

**Mikhail Kuzmin**

## **Take a Boot off your Head!**

**or**

### ***How to think in 7D***

The original book was published in Russian language: Михаил Кузьмин, “Сними ботинок с головы или как мыслить в 7D”, 2UP, Киев: 2018, 454 pp., ISBN: 978-966-97321-3-2.

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**Book web-site: [www.bootoff.com.ua](http://www.bootoff.com.ua)**

#### **Synopsis:**

*The book is devoted to multiplex or 7-dimensional thinking. It trains a reader to ponder in distinct ways & perspectives of thinking: logical, analytical, synthetic, systemic, probabilistic, critical, and creative. Starting from common sense as a zero-stage ability, a reader goes through more complex thinking faculties up to the creative thinking as a pick. The book has two parts. The theoretical one is introduction to 7 ways of thinking with over 100 examples & non-trivial problems. The practical one, which is based on 17 seminars with a team of managers to brush-up ways of their thinking. The practicums are presented in a form of dialogues between the author & his managers. Together with 7 managers readers should discuss & solve circa 50 unusual puzzles, including a dozen Zen koans. Zen koans were chosen as a special, mind block crashing tool in individual & collective work with managers. When managers seek koan solutions in brain-storms, they disclose importance of emotional intelligence as a vital human faculty. The book will be useful for students, junior & middle managers, self-educating people, HR specialists, and professional trainers.*

Book words count: circa 130 th.; symbols count: 900 th.

#### **About Author:**

Mikhail Kuzmin, MSc in Theoretical Physics (Kyiv), PhD in Philosophy of Science (Kyiv), MBA in Finance (Manchester). His PhD thesis deals with a paradigm shift in scientific thinking stimulated by synergetics (theory of self-organization). Academic researches of the author were devoted to math modeling of self-organization in social systems. Last 20 years the author worked in the banking system, chiefly as CRO & Member of the Board for various international banks.

# Content:

## Preface

*Idea behind the book - "Future of Jobs" - To improve thinking ability, is it possible? - Practicum: 7 ways & 7 managers - Long live the title!*

## Introduction

*Multiplex thinking - 7 stages in thinking - Book: aim & structure - Role of koans - How to read the book - Work with references*

## Chapter Zero. Common Sense

*Blankenburg's patient - "I missed something important..." - Connotations of common sense - Definition - Common sense of a crow - Social standards of thinking - Properties of common sense - Churchill's aphorisms - Proverbs & sayings - Metaphors we think with - Icy cream & icy welcome - Are criminals viruses or predators? - Transferring common sense - "Died souls" alive! - Modeling common sense - Reason to brush bon sense up - Common fallacies*

## Chapter 1. Logical Thinking

### Part 1: Pure logic

*Descartes said: "I am **doubtful**, therefore I am" - The law of truth conservation - Deduction & induction - Rules of logic - Modus ponens - "Humpty **and** Dumpty sat on a wall" - Moods & terms - Syllogism - Forms & figures - Cesare or Celarent? - Hamlet's monologue as a polysyllogism - Hamlet's logical mistake*

### Part 2: Real logic

*Is Socrat mortal, but Zeus not? - Critique of deduction - Induction - Why a black swan does exist - The gold of fact - By chance or by law - Level of confidence - Conditional "if" - Pierce's abduction - Four statements about a rainy day - Inverse Barbara - Coincidence - Modality - What is the cause of rust? - Complete logic cycle*

### Part 3: Strange logic

*Logic fallacies - Deductive traps - Inductive mistakes - Falling out of causality - Absurd or nonsense? - How to earn on a paradox - Renyi's game (Bar-Kokhba) - Procrustes bed of dichotomy - Koan: Shoushan's stick - Liar paradox - King's refutation - Recursion - How many **errors** in this phrase? - Sets: about young & leptosomic - Imperceptible sorite - Egg or hen: hen is still leading - Rather-yes-than-no - Fuzzy logic*

