Evolution diagram creation using I-TRIZ PF

- How to harness open patents "group" in TRIZ -

2018/9/13 TRIZ Symposium 2018

Tsunamasa Shioya

Intellectual Property Creation Research Subcommittee, Japan TRIZ Society

Agenda

About the Intellectual Property Creation

Research Subcommittee

Background of approach

Utility of patent of opening to the public information

Evolution diagram making by I-TRIZ PF

Use to idea conception

Possible application to non-technical field (Be researching.)



About the Intellectual Property Creation Research Subcommittee

1-1. Introduction of subcommittee meeting

About the Subcommittee meeting

(Member) (In the order of joining)

Kimihiko Hasegawa (Chief examiner)

Toshimitsu Kataoka

Narumi Nagase Shigeru Suzuki Hirotsugu Ishihara

Sadao Nihii

Takuya Fujii

Tsunamasa Shioya

TRIZ expert
Intellectual property member
Engineer of active service
AIPE recognition
intellectual property analyst

Diversity is a feature.

Half a day of the afternoon is basic once every 1-2 months.

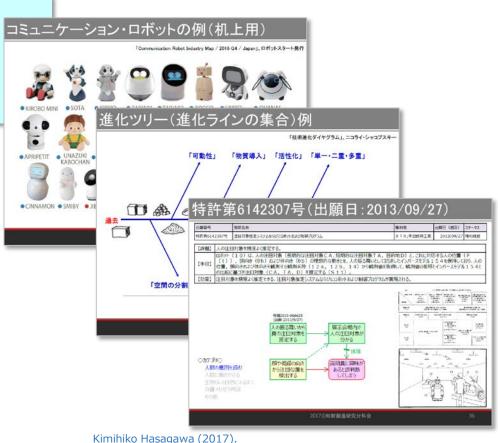
It gathers in Tokyo, and it acts.



The last Symposium presentation

It is working in three year plan.

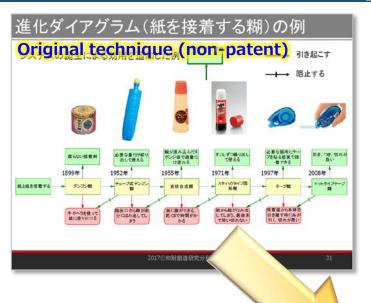
"Making case with evolution tree of service robot" Study results at the first year were announced.



Kimihiko Hasagawa (2017).

Making case with evolution tree of service robot(The one) (TRIZ Symposium 2017)

1-2. Content of report in this presentation



In the last report, Because of the evolution diagram part

Why

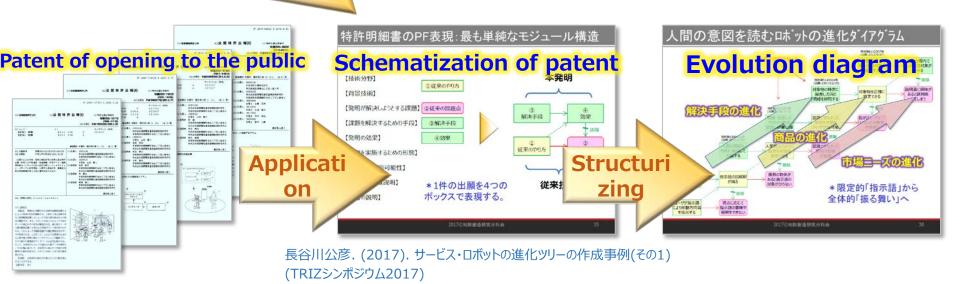
Did you pay attention to patent information why? How is patent information made the best use of?

How

The method of making evolution diagram from patent information?
How do you use it for TRIZ conception?

It reports including the concrete application proposal.

Development



2.

Background of approach

2-1. Sense of incompatibility that holds "Intellectual property creation research" while advancing it

@TRIZ community

「リバースTRIZ」: 社内演習事例より

■矛盾モデル化⇒Principlesの演習事例

◇ TRIZの基本的思考ステップの理解



◇ 身近な技術領域のTRIZ思考演習⇒「リバースTRIZ」の準備





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Nagase, 2016]

The patent is not seen as "Group" though there is a approach of the conception use in the individual patent starting point.

Tokumi Nagase. (2016). Reconsideration of approach to be solved with TRIZ inventing it (TRIZ symposium2016)

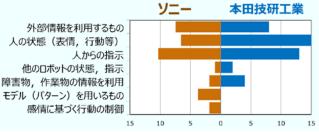
Moreover, why.

The concern
is thin in
each other.

