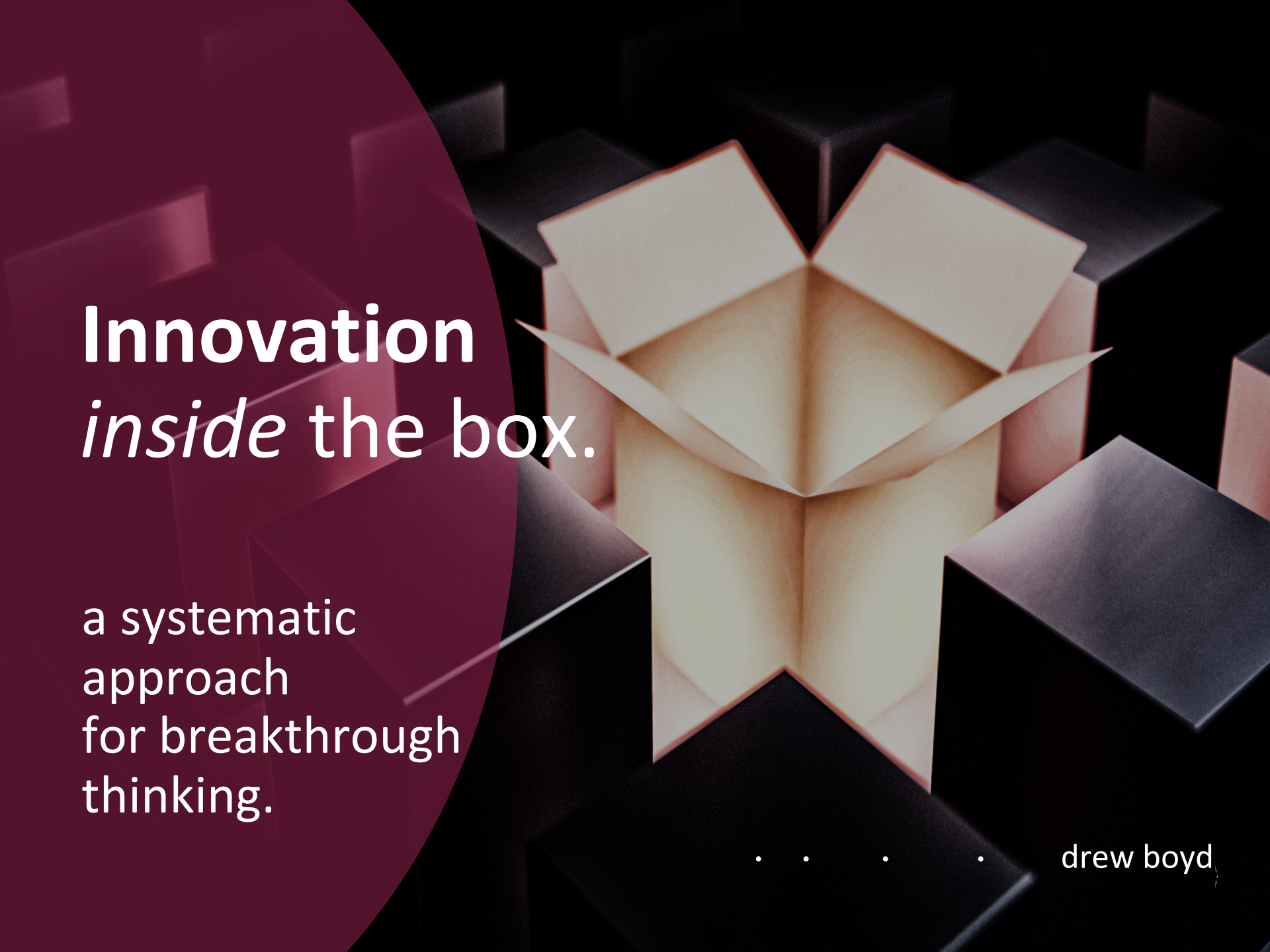