## Chapter 2. Analytical Thinking

*Synthesis & analysis, forth & back - Poya's metaphor - Cross-polarities - Synthesis in induction - Analysis in deduction - Four pairs of opposites - Descartes' method - From complexity to causality - How to reveal a cause: Mill's method - Canvas' metaphor - Composition & decomposition - Bolzano's method - Transformation & reconstruction - Unexpected exam - Stalemate in thinking - Analytical brain freeze - Joke about head transplantation - Analyst's workplace - Does auto color play a role in accidents? - BIG5 of personality - OCEAN of the color we choose - Hofstede's cultural dimensions - Zoo of causes - Of Crimean legends - Looking for the reason of strange accidents*

## Chapter 3. Synthetic Thinking

*Solution of puzzle with Crimean accidents - Heteropathic effect - Confounding cause - Why the house burned? - Counterfactual condition - Wilder's bridge: accident or intention? - Synthesis in dictionaries... - ...and in shorts - Out of brain freeze - Max Frei's crow - Maocyclist - Hegel's triad - Analysis/Synthesis dyad - Synthesis a priori & posteriori - On understanding - "Invisible fly" effect - Opinion poll amongst teachers - Intuition or synthesis? - General Smut's holism - Deficiency of synthesis - Method of synthesis (sketch)- Synthesis vs Analysis - East vs West - Fruits of synthesis - 12 whys of slippery synthesis*

## Chapter 4. Systems Thinking

### Part 1: In focal point - interaction

*Definition of a system - 5 Qs to the definition - Structure & form - System genome - System dynamics - Connectivity - Short history of systems thought - Complexity - Stability of complexity - May's Law - Autopoiesis - Cyclical causality - Feedback loops - Systems archetypes - Innovation wave & cluster - On-rail example - Market volatility - Interceptor MiG-25 - Parametric trap & window*

### Part 2: Thoughts in dynamics

*Family affairs - Inconstancy of bonds - Heider's balance in groups - Steady states - Map of solutions - Dynamic thinking - Time-delay as a critical parameter - Pig cycle - Lotka-Volterra model - Hidden variables - Nonlinear fishing - Counter-intuitive steering - Nonlinearity in bath - Butterfly wing effect - Product's life cycle (PLC) - Fashion garments PLC - Cusp catastrophe - Optimal passage of PLC*

## Chapter 5. Probabilistic Thinking

*Who will come to sauna: Mud or Clean? - Invariance of the mud - Three laws of probability - Conditional probability - Picking up socks - Fair bets allocation - The rule of sandwich - Samuelson's bet - Coin tossing in the money... - ... and in time - Life strips: light and dark - How to select fiancé - Peer decision with noise - Unity of vision: city vs village - Bourgeois deficit - Carjacking irregularity - What the cause: football or ballet? - Leverage of probability - Lie-detector test - How many spies in your company? - Doctors' secret - Stickiness of a bottle - Coincidence & Jung's synchronicity principle - The measure of surprise - Entropy - Information - Role of "maybe" - A maybe! a maybe! Half-a-bit for a maybe! - Game in Bar-Kokhba - Interview in Google*

## Chapter 6. Critical Thinking

### Part 1: Integration of thinking

*New discipline - Ponzi scheme - Definition of critical thinking - Stages in critical thinking - Ideal thinker - BIG5 of critical thinker - Argument & argumentation - Plevako's argument - Counter-example - How to prove that "mind is moving" - Active mind*

### Part 2: Modality of thinking

*Bleen and grue - Level of abstraction - Embodied metaphors - MP's blunder - Intolerance to ambiguity - Catdog - Rats' helplessness - NFC: needs for closure - Gardner's prisoners problem as NFC-test - Toulmin model of argumentation - Modality of qualifier - Loch Ness Monster: pro - Criteria of solid arguments - Loch Ness Monster: contra*