@Intellectual property information analysis [kominyunitei;]



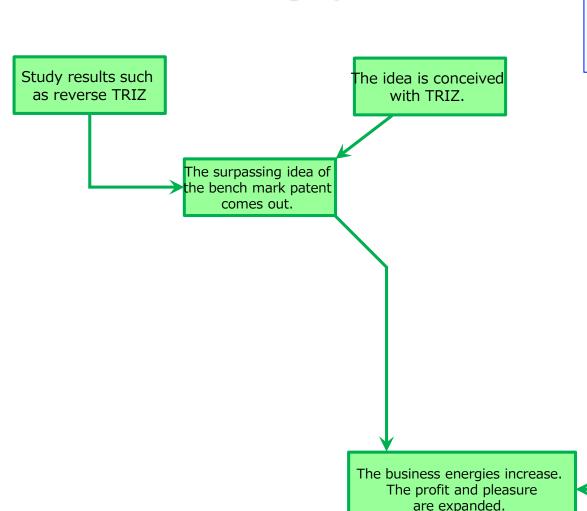
#Patent map
#IP landscape

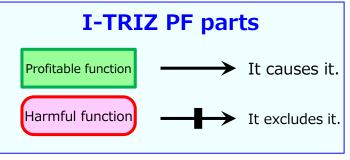


It is interesting none for conception (Too much) though catches the patent as "Group", and works on the down shot analysis.

2-2. Problem noticed from composition arrangement by I-TRIZ PF

Though the one to be aimed with both communities is roughly the same.





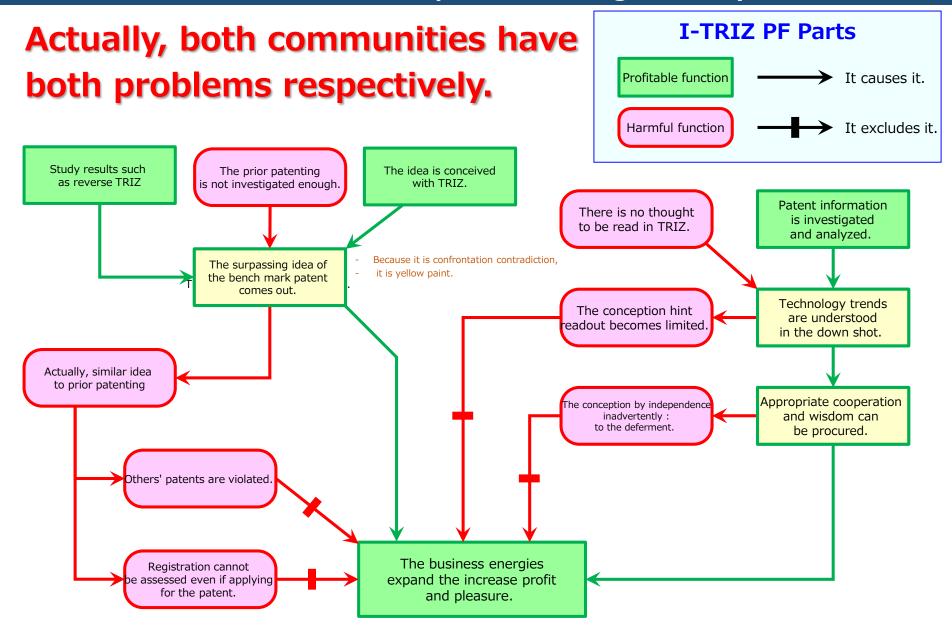
and wisdom can be procured.

Patent information is investigated and analyzed.

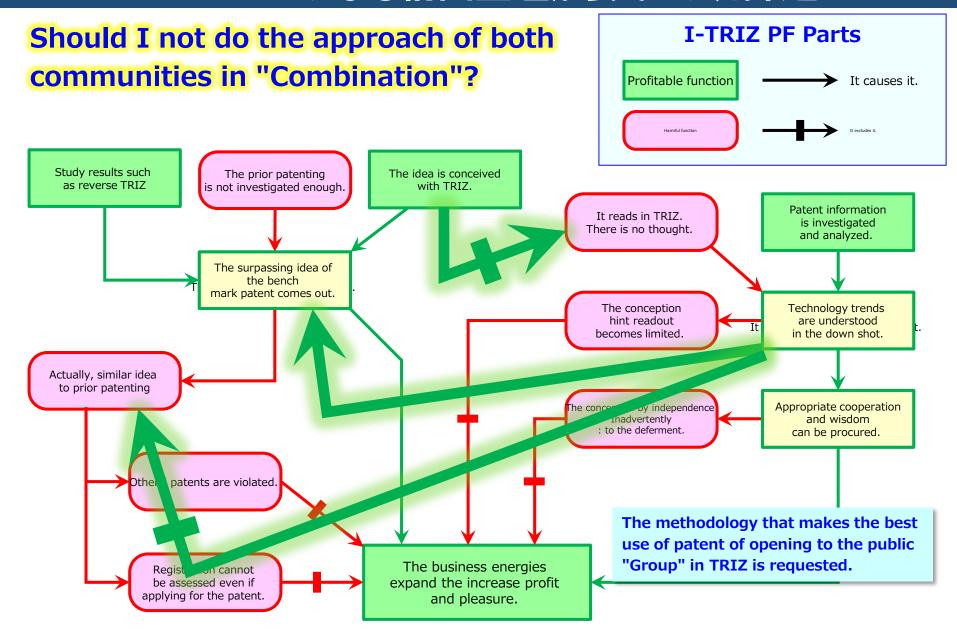
Technology trends are understood in the down shot.