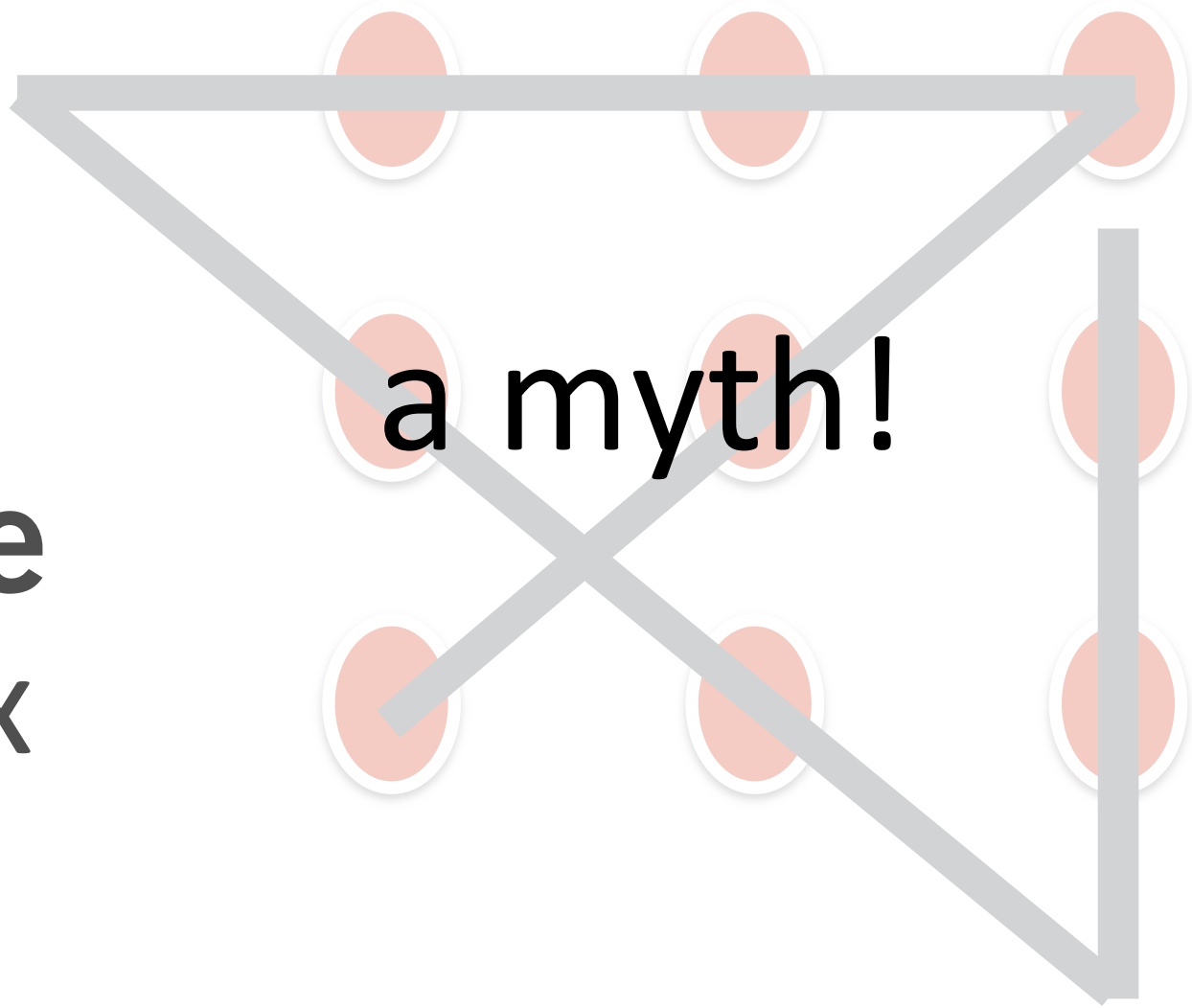
