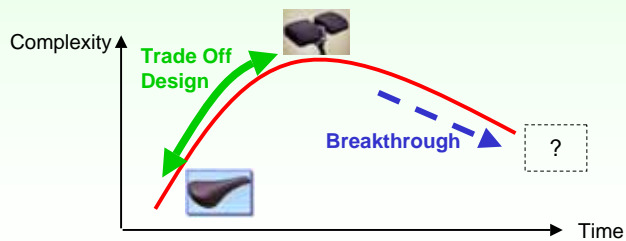
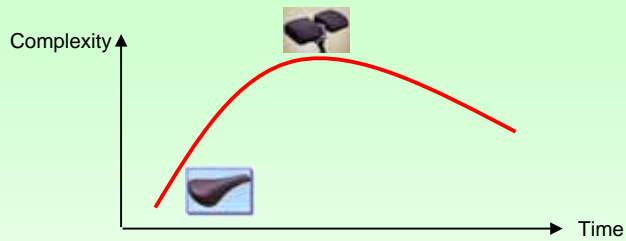
S	W
T	O

- 1) Learning Curve
- 2) 'People Problems'/'Fuzziness'
- 3) Isolation From Academia



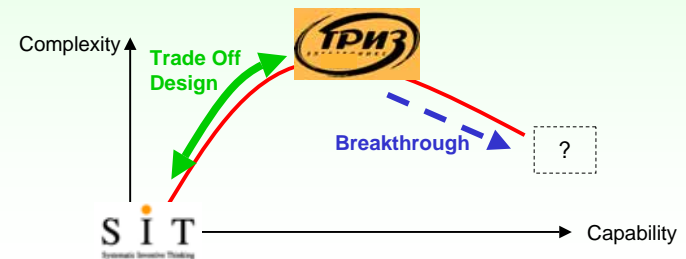
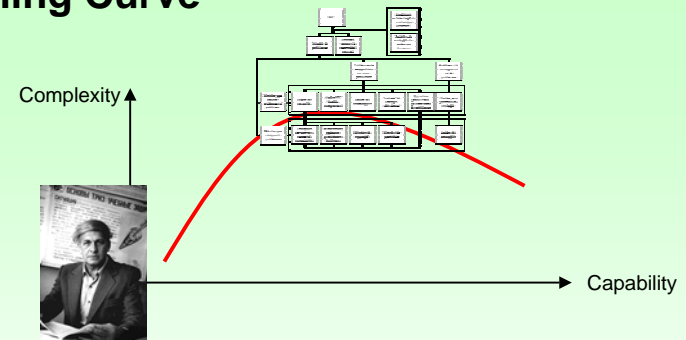
Learning Curve

S	W
T	O



Learning Curve

S	W
T	O



'People Problems'/'Fuzziness'

S	W
T	O

- * Early attempts to tackle 'people' problems show TRIZ to be a very blunt instrument
- * Definition tools inadequate for perception problems; right-versus-wrong or right-versus-right
- * Weak on non-linear problem situations



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Non-Linearities

S	W
T	O

Butterfly flaps wings in Capetown

...Hurricane in Shuzenji



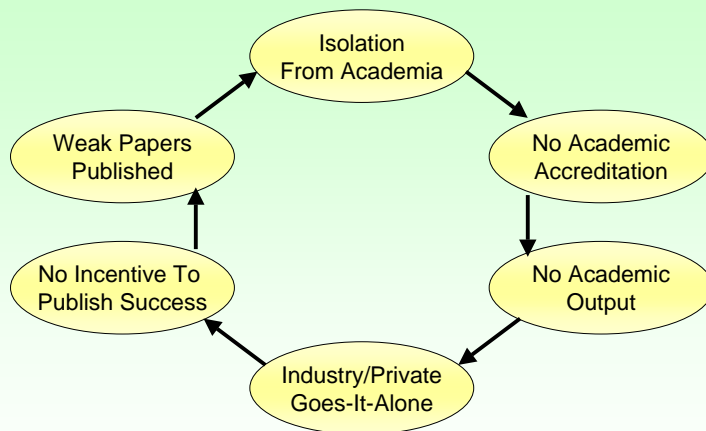
- * Charles Bronson movie reduces crime in New York by 40%
- * Change in Abortion Law in US in 1973 causes widespread crime reduction in late 80s
- * Button falls off Duke Ellington's jacket and starts a wide-spread fashion
- * The name you give to your offspring will have a significant effect on their future life



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Isolation From Academia

S	W
T	O



This downward spiral needs to be broken



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OPPORTUNITIES

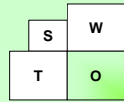
S	W
T	O

- 1) Big Problems
- 2) 'Theory Of Everything'
- 3) Business/Political Application