Appropriate cooperation

2-3. Problem noticed from composition arrangement by I-TRIZ PF



2-4. I-TRIZ PF による構図整理から気づいた課題



3.

Utility of patent of opening to the public information

3-1. Why is patent information used?

The enterprise wants to monopolize the result of development by the patent.

Inevitably, accumulation advances to the patent database in the outstanding invention.

The right is taken by the other companies if not applying early

Tit can be considered Filing date

Invention day of compound "and is caught with the time axis."

It is applied after the idea that can clear the explicit (x,y) on examples it closely.

1 Novelty

It is a world first and a unopening the publication filing date

② Progressivity

There is non-easy inversi

3 Can execution and support requirement

The invention is expended in expendence the same trade person is enforceable in detail.

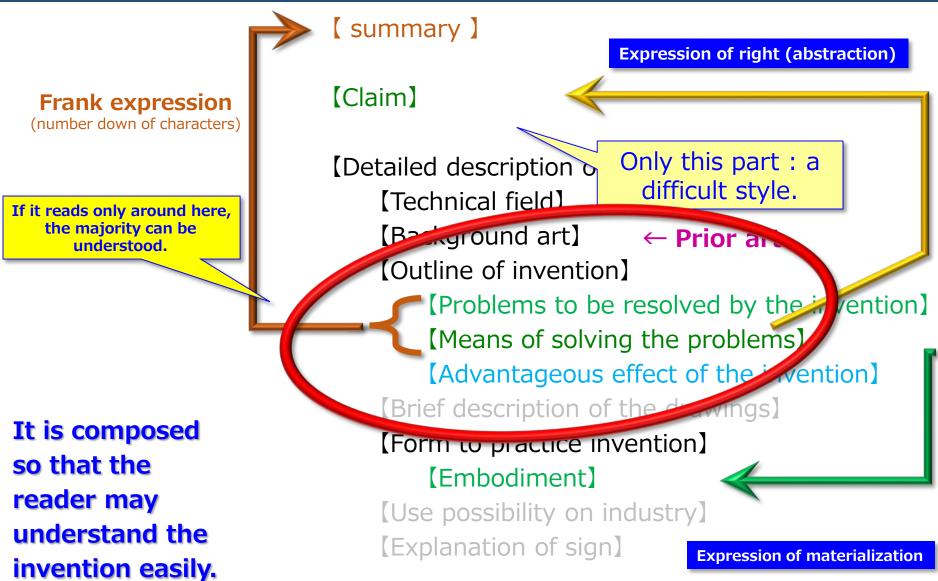
The styles are united

Problem of states for specific problems, effect, and embodiment... It is beautifully are and it is light.

The retrievals easy mability and the classification by a free opening to the public and the public organization management. ...

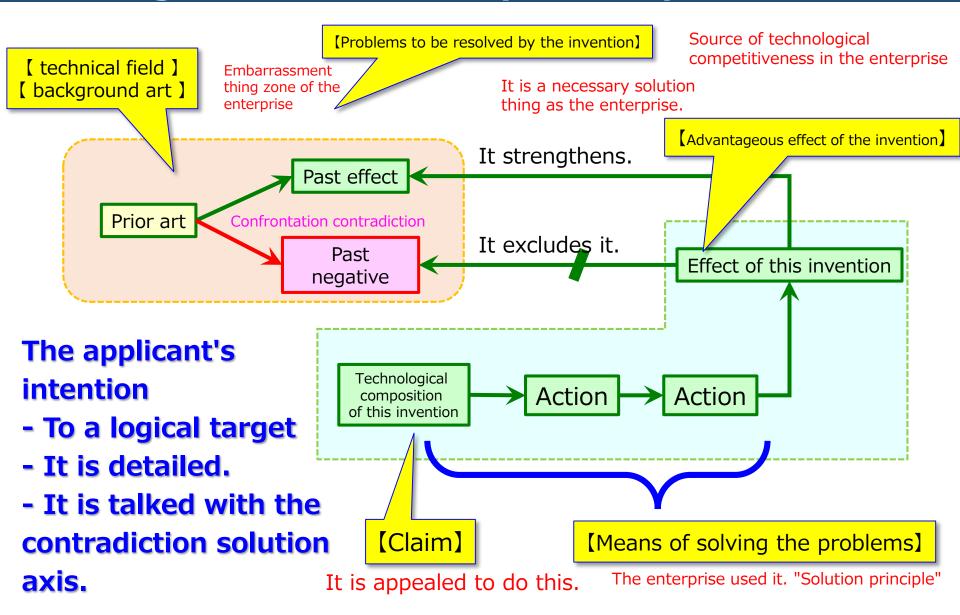
The invention encouragement and the industrial development contribution by protection of invention and "Use" are the system purposes.