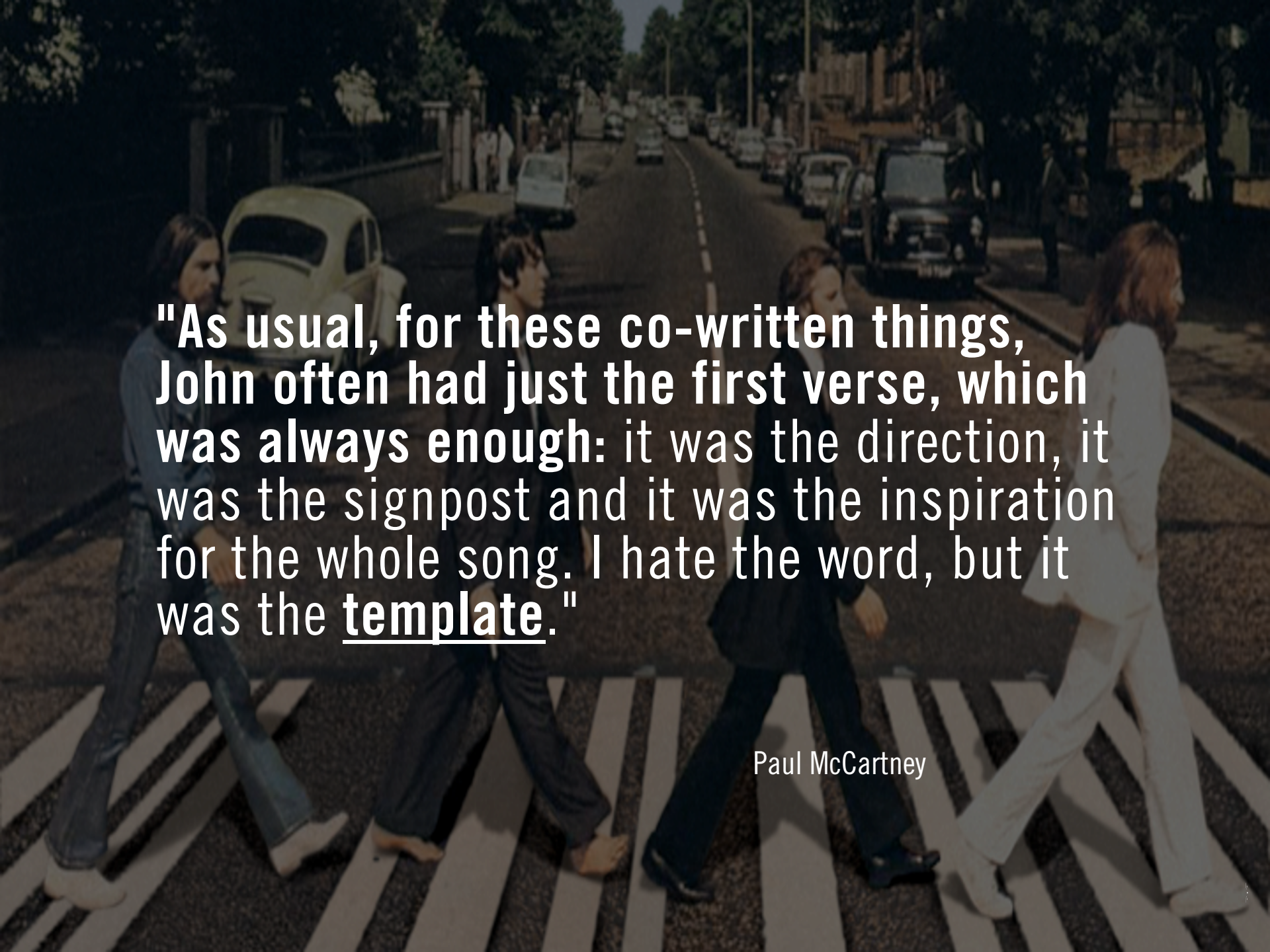

