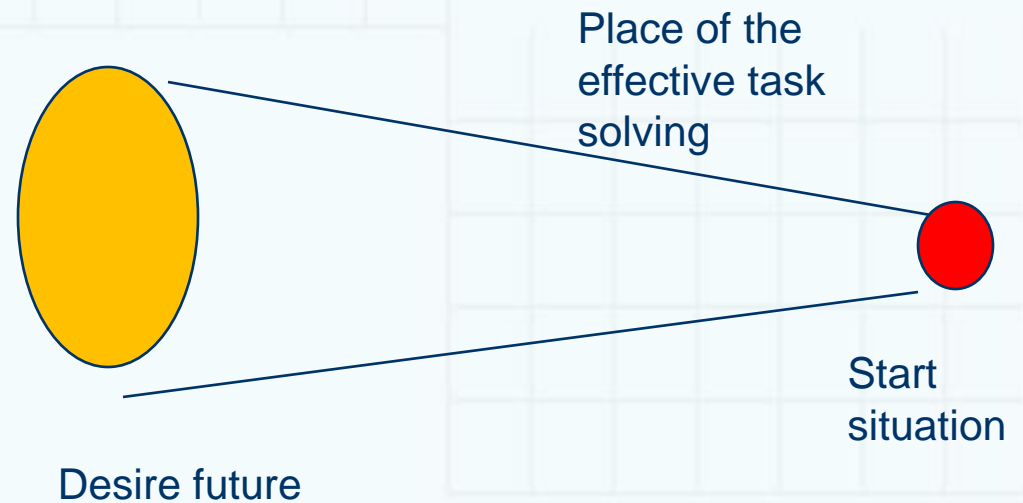


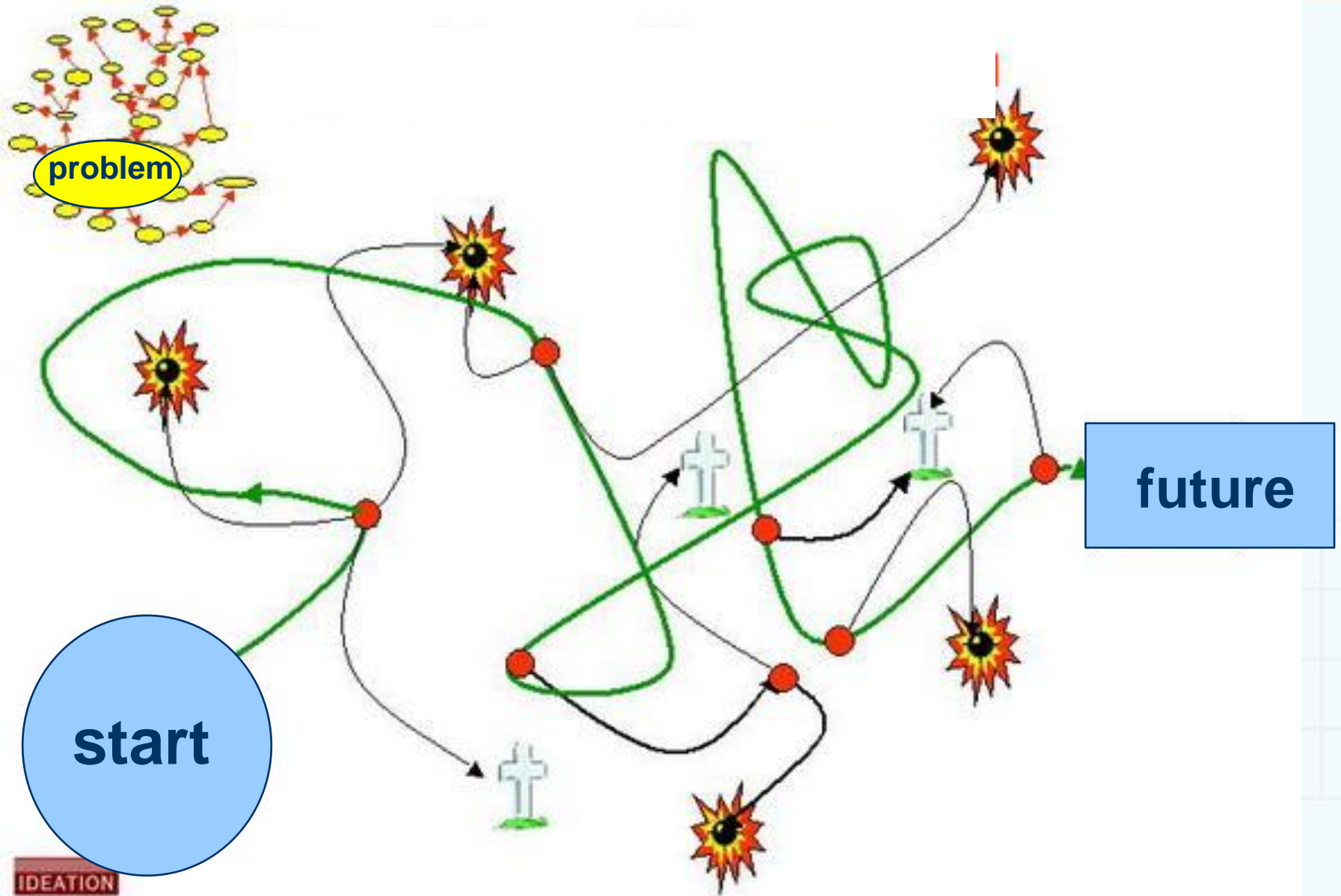
**Key Parameter Value (KPV):
from business goal
to technical decisions**