3-2. Composition of item of patent specification



It is detailed to extent where the same trade person is enforceable

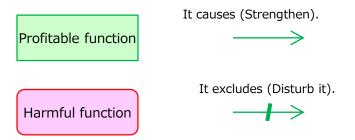
3-3. Logical structure of patent specification



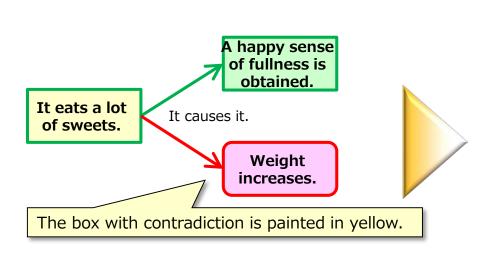
4.

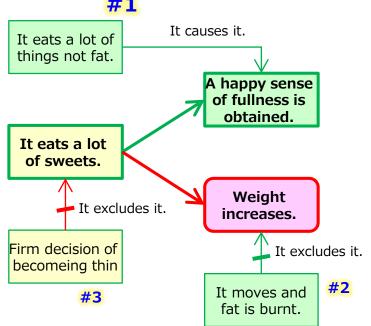
Evolution diagram making by I-TRIZ PF

○ It is a technique for expressing the diagram according to two kinds of boxes and two kinds of links as for the causal relation of things.

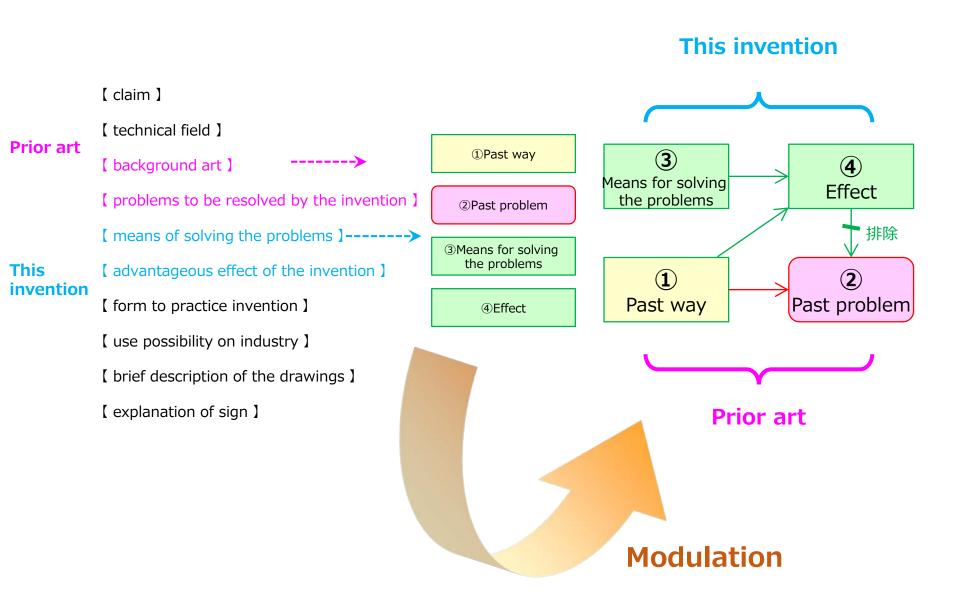


The causal relation not only is expressed but also the indicator of the idea putting out is obtained.





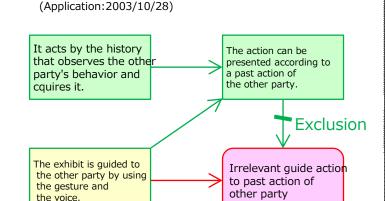
4-2. Expression of module of patent journal that uses I-TRIZ PF



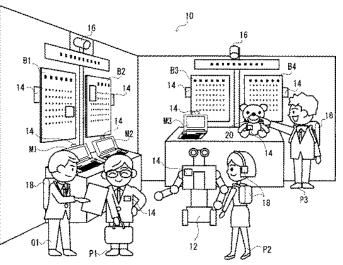
4-3. Example of open 2005-131713 special

Official report number	Invention name	Person entitled	Filing date	Status
2005-131713	Communications robot	ATR	2003/10/28	Rejection

[Problem]	The guide method by which the programming was done single meaning was only executed irrespective of a past action of the other party of the conversation though it was possible to guide to the other party of the conversation in the prior art. Therefore, the main purpose of this invention is to offer the communications robot that can execute the action according to a past action of the other party of the conversation.
	The situation from man's concerned aspect is observed with observation device 18 for man who is observed surrounding circumstances with surrounding situation observation device 16 set up in the environment, and installed by man P2 etc., and the situation from the aspect of a robot concerned is observed with main body 12 of the robot. Infrared rays tag 14 etc. are installed in observation device 18 for exhibit B1 etc. and man etc., and, as a result, data including the identification data is acquired in each observational equipment. Therefore, the interaction between man and the exhibit, etc. in such an environment is observed, and the man's action history is one by one recorded in the data base. And, past action data of the other party of the conversation is analyzed, actions of the guide and the recommendation, etc. that should be presented to the other party of the conversation based on the state are decided, and main body 12 of the robot executes an action concerned.
[Effect]	The action according to a past action of the other party of the conversation can be presented.