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Big Problems



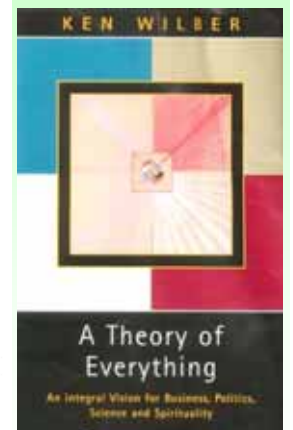
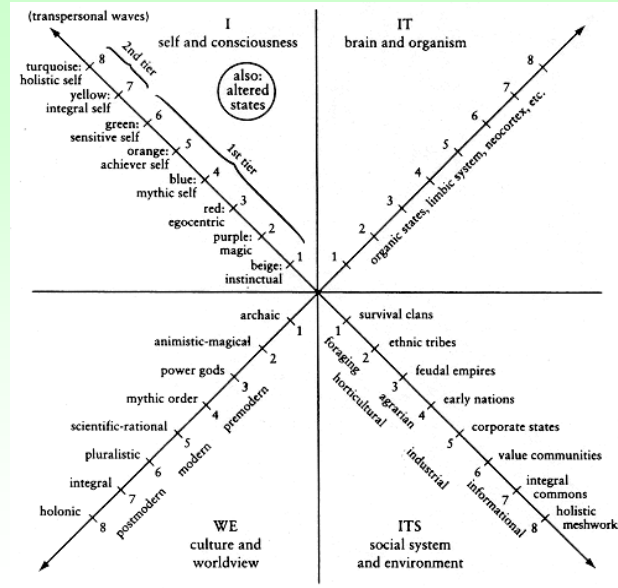
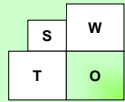
TRIZ offers the world the best opportunity to solve some big problems:

- water (Mir technology?)
- energy (0.09% of sun's energy is enough)
- cancer (IFR-self – drug company opposition)
- land-mines
- etc

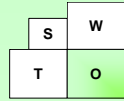
(How to make it happen?)



'Theory Of Everything'



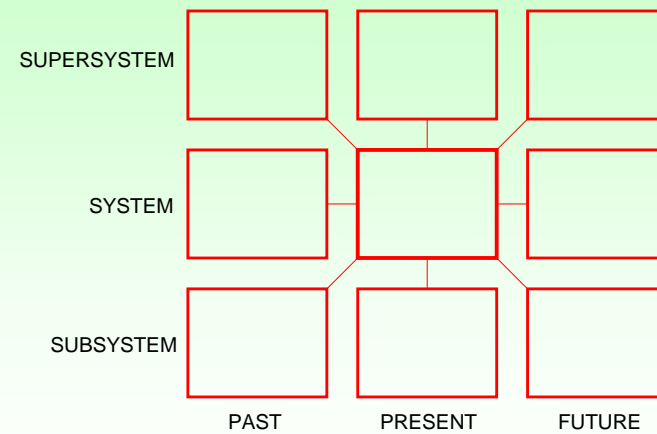
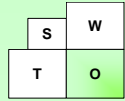
'Theory Of Everything'



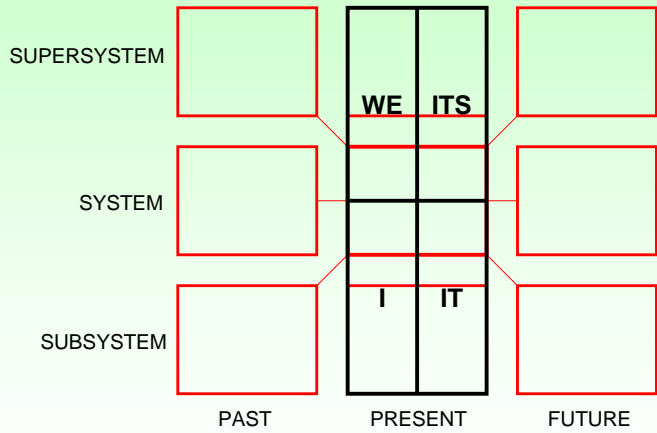
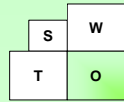
I Interior-Individual Intentional Subjective Upper Left	IT Exterior-Individual Behavioral Objective Upper Right
WE Interior-Collective Cultural Intersubjective Lower Left	ITS Exterior-Collective Social Interobjective Lower Right



SYSTEM OPERATOR ('9 Windows')