Innovation
inside the box.
a systematic
approach
for breakthrough
thinking.
drew boyd

think
outside
the box




"As usual, for these co-written things, John often had just the first verse, which was always enough: it was the direction, it was the signpost and it was the inspiration for the whole song. I hate the word, but it was the template."
Paul McCartney

THE METHOD

Systematic Inventive Thinking is an innovation method developed by Dr. Jacob Goldenberg (Columbia University) and his colleagues at SIT LLC.

Innovation follows a set of patterns that can be reapplied to any product, service, or process.

Surprisingly, most innovative products follow one of only five patterns.

Subtraction

The elimination of core components rather than an addition of new systems and functions

Task Unification

The assignment of new tasks to an existing resource within the vicinity of the problem

Multiplication

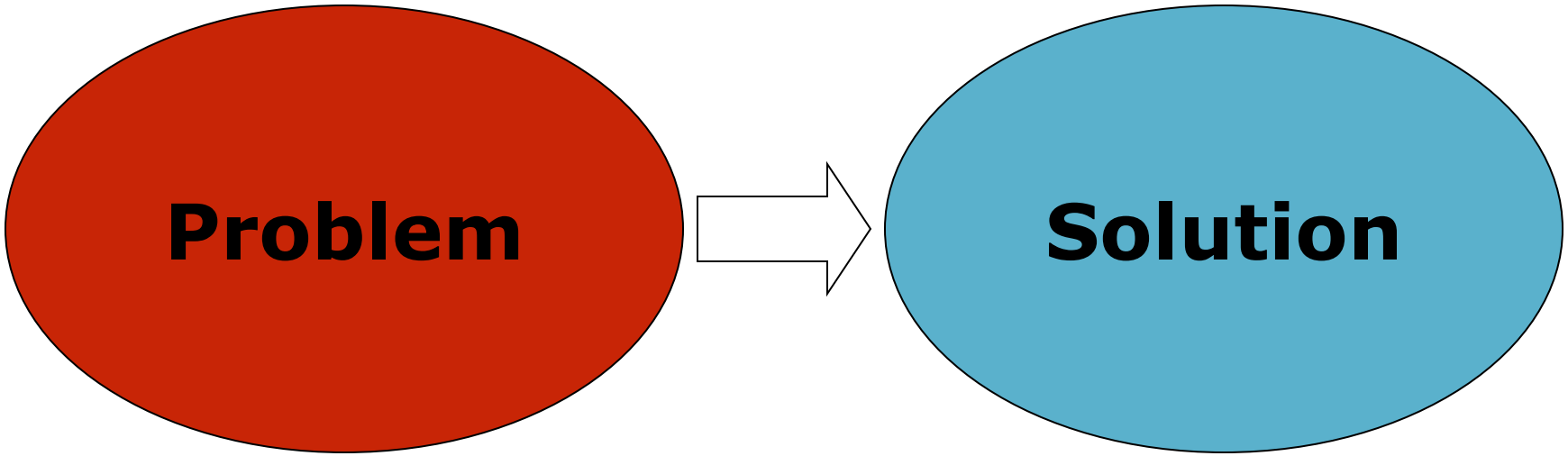
A multiplication of elements already existing in the product along with a qualitative change