Special opening2005-131713



- Category *

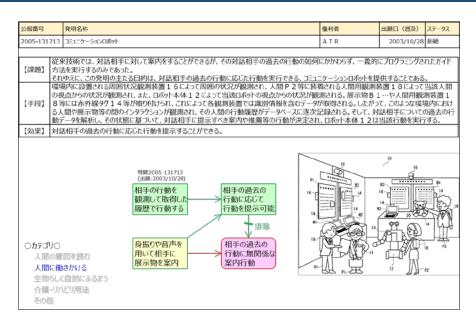
Man's intention is read.

It appeals to man.

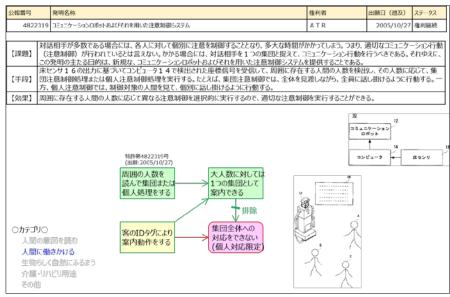
It seems to be a living thing and it behaves naturally.

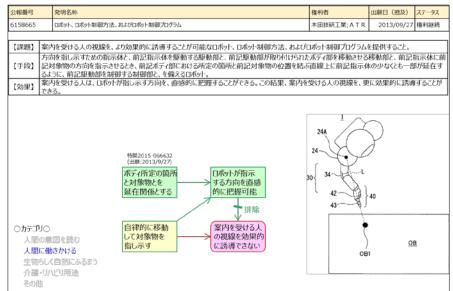
Nursing and rehabilitation usage Others

4-4. Similarly, it makes it by one module per one.

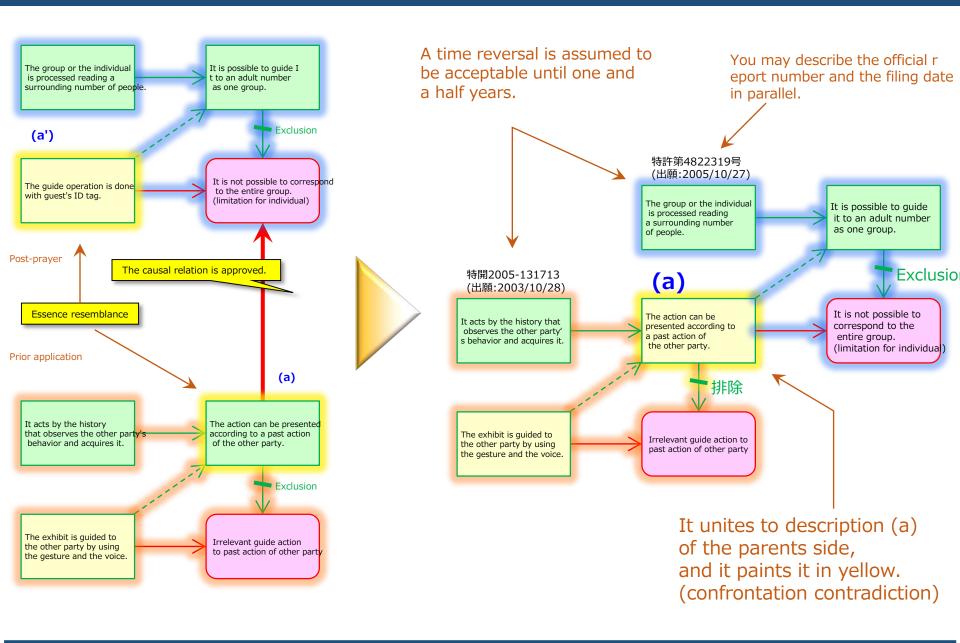


公報番号	発明名称				権利者	出願日(遡及)	ステータス		
57326	532 ロボットシステムおよびそれに	用いる空間陣形認識装置			ATR	2011/02/03	権利継続		
【課題】	新規な、ロボットシステムおよびそれに用いる空間陣形認識装置を提供することである。 他の目的は、人との対話を自然に開始できる。ロボットシステムおよびそれに用いる空間陣形認識装置を提供することである。								
【手段】	認識する。そして、認識した	ット10および人の位置、体の向きらよび視線方向を用いてロベット10と人との空間陣形を分析し、ロベット10および人の対話参加状態を 備する。そして、認識した対話参加状態に応じて、ロボット10が適宜の行動を取ることによって、ロボット10および人の双方が対話参加状態に よようにした後、ロボット10が上く対した対して採却発話を行う。							
725 ID 1	双方が対議参加状態となる空間陣形を生成した後に挨拶発話を実行するので、ロボットは人との対話を自然に開始でき、円滑にコミュニケーションを 望ることができる。								
人間(生物)	D意図を読む こ 働きかける らしく自然にふるまう リハビリ用途	特許第5732632号 (出版:2011/2/3) 空間陣形を 生成した後に 挨拶する 人の真正面に 移動してから 対話を開始する	人との対話を 自然に開始 できる 排除 人と人の間に 割って入る等の 不自然さが発生	沒方参加状態 ba					





4-5. Introduction of module∼ The official report of the relationship between a child and his parents ties.