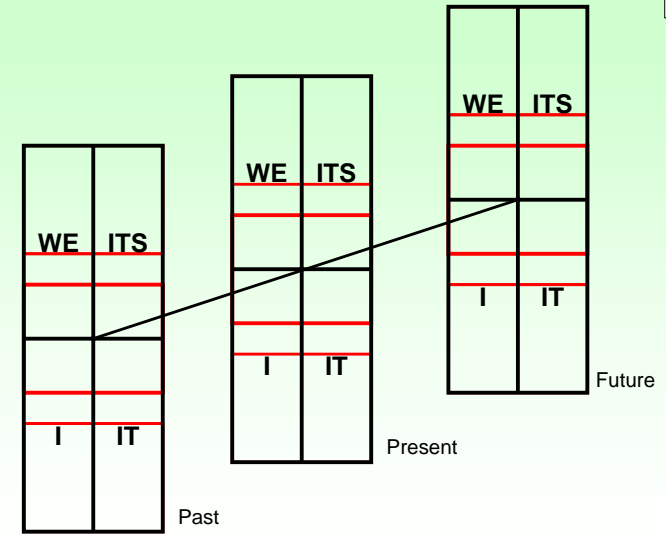
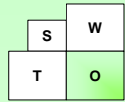


SYSTEM OPERATOR ('9 Windows')

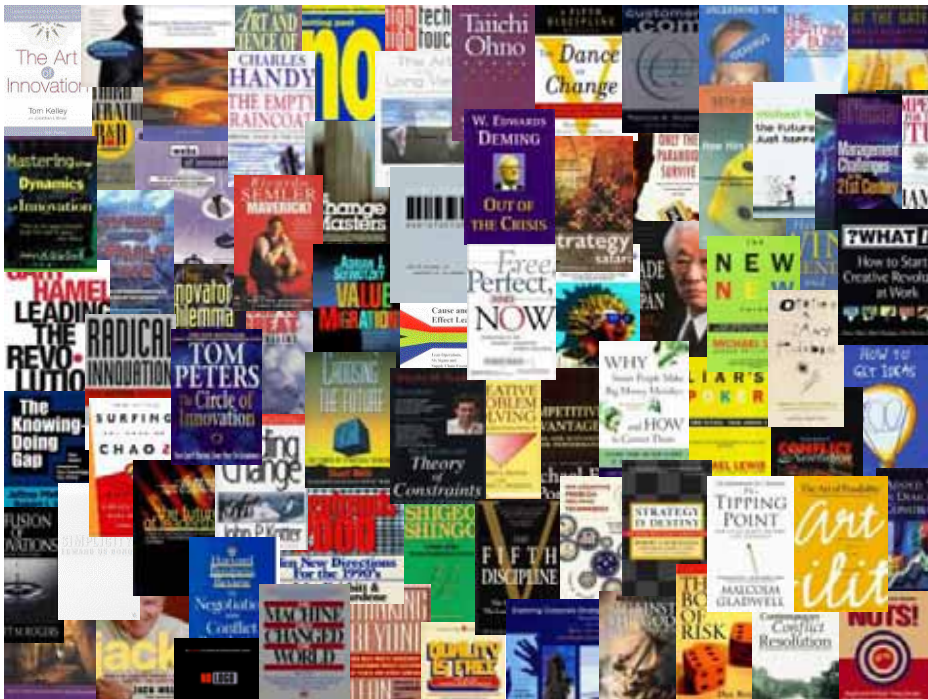


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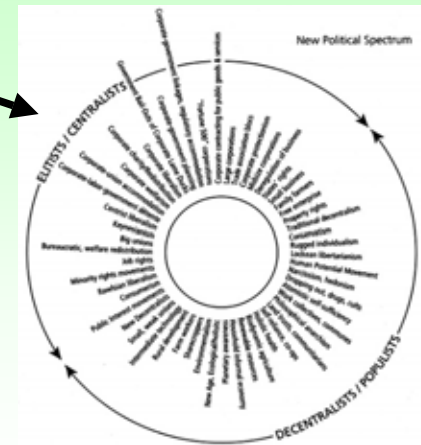
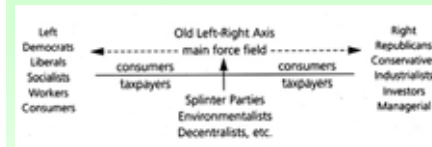
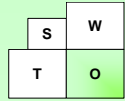
SYSTEM OPERATOR ('9 Windows')



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Business/Political Applications

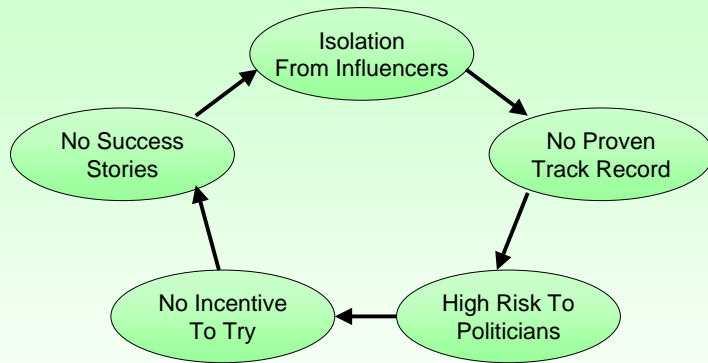
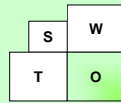