In math the task is solving “from the end”

You need to know **the direction** of the system development

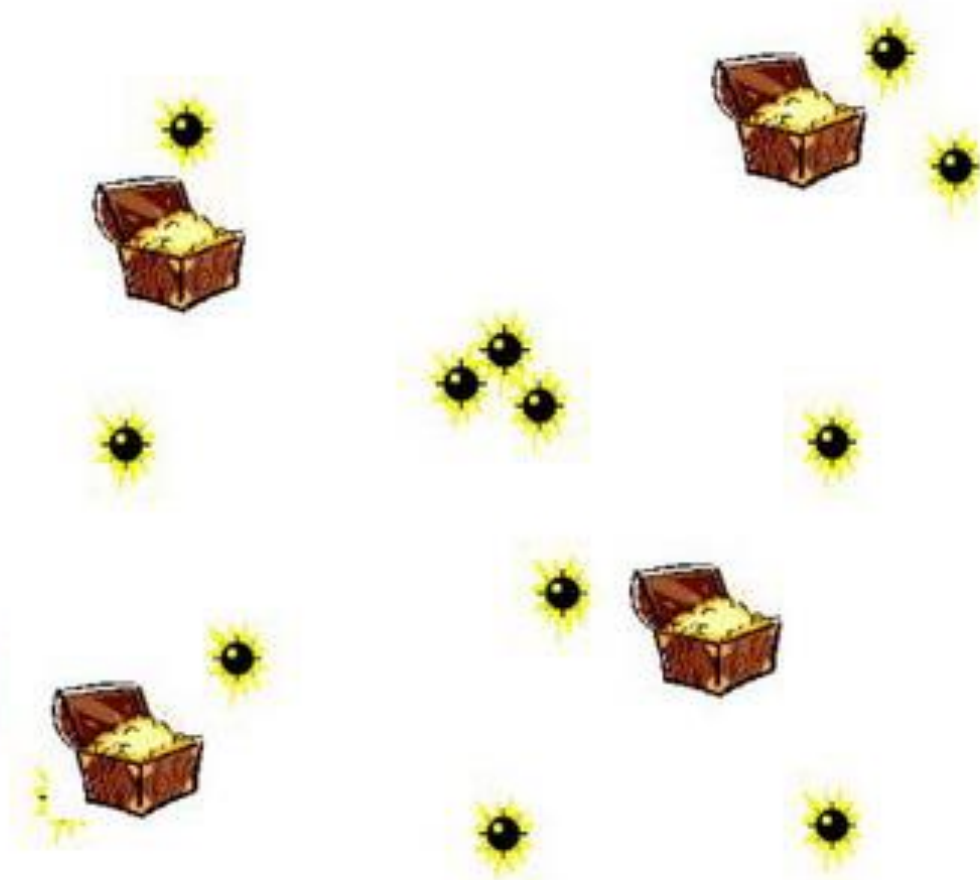


Usual evolution



Directed Evolution