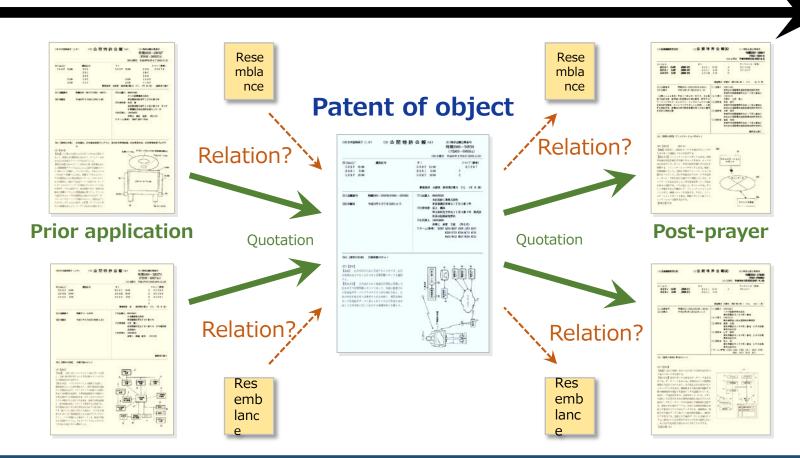


4-6. Efficiency improvement of making work (Business DB necessity)

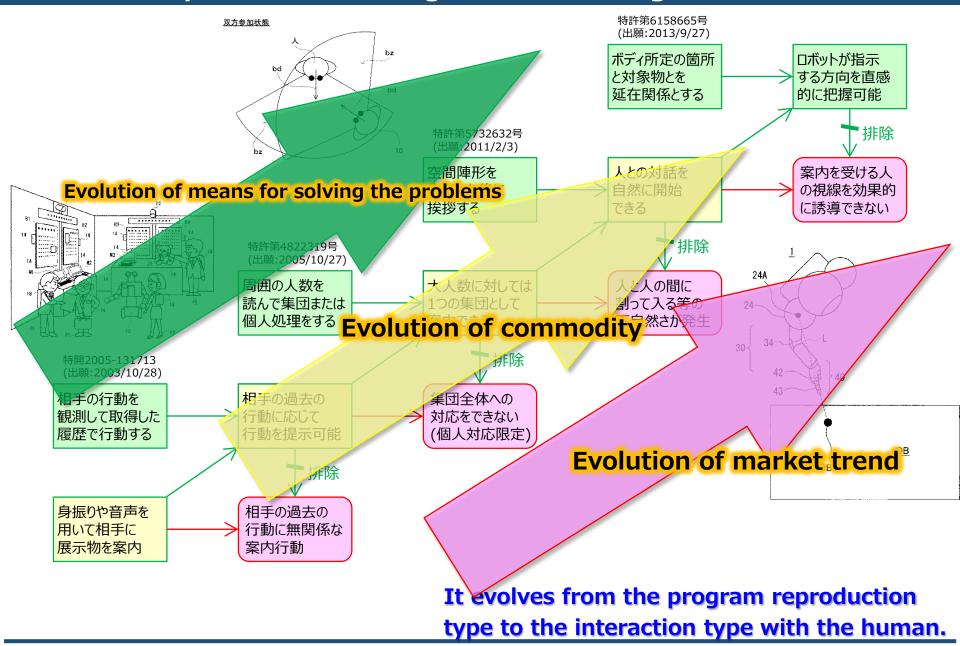
Information and the retrieval function only of the patent are applied, and it is assumed the hint of the introduction.

1Combination of examiner quotation information and patent classification

 $\widehat{2}$ Combination of similar official report retrieval function and application year and patent classification specification