- * Rapidly changing political spectrum
- * Socratic Thinking Outdated/Dangerous
- * Win-Win/ 'Third Way'
- * No structured tools/techniques for generating alternative ideas



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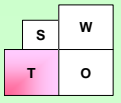
Getting Into Politics/Influencers



This downward spiral needs to be broken



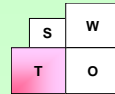
THREATS



- 1) The Problem Of The Originators (X-versus-Y/'My-Way-Or-No-Way')
- 2) Misplaced Faith In Success Stories
- 3) Too Much Pain To Too Many People



The Problem Of The Originators (X-versus-Y/'My-Way-Or-No-Way')

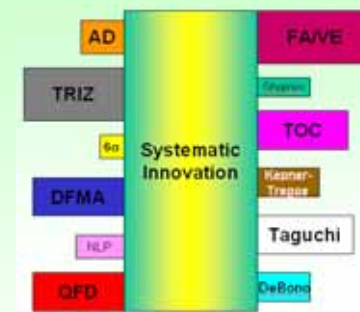
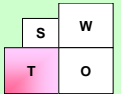


A sample of messages that have caused great damage to TRIZ deployment:

- a) 'I have 25 years experience; you will never learn it' (...easier to pay me lots of consulting fees)
- b) 'Invention Machine'
- c) 'Their version of TRIZ is no good'
- d) 'Baby-TRIZ'
- e) 'No new ideas in TRIZ for the last 20 years'



The Problem Of The Originators (X-versus-Y/'My-Way-Or-No-Way')



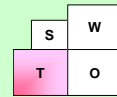
In order to achieve victory you must place yourself in your opponent's skin.
 If you don't understand yourself, you will lose one hundred percent of the time.
 If you understand yourself, you will win fifty percent of the time.
 If you understand yourself and your opponent, you will win one hundred percent of the time.

Tsutomu Oshima



TRIZ

6σ

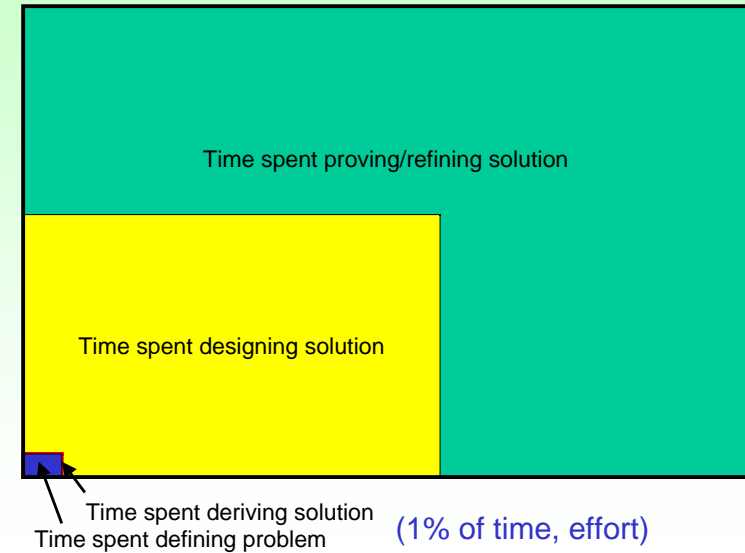
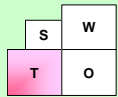


So is TRIZ ever going to report Six Sigma levels of success?

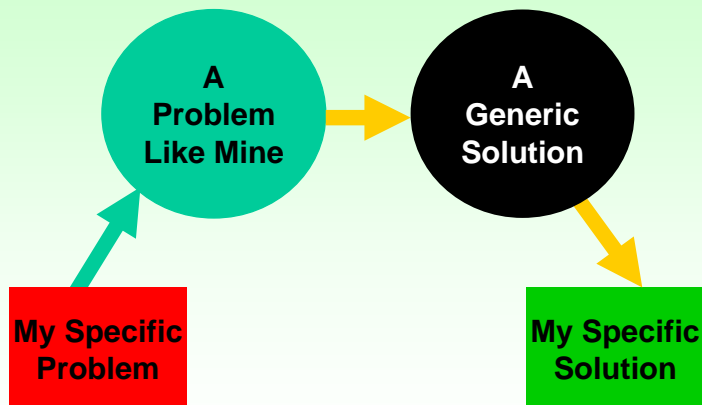
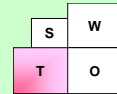
Actually there are two questions here:
Is TRIZ ever going to *create* such big successes and
Is anyone going to *report* them?