start

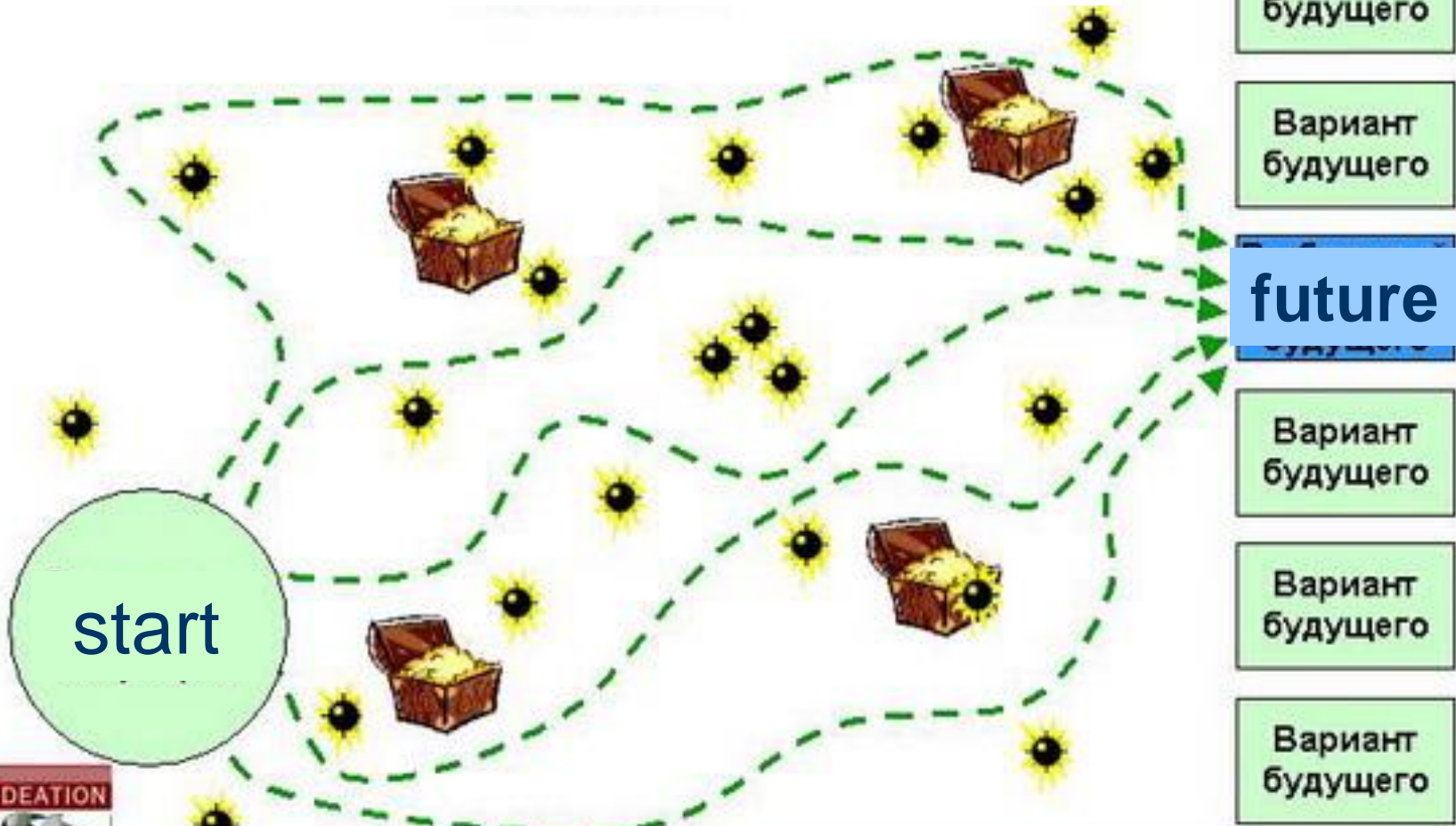


- Вариант будущего
- Вариант будущего
- Вариант будущего
- Выбранный future**
- Вариант будущего
- Вариант будущего
- Вариант будущего