### Part 3: Absent presence

*Microsoft antitrust case - Counter-example vs counter-argument - Price of inadequacy - Presence or presense - Sheep's eyes of the ox - Three audiences - The King's speech - Decoding meanings - The role of listener - Strange conjunction "but" demystified*

## Chapter 7. Creative Thinking

### Part 1. Logging into problem space

*Warming-up creativity - Necker's glass, half-empty - Duck-rabbit catastrophe - Verbal ambiguity as Cusp Catastrophe - Platonov's neo-metaphors - RAT-test - It is original, but is it relevant? - Creative thinking vs creativity - Creative process & product - What is a problem? - Model of insight-problem solving - Problem space - Solution space - What did Archimedes actually find? - Actress' dress & king's crown in solution space - Cubism of the shortest way*

### Part 2. Coming out to solution space

*Ingredients of creative thinking - **Analogy** - Similarity between gardener & barber - Polaroid: in captivity of analogy - **Combination** - Usefulness of coffee: with sugar & w/o it - Applied combinatorics - Whiting method - Improving toothbrush - John Boyd's Qs game - **Abstraction** - Extraction of meaning - Three types of abstraction - 3K years of symbolic evolution - Kurgan as a monumental metaphor - Late appearance of abstractionism - Does abstraction kill imagination? - Niels Bohr's shadow method - How to teach history: example - **Imagination** - Ronald Finke's pattern & TETRIS - Stone bridge of master Joshu - Imagery vividness - Our definition of Creative Thinking*

## Conclusion

*Simplex of thinking - VUCA-world we live in - 4th Industrial Revolution - The whole new brain - Concept age - Society with imagination*

## List of koans

### Practicums:

#### To Chapter 0: Common Sense

##### Practicum 0.1: Non-healthy sense

*What is the most widespread language? - Counting on the fingers - A glamorous watch on freezing cold - What is the speed of darkness? - How to recognize Eve? - Reasonable doubt - How to choose a dress for the party?*

#### To Chapter 1: Logic

##### Practicum 1.1: Sherlock Holmes' stick

*Doyle's deductive method - Pierce's abduction - The size does matter - Traces in the sand - Sherlock's error - New method of Holmes' stick - Encrypted interview - Justas-to-Alex - Holmes' stick in action - GD YRA!*

##### Practicum 1.2: The Case of lemon

*The court's logic - It's in the bag! - Enthymeme - Homonyms - Universal & the singular - Asymmetry between cause & event - Physiognomy - The noose-like ears - Credit scoring - Reduced similarity - The row of associations - Secret likes of the judge*

##### Practicum 1.3: The Case of Bitcoin

*Brain-storm in a theater - Neo-Sherlock - A problem with Bitcoin: who is Satoshi Nakamoto? - Bitcoin: pro & contra - Scotland Yard appeared - Facts & only facts - The art of profiling - Self-talking names - Reporter's investigation - The strange trio - King's secret - Who have betrayed Mr.Nakamoto?*

#### To Chapter 2: Analysis

##### Practicum 2.1: Sand clock

*A defect of my sand clock - Strange relationship clock's behavior with pressure - Correlations & causes - Clock puzzle solved - We count sand particles - Parable about the ghost, who couldn't count - Unexpected denouement*

#### To Chapter 3: Synthesis

##### Practicum 3.1: Problematic "but"

*Image recognition - Koan about a mouse & cat's bowl - A tricky "but" - FANBOYS: which conjunction is the best - Theater - Housemaster appeared at the stage - Ageing problems - Decorations changed on bright - The painted veil - Puzzle of the "but" is solved*

#### To Chapter 4: Systems

##### Practicum 4.1: Power of Shunyata

*We invent the wheel - Koan about a cart - The cart as a system - The main element - System boundary - The Aim & the Whole - Seeking a model for cart - Chinese ideographs as a modeling tool - Why the whole disappeared - We dismantle a wheel - Most important element in a wheel - Does the hole belong to wheel? - Cosmic hole - Axis belongs to wheel or to cart? - Tao Te Ching - Laozi: child with a perfect soul - Uneasy task for managers - Emptiness in use*