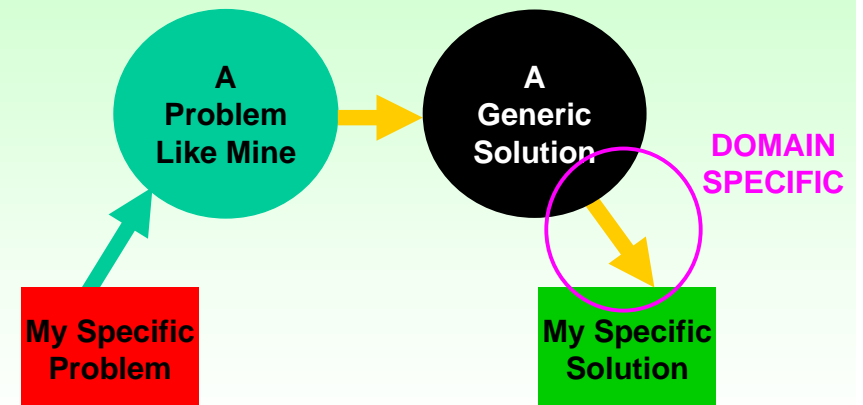
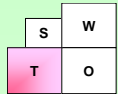
All Things Are Relative



Abstraction



Abstraction



S	W
T	O

WISDOM = KNOWLEDGE x CONTEXT



you can never step in the same river twice



S	W
T	O

Knowledge



A tomato is a fruit

Wisdom



Do not put tomatoes
in a fruit salad



S	W
T	O

WISDOM = KNOWLEDGE x CONTEXT

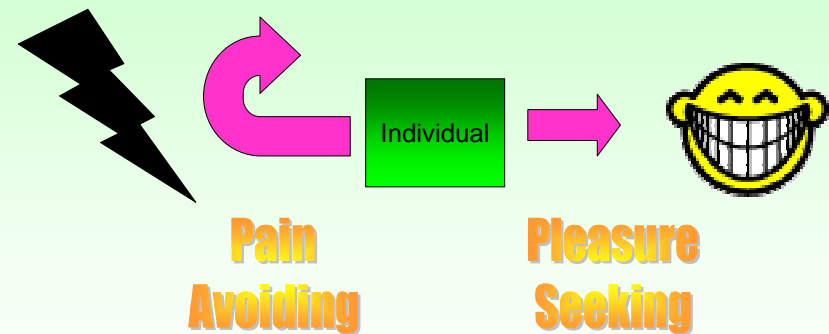


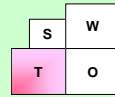
Only you can do this part
the end solution is by definition
'Your Solution'



Two Primary Human Motivators

S	W
T	O

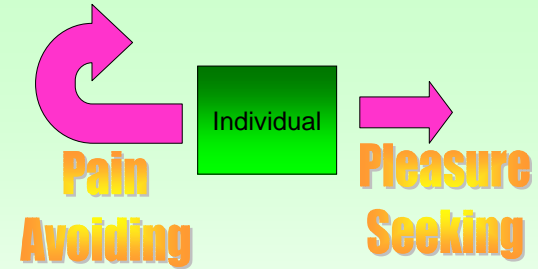
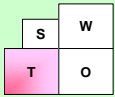




Plausible deniability
is the reason
that people are looking for
(either implicitly or explicitly)
to justify their decision
not to try TRIZ
(or any other method)



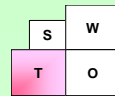
“We need to change things around here”



if something goes wrong, I will be in trouble:
'why did you tamper with a perfectly satisfactory system?'

“If everything goes well, I will be a hero”

If I don't do something, but someone else (e.g. a competitor) does then I will be in trouble:
'why didn't you see it coming?'
'what on earth caused you to reject that?'



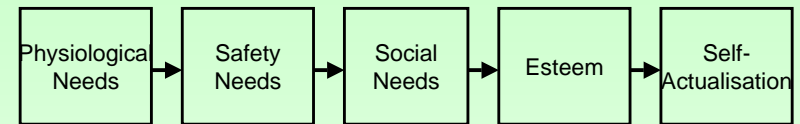
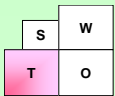
In order to make sure there is a good answer to this potentially career limiting scenario, the manager, therefore needs a plausible explanation for why not adopting the change was the correct thing to do.