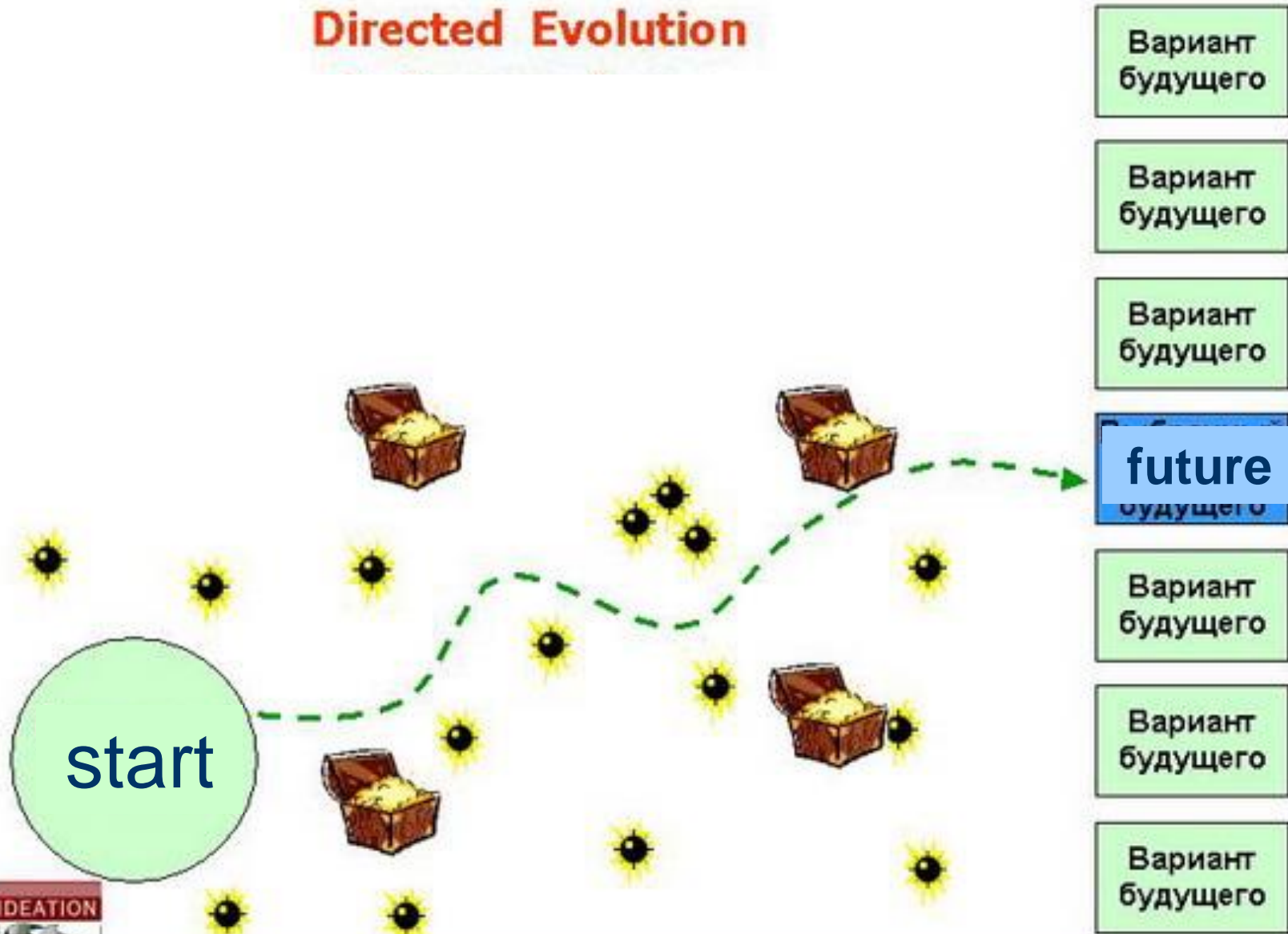
Directed Evolution

Possible ways

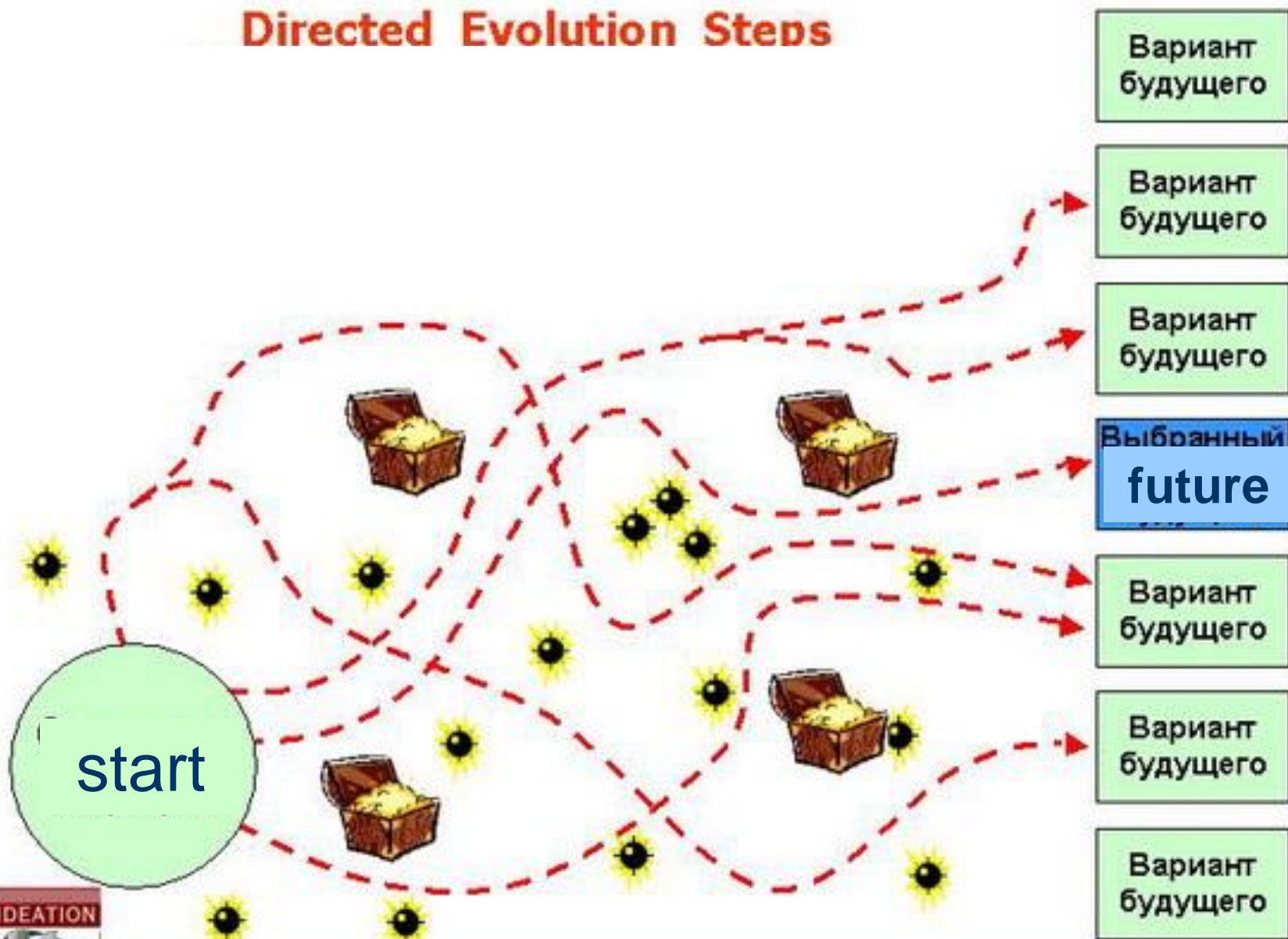


The way is chosen

Directed Evolution

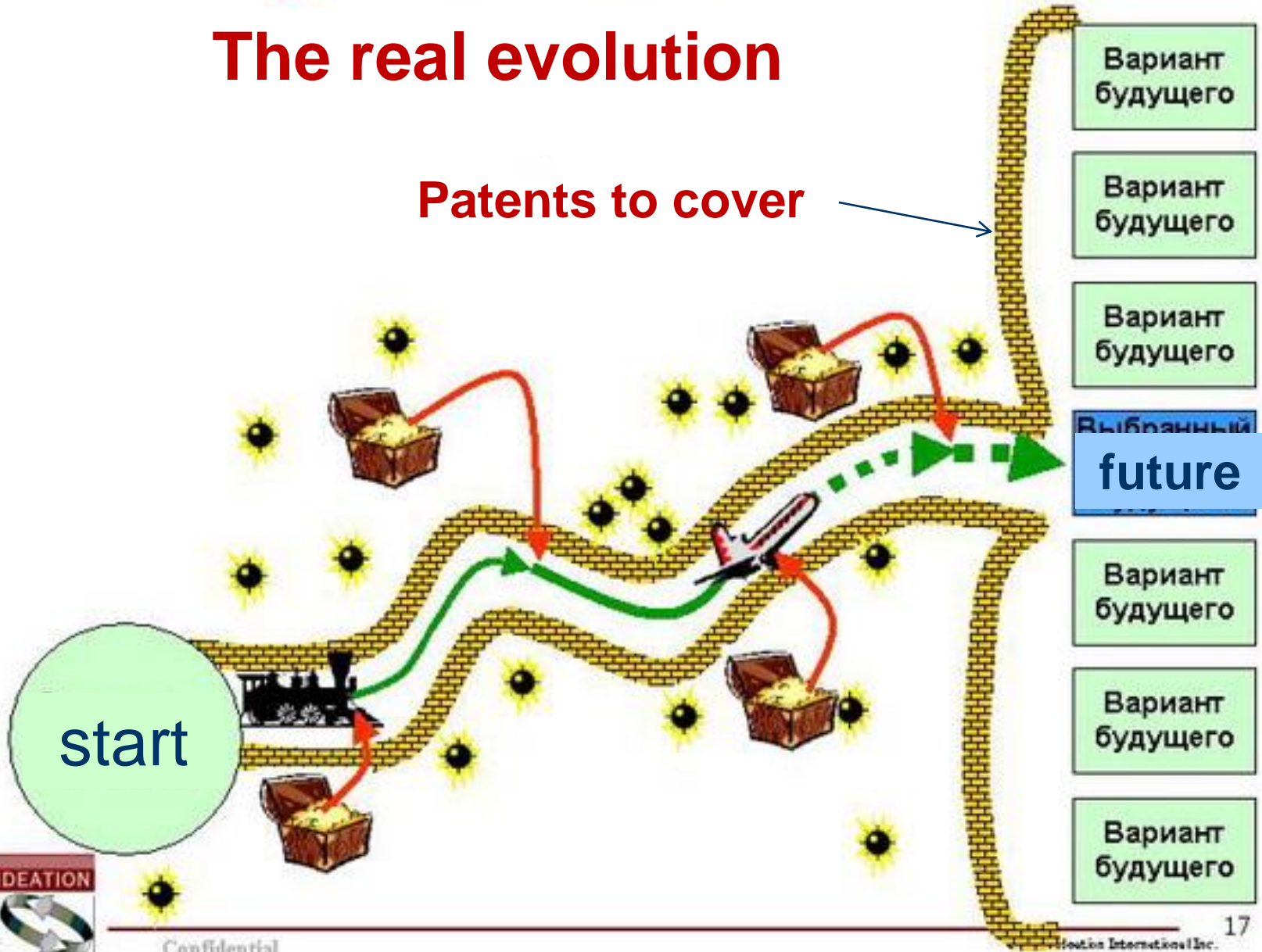


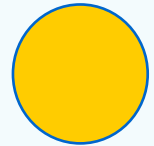
Directed Evolution Steps



The real evolution

Patents to cover





There are 4 main principals of TRIZ:

1. **Objective Laws** of Technology evolution approach. Every technical systems evolves in accordance with objective laws
2. **Contradiction** approach. Evolution of technical systems goes by sharpening and resolving of contradictions
3. **Model** approach. All operations of problem resolving process are made no with real object but with their models of different abstraction degree