##### Practicum 4.2: Sand heap

*Aristotle about systems - Sand heap is a system? - Definition of a system - Whole & Goal - Sand clock is a system? - Dunes, barkhan dunes, sand zugs - Desert: billiard table or frying pan? - Why dunes is the open system - Fingerprints of self-organization - Singing dunes - Aristotle: end of the quote*

## To Chapter 5: Probability

### Practicum 5.1: Hunting for yourself

*Target shooting - How to check out normality - Koan about goose hunting - Life=(1-Death) - Sensitive goose - Many versions of the events - Metaphysical explanation - Cherrystone shot - Betty Edwards' effect - Fishing in Scotland - Zen in the art of archery - "Every sane man must lift himself by the hair..."*

## To Chapter 6: Critique of Reasoning

### Practicum 6.1: On relevancy & timeliness

*Koan about broken lag - 3 Qs to the koan - Code of Zen - "Flog yourself!" - Mirror effect - Rotten fox - Fridays stripping - We found solution - Unmon's life lesson*

### Practicum 6.2: Critique of pure marble

*We choose roles - Antique sculpture - Puzzle of empty eye sockets - Blindness of thinking - Marble properties - Why? is the main question - Cinematography in marble - Library of Celsus in Ephesus - We arrange goddesses in a hierarchy - Why Artemis didn't defend her temple*

### Practicum 6.3: Hairpin & sword

*Rhetoric - Parable about two-horse vehicle - Two distinct horses - Two distinct koans - Koan about hairpin - Ihor's solution of koan - Critique of the solution - Symbol of a bowl - Symbols exchange - Code and encryption - Dialogue of gestures - Koan about Mt.Sword - Symbol of a sword - What did master Tuja dislike? - Divided opinions - Looking for happy-end - The cusp point's annihilated*

## To Chapter 7: Creativity

### Practicum 7.1: Saving a private goose

*We design CQ: Creativity Quotient - What is the Moon? - 4 types of answers - Measure of CQ - Structure of Creative Potential - Wood-workers: undertaker and termite - Draw moon in a moonless night - Draw gateless gate - Koan about goose incarceration - Freedom for the goose! - We look for goose escape - Two dozen ways of escape - What answered Master? - Listen!*

### Practicum 7.2: Art of translation

*Computer translation - Testing Google Translator - Googlets - Peculiarity of Maori language - Stochastic generator of poetry - 8 connotation of Sein - How to translate "From Being to Becoming" to German? - Two orders for poetry translation - Kipling's two-sided brain - Anderson's creativity - We analyzed our translations - Difficult places - Over-coming*

### Practicum 7.3: Turing Test

*Alan Turing problem - 10 Qs to AI - A koan for AI - Mayakovsky Test - Love is a road? - Time is a river? - What, then, a cartridge or a boat? - Testing artificial humor - Jokes from robot Sophia - Never eat anything bigger than your head! - I am up! Upgraded, at least! - What will happen, if the sky becomes the sea? - Who is my reader: Man or Computer? - Reverse Turing Test*

### Practicum 7.4: Design of the solution

*Making design for Hotel Kyiv - What is Kyiv's main meaning? - A geraldic clue - Is it mind moving or skyscrapers moving? - Competition in Pisa for standing still - Why do skyscrapers sway? - Why does violin sing? - We fight with auto-oscillation - Strange growing oscillation - Looking for a cause - How to suppress oscillation? - Video clue to a solution - Solution: functional & beautiful - Completed design of the skyscraper*

## To conclusion:

### Practicum: Last word

*Koan about Deshan's last word - Acting personalities coded in Chinese glyphs- What is the koan about? - Two main Qs - The peripeteias of monastery drama - **Jingle**-buddism - What did Entou tell to Deshan? - What did Deshan tell to monks? - Plexus of fates - "The world is wide and deep" - Free will of disciples*