PLAUSIBLE DENIABILITY & TRIZ

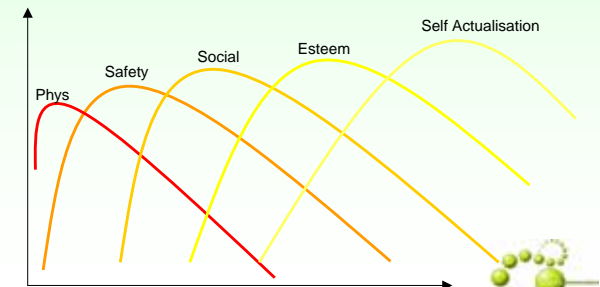
- 'there are no success stories'
- 'we looked; there is no evidence that it works'
- 'we did a pilot study; we showed it didn't work'
- '99.99% of the world's patents didn't use TRIZ'
- 'we got the answers by ourselves'
- 'we bought the software; it didn't help'
- 'etc'

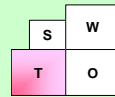
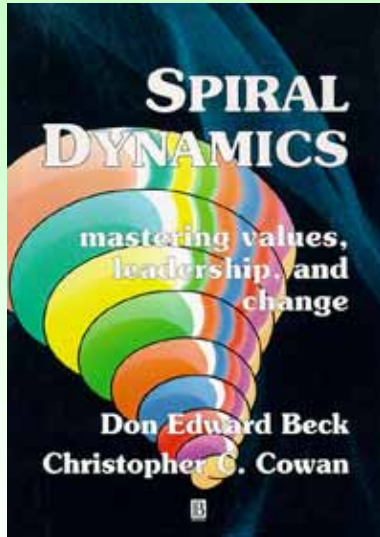


Maslow Hierarchy of Needs



Source: Understanding Organisations, Charles Handy, Penguin, 1976.





- * **Discontinuous Shifts in consciousness/thinking**
- * **'MEMEs'**
- * **Potential for change**
- * **Change is inevitable. Growth is optional.**



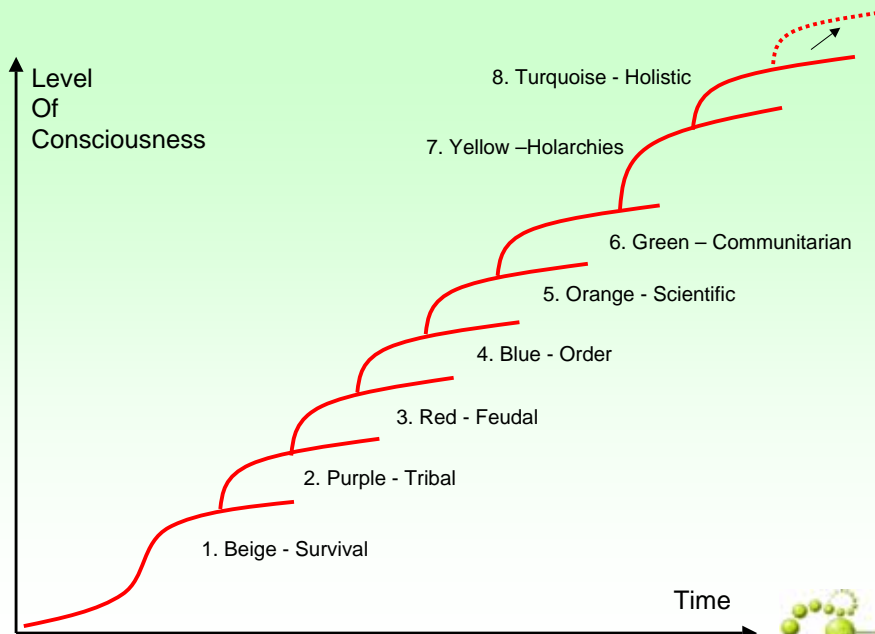
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Beige	1. Survival	newborn infant, Alzheimer's victim, shell-shock
Purple	2. Tribal	gangs/tribal rituals/magic blood oath
Red	3. Feudal	power gods/ego, feudal rule, heroic, predatory 'terrible two's'
Blue	4. Order	codes of conduct, hierarchy/order, 'moral majority' chivalry, puritan
Orange	5. Scientific	materialism, competitive, self-interest, 'nature tamed', 'management by objective'
Green	6. Communitarian	'sensitive-self', deep ecology. 'politically correct' reconciliation/consensus/networking
Yellow	7. Hierarchy	flexibility/adaptive, inter-dependence, co-opetition
Turquoise	8. Holistic	universal order, 'Theory of Everything', spiritual harmony