Division

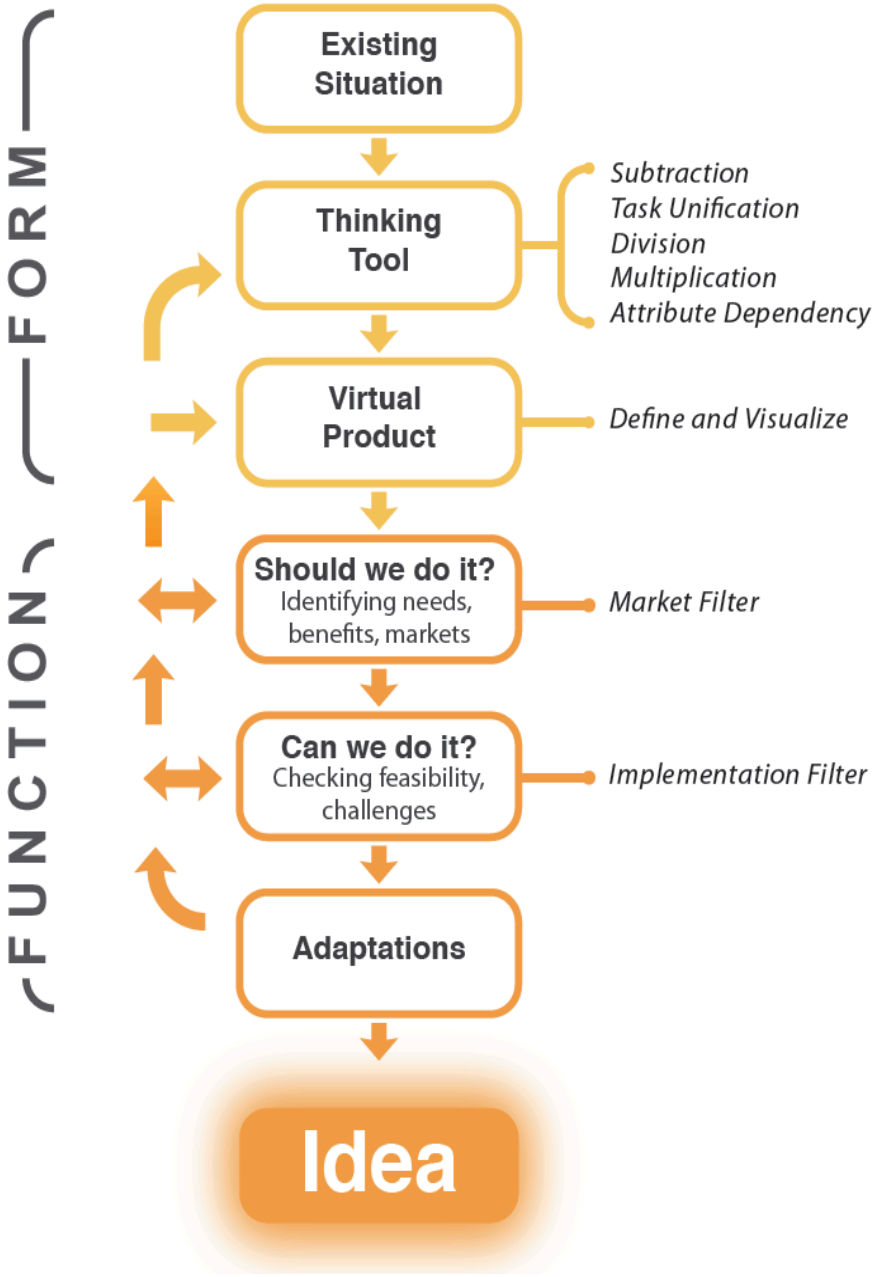
The division of a product and/or its components either physically or functionally

Attribute Dependency

The creation/removal of dependencies between existing product properties


Problem
Solution

Function Follows Form



What do these items have in common?

Subtraction

1. List internal components
2. Remove one essential component
3. Visualize the resulting virtual product
4. Ask “Should we do it?”
5. Ask “Can we do it?” If necessary, replace function with something from the Closed World
6. Modify new product to improve it

The Closed World Principle

“When solving a problem or creating a new solution, one should strive to use only those resources that exist in the product or system itself or in its immediate vicinity.”