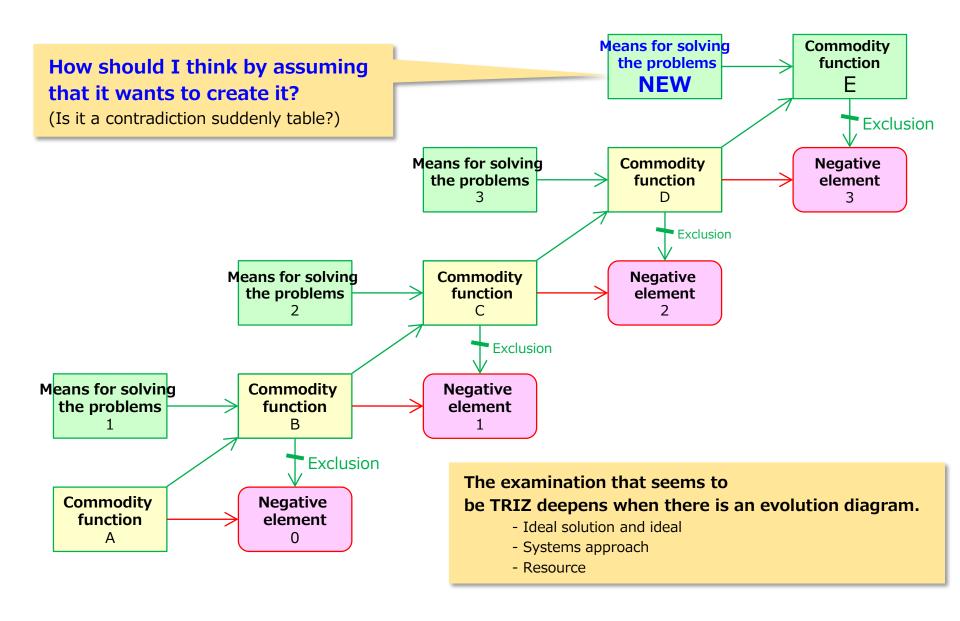
4-7. Example "Evolution diagram of exhibit guide robot"



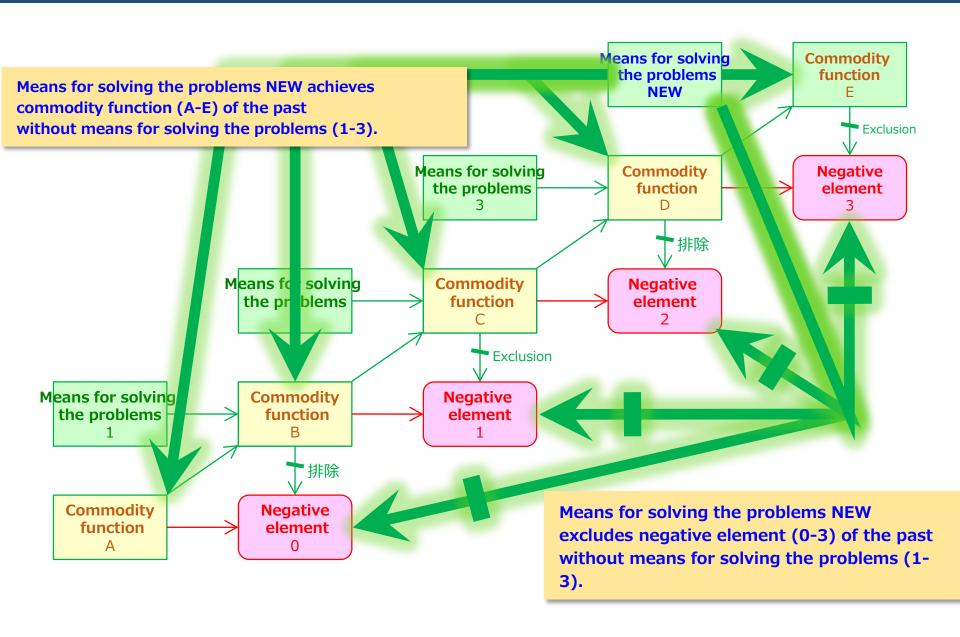
5.

Use to idea conception

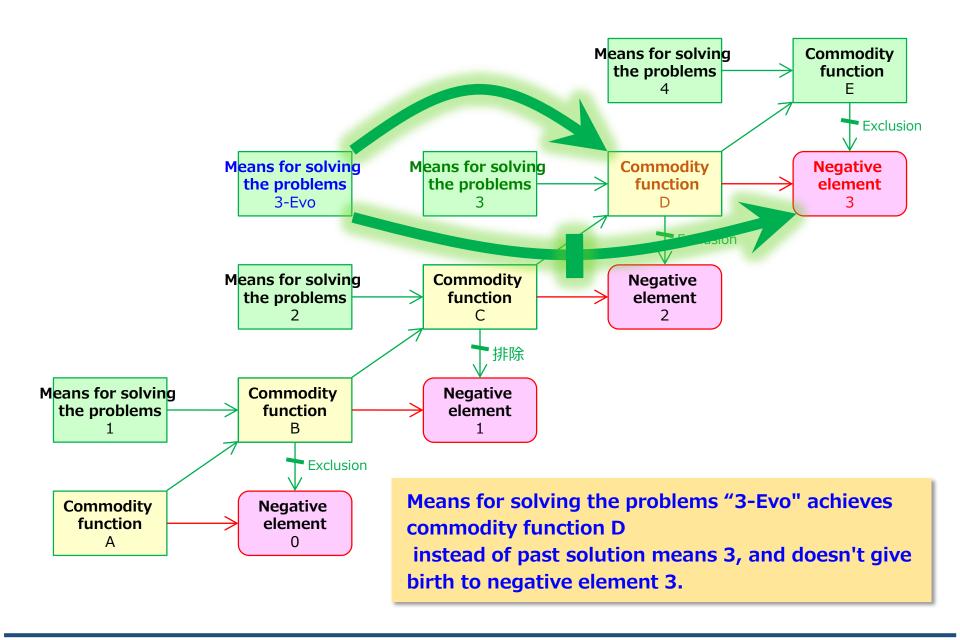
5-1. Evolution diagram as arrangement tool before it conceives it