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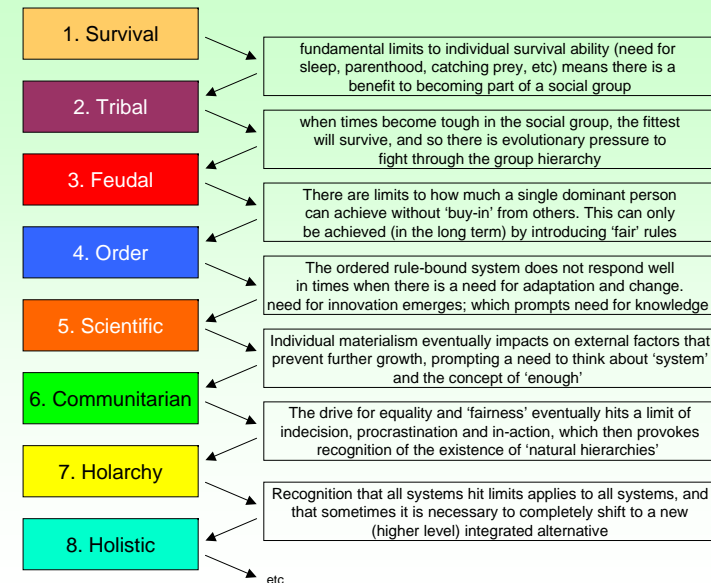


Level Of Consciousness



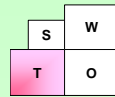
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Shifts To New Levels Occur Only When Contradictions Emerge



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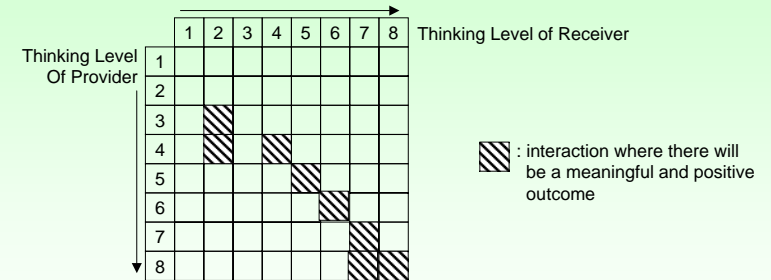
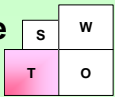


Interact at the same level as the current state of the receiver...

....or expect change initiative to fail



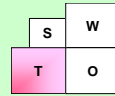
Mapping Interactions Where Positive Change Outcome Will Occur



Paper at TRIZ Kongress, June 2005
 'If TRIZ IS So Good, Why Isn't Everyone Using It, Part 7: Plausible Deniability & Spiral Dynamics'



Receptiveness To Change



OPEN

Initiate change initiatives when people are in this state, and you may be successful



ARRESTED

People are caught in their self-inflicted barriers, but change is possible if they can be overcome

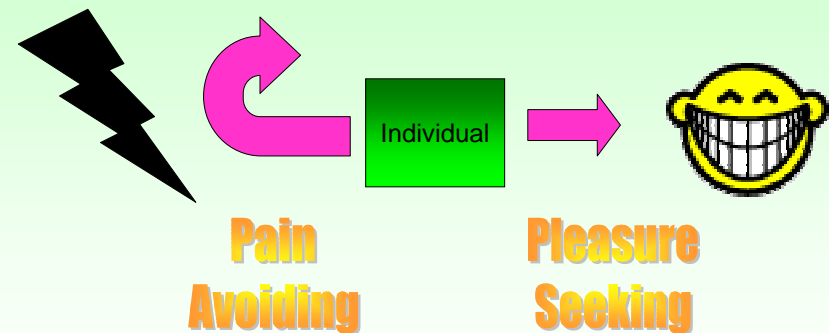
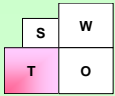


CLOSED

Change initiatives will not succeed under any circumstances



Two Primary Human Motivators



Pleasure Seeking Pain Avoiding

1. Survival	sex	food, water, warmth, safety
2. Tribal	good fortune, 'one of the gang' revenge	curses/spells/rejection/isolation
3. Feudal	ego-gratification, 'my way' mass adulation, rebellion	defeat, loss of power rivals/threats
4. Order	stability, obedience, medals status, promotion	change, rebellion from others loss of status, outcast
5. Scientific	peer recognition, 'best in show' biggest/best/fastest, merit pay	losing, 'keeping up with the Jones'
6. Communitarian	'making a difference', harmony 'maximise my potential'	orange or blue attitudes aggression/conflict/hierarchy
7. Hierarchy	knowledgeable/'wise', 'life-long learning', discovery/challenge	sub-optimization, rigidity 'stupid rules'
8. Holistic	'defining the jigsaw', 'wrong jungle', empathy/trust	non-holistic non-spiritual



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Putting It All Together Summary