The Flat Tire

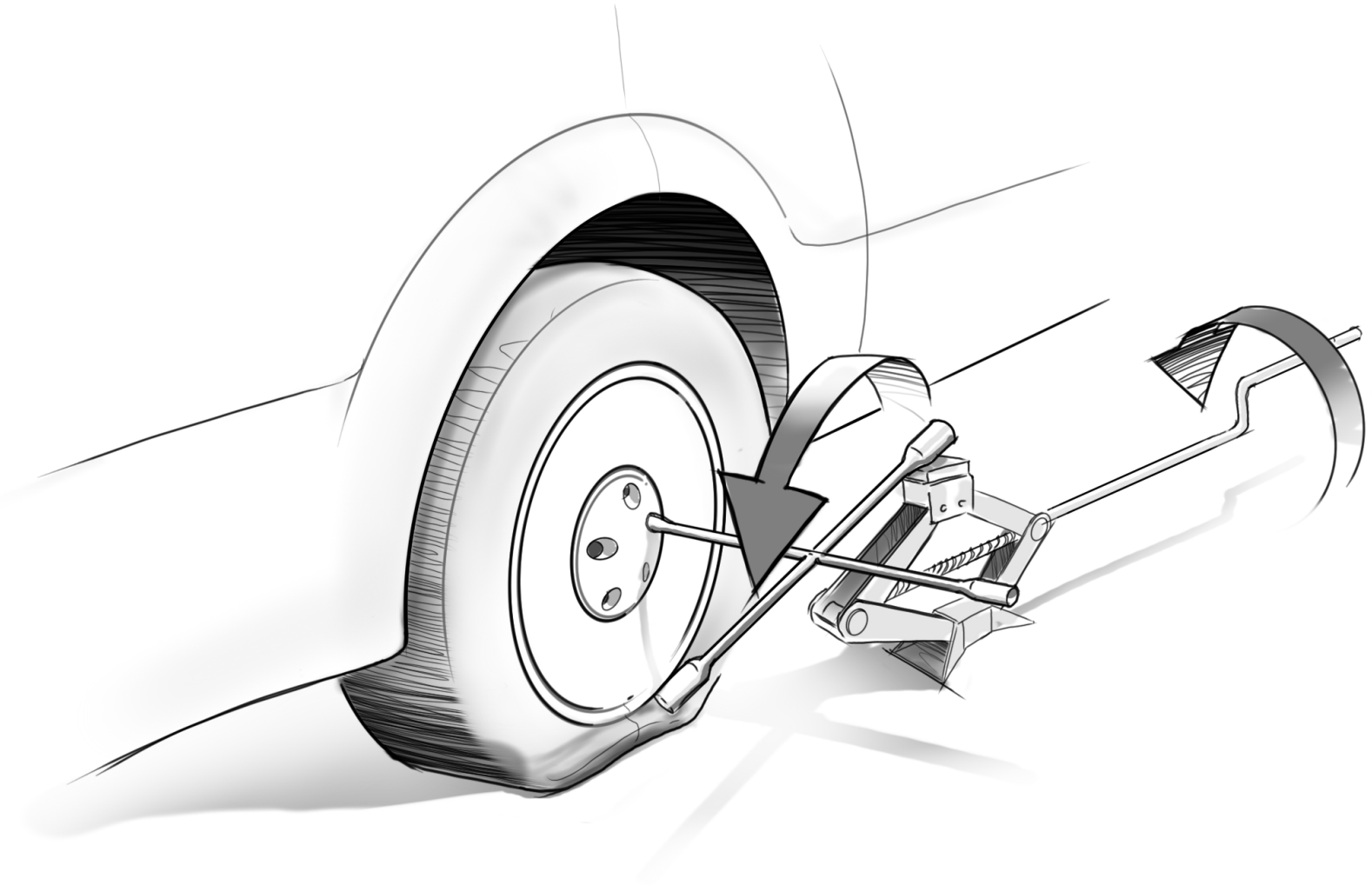
- Use cell phone to call for help
- Hitch a ride from another driver

Use Elements Near By

- Use oil or brake fluid from the car's engine to lubricate the lug nuts
- Use part of the tail pipe to extend the wrench
- Drive the car with the tire wrench attached

Use Elements *Very Close By*

A Solution “Inside the Box”

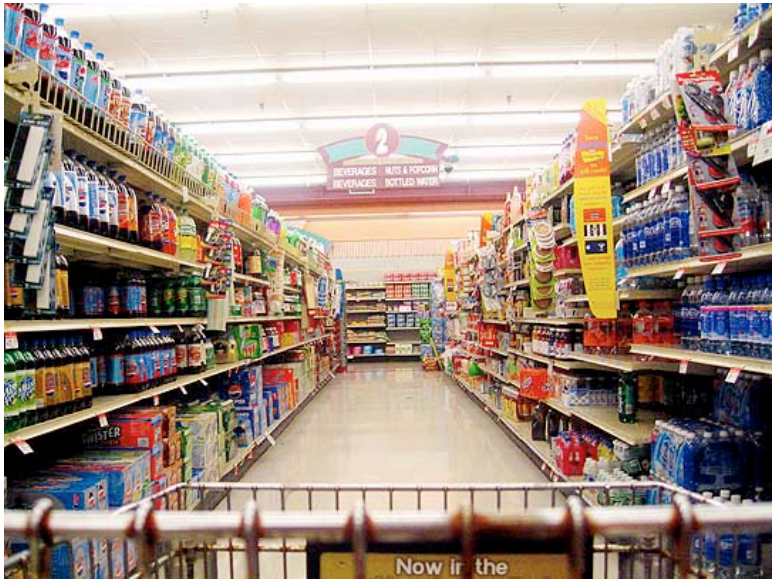


Gee, why didn't I think of that!