4. Consideration of a solvers **psychological properties**. Every TRIZ methodology is realizing by action of specific persona. It is very important to take into account features of human brain first of all mental inertia

Technical system

Ideality

Function

Ideal Desired Result (IDR)

Resources

Technical contradictions

Physical contradictions

$$K_{\text{ид}} = \frac{\sum \Phi_{\text{полезных}}}{\sum \text{расплат}}$$

Criteria:

Functional

Technological

Economical

Anthropogenic

***Key product values –
Physical parameters***

Parameters structuring

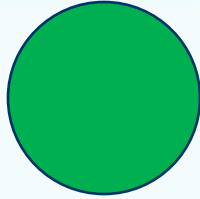
- Key product values – product demands
- Why does consumer buy this product / technology?



Circular saw



To see cutting line – solution - demand



!!! It is difficult to describe
product possibilities

Usual mistakes:

- Unimportant functions improving
- Improving of objects with low potential of development
- Incomprehensible proposal

► Unimportant functions improving



New electric shaver
shaves better (???)

► Unimportant functions improving



New electric shaver shaves
better

**Authors decided: better=faster
they lost!**

Don't lost the perspective of development!!!

► **Improving of objects with low potential of development**

1930



1950



2115



► Incomprehensible proposal



Proposal: we will do original chair ...

For whom?