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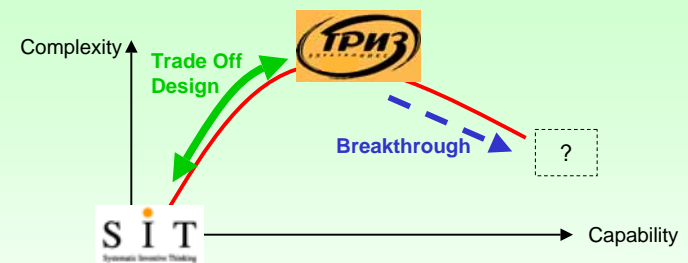
Key Contradictions That TRIZ Must Overcome

- * Simple **and** Complex
- * Not-Invented-Here **and** Invented-Here
- * 'Steak' **and** 'Sizzle'
- * My Way **and** Your Way
- * Academic **and** Practical



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Simple **and** Complex



What resources exist to solve this problem?



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The best
Solution
is the one
developed for
your
unique demands
and environment.

Should Users Adapt To TRIZ?
Or should TRIZ adapt to them?

The softest aspect of nature is water. It follows the path of least resistance, and is the humblest of all the elements as it always seeks the low point. Yet in the end it always overcomes.



TRIZ (or any other initiative) has a chance of *really* taking off if:

- **Introductions are made with the provider and the receiver operating at the same thinking state**
- **The people using it and the people paying for them to use it both see how they personally benefit ('pleasure seeking')**
- **The people using it and the people paying for them to use it are both reassured that they personally will not lose in any way ('pain avoidance')**
- **The people paying for it do not have any reason not to try it ('plausible deniability').**

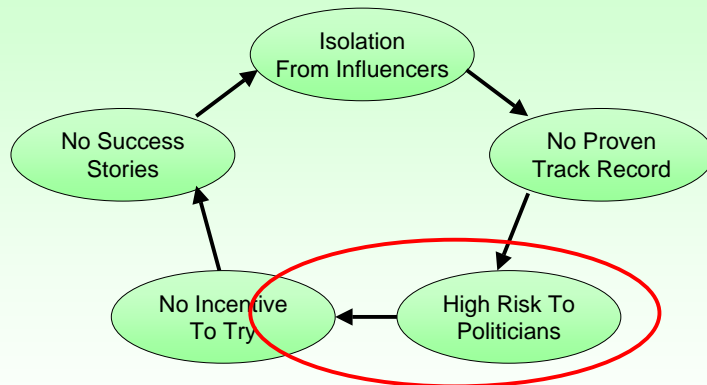
Satisfy these four conditions and there is a chance that success will follow; ignore any one and that chance diminishes exponentially.



Getting Into Politics/Influencers

S	W
T	O

This downward spiral needs to be broken...



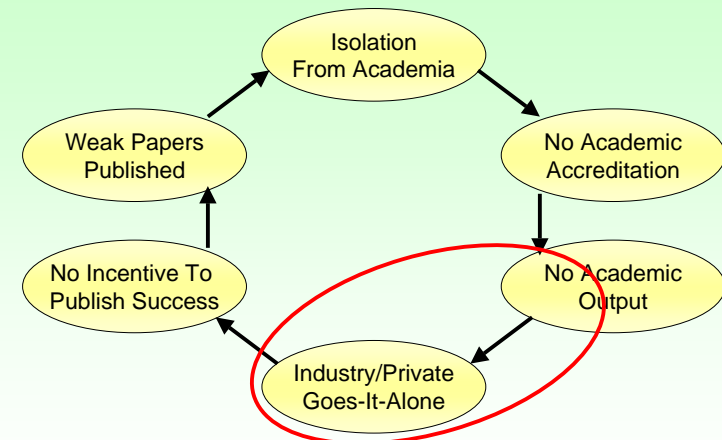
... here is probably the easiest place to break it
make it higher risk for politicians **not** to support it
(Pain Avoidance)



Isolation From Academia

S	W
T	O

This downward spiral needs to be broken...



... here is probably the easiest place to break it
make it valuable for academics to participate in real problems
(Pleasure Seeking)



IT'S THE WHOLE THING

~~KEEP IT SIMPLE, STUPID~~

It has been said that a person may have ten years of experience,
or one year of experience repeated ten times.
Yukiso Yamamoto



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鍛錬千日 勝負一瞬

We Practice for Thousands of Days,
Whether We Win or Lose is Decided in an Instant

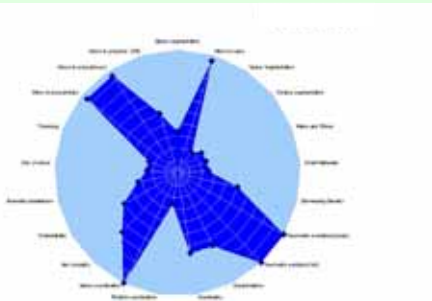
Success is going from failure to failure
without losing your enthusiasm.
Winston Churchill



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