Solution	Proximity	Creativeness
Use cell phone	Far	Low
Hitch a ride	Far	Low
Oil from car	Closer	Medium
Tailpipe from car	Closer	Medium
Use ground to turn tire wrench	Very Close	High
Use jack to turn tire wrench	Very Close	Very High

Task Unification

1. List internal and external components
2. Assign an additional task to a component
3. Visualize the resulting virtual product
4. Ask “Should we do it?”
5. Ask “Can we do it?”
6. Modify new product to improve it



1. Carts
2. Registers
3. Shelves
4. Aisles
5. Floors
6. Ceiling
7. Shopping bags
8. Security
9. Music
10. Storage
11. Freezers
12. Customers
13. Employees
14. Vendors
15. Bathrooms
16. Groceries
17. Parking
18. Signage
19. Price Tags
20. Lighting

WASH
LABEL

98.6°F
Summer

SIL

GUESS
Nestlé
KitKa

INPUT
VOLUME
TREBLE
BASS
REVERB
LEAD LEVEL
MASTER
Guitar Store
THE HOME OF TONE SINCE 1967
TO ARRANGE A
EST VISIT
RTERED ACCOU

신당 · 봉화산
6
Gold
Gold

How to Apply Task Unification

- Define relevant **Closed Worlds** around you and your students:
  - Home
  - School
  - Work
  - Social
  - Travel
  - Virtual

- Define relevant **"How to.."** statements for what you want to do.
  - Be specific! *"How to orient a new student to the piano."*

- Create **component lists** and force those components to do your "How to…"

“How can the refrigerator in the student’s home orient a new student to the piano keyboard?”

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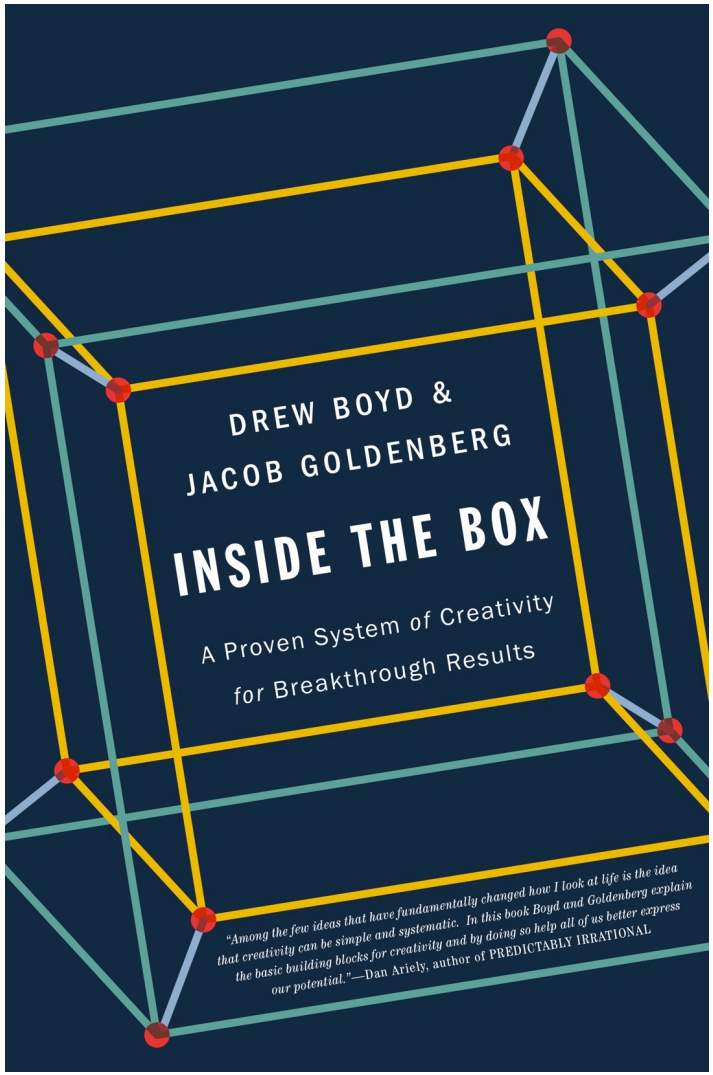

Inside the Box

A proven system of creativity for breakthrough results

by Drew Boyd and Jacob Goldenberg

"Never, ever, think outside the box."