Chairs for compact storage



to reduce of muscular loading

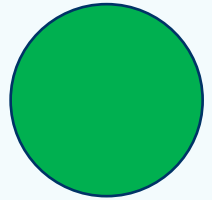


Chair when you can't to swing

**Accurate
definition of
using**

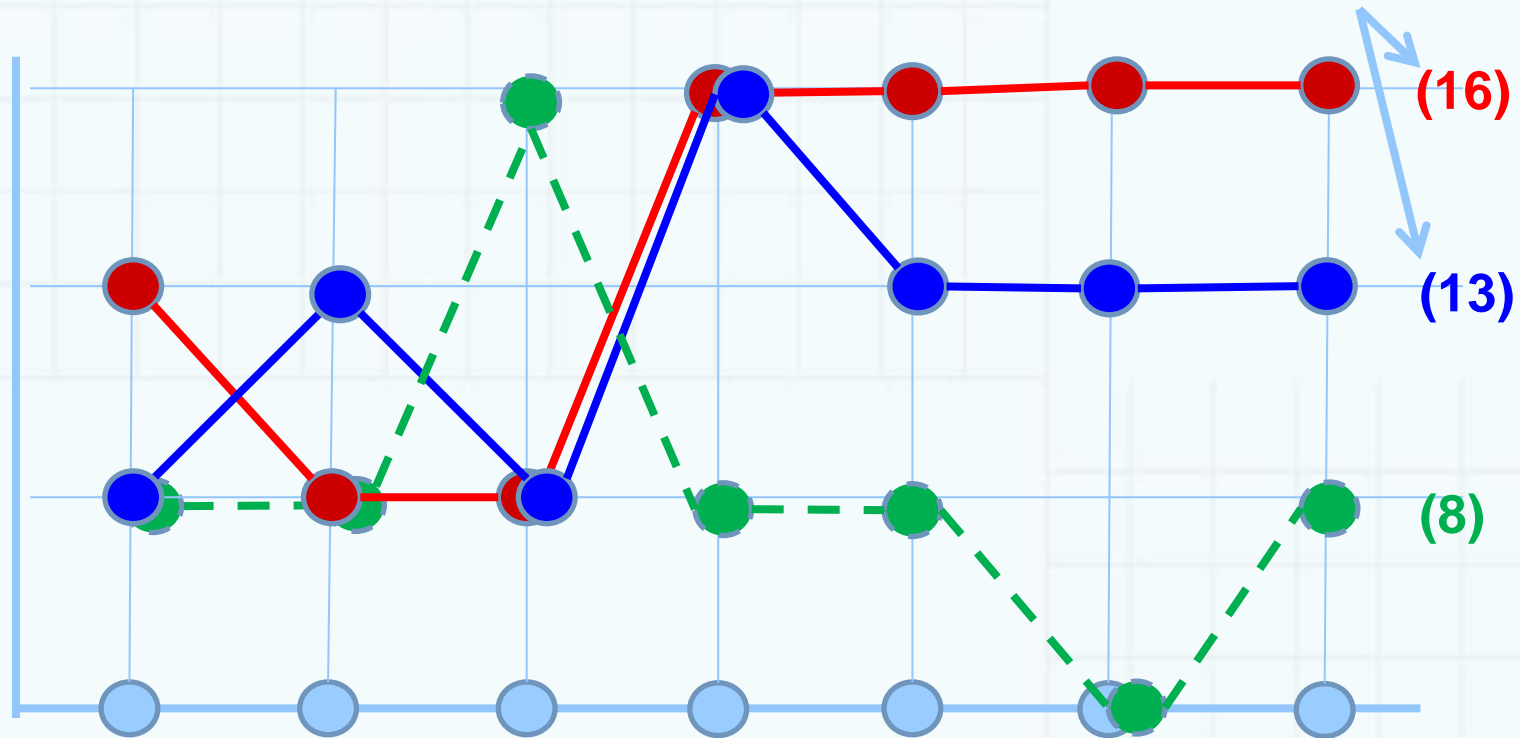


**Accurate
definition of
market**



- find the most important parameters of kettles
- determine the new product

Market demands and products



Have you consumers for new proposal?

Market is not only money

Market is **understanding about concurrent objects**



You may imagine that your object **is unique**
But may be it is only one of the different variants



The task:

1. To find the main criteria of development for your object
2. To determine **WHAT** was changed in your object on every stage (and **WHY**)
3. To imagine what will be with your system in a future (to draw/ to describe)