5-2. Ideal solution and ideal to be thought by evolution diagram



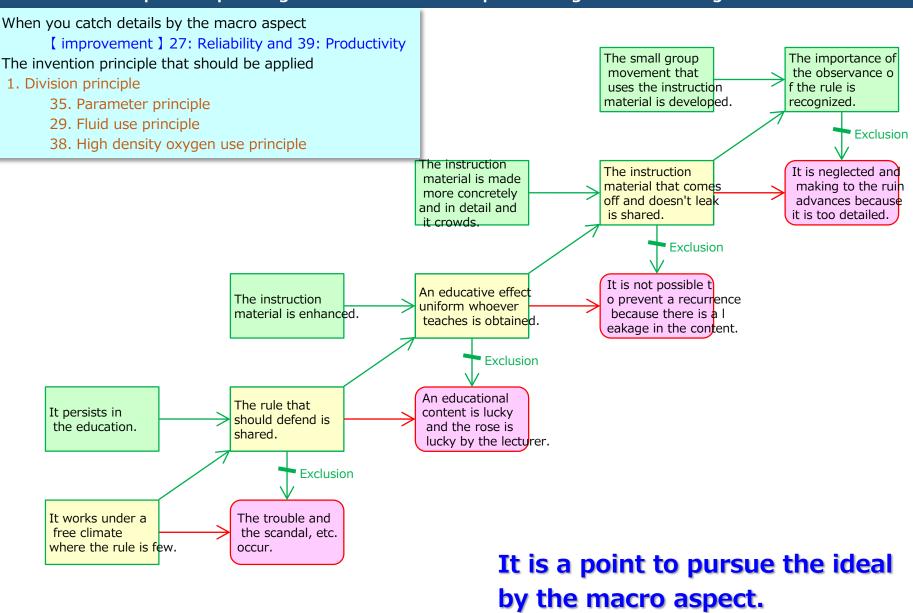
5-3. On ideal inclination that depends instead of existing solution means



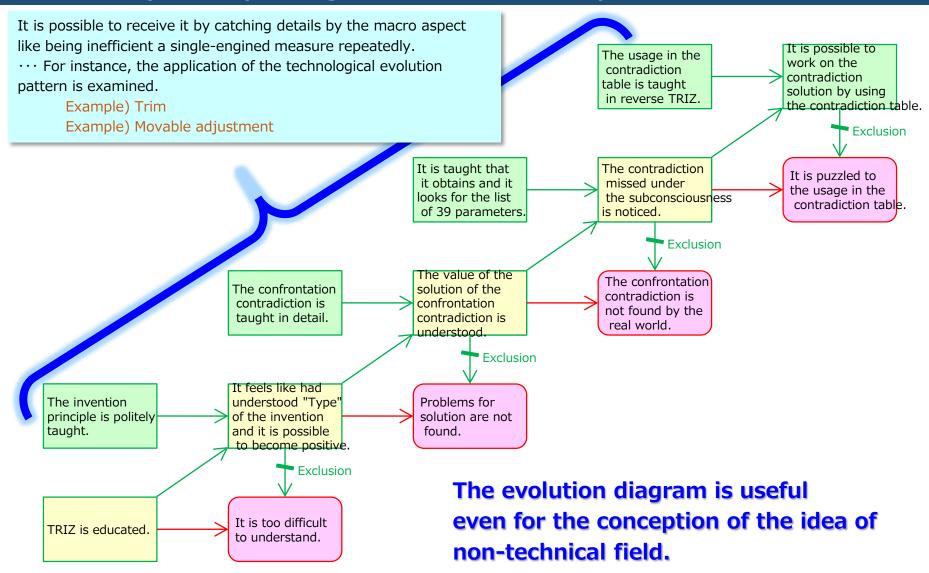


Possible application to non-technical field(It is researching.)

6-1. Example of expressing details and idea conception of organization management measure



6-2. Example of expressing details and idea conception of TRIZ education



Summary

Summary

Patent of opening to the public "Group" was able to be expressed by using I-TRIZ PF as an evolution diagram, and to propose the methodology to be made the best use of in TRIZ.

As for the made evolution diagram, a market trend, a means for solving the problems, and an evolution process each commodity are shown based on information described in the patent of opening to the public.

It was able to propose the possibility of strengthening the idea conception that seemed to be TRIZ based on the evolution diagram.

The concrete use method is thought that a further research is necessary though it proposed the application of the evolution diagram to non-technical field in this report.

Intellectual Property Creation Research Subcommittee, Japan TRIZ Society

Will you also participate?