



IVAN BOGACHEV

THE EVOLUTIONARY THEORY
OF
BEHAVIOR

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Книга содержит в себе теорию эволюции материи, которая описывает формирование базовых блоков, определяющих поведение сложных систем, возможные дефекты, возникающие в связи с ними психические расстройства и иллюзии восприятия, и дальнейшее развитие паттернов поведения и связей между ними в рамках деятельности отдельных организмов и процессов построения социальных групп. Комбинируя в себе подходы из различных областей знаний, от древнегреческой философии до современной информатики, теория открывает новый способ интерпретации актуальной информации о механизмах поведения, позволяя создать строгую модель, которая будет предсказывать поведение организмов и может быть использована в прикладной психологии и социологии как инструмент для объяснения и прогнозирования различных процессов в психике отдельных людей и общества в целом.

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PREFACE

This theory includes the description of the possible evolution of matter in the universe and related to it phenomena, that may affect the behavior of the structures within it, such as memory, consciousness, intelligence, free will, and, later, the concept of the creator.

The primary goal is to explore various phenomena, that are being found in the psyche of the intellectual structures, including human, possibly finding the new ways to work with them in the practical fields of psychiatry, psychology and sociology.

The combination of the old philosophical concepts with the modern knowledge, practical observations and the additional concepts from the fields of computer science and engineering, allows to open the new vision, the new ways to explore and explain the processes within the psyche.

This leads to the creation of the structured, purely mechanical, model of behavior, that can help to find the missing connections between the scattered pieces of information, to fix the dead ends in some other theories, and to start to work with predictable results without relying on intuition.

This theory is partially based on the previous work, The Pyramid of adaptation (2019), which was based primarily on the set of the collected observations, statistics, and the random correlations, rather than on the strict system. This theory gets the main correlations from the pyramid and explores the nature of them through the process of evolution, looking for the basic principles, the structures, the processes within them, and fine-tuning the existing model with the new details, that are being found in the process. The resulting model becomes more precise, and is able to predict or explain more psychiatric diseases and observable situations in the processes of behavior.

The material is being structured in the form of the lectures.

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They are supposed to be read in the sequence.

I

EVOLUTION

PREFACE

At the beginning, we need to make a few statements about the evolution of the universe. To make some definitions. At the first glance they may look not connected to the topic of the human behavior, or behavior in general, but they will become the ground for the further, more practical, explorations and models.

UNIVERSE

The **universe** exists.

The universe is derived from **matter** - a large amount of **particles**, separated by **space**.

CHAOS

The absolute **chaos**, the cosmic vortex, where particles move through the space arbitrarily, without any structures present, is the **natural state** of the universe.

The chaos opens the endless opportunities for the **particles** to collide, interact, be **combined** into the structures, and for the **structures** to be destroyed, **disassembled** back into the particles.

Every structure is derived from the same particles, same matter. **All is one, and one is everything.**

NATURAL ORDER

There is a **natural order**. The rules of engagement. The physical laws, that cannot be bent. Every interaction between the particles can happen by the rules only.

Interactions, events, have **consequences**. Creation or destruction. Birth or death. One event can directly lead to another one, or open the new opportunities for more complex events to happen.

TIME

Time is the way to **organize the consequences**.

Time is **one-directional**. The consequences come after the events.

The event and the consequences, the next events, and the next ones, and so on, create the chain of connected events, or the **process**.

EVOLUTION OF MATTER

The **universe is self-similar**. Structures interact and can be combined into more complex ones, and they can be disassembled.

The construction of these more and more complex structures is the **evolution of matter**.

Random interactions happen all over the universe. Creation happens all over the universe. The process of evolution happens all over the universe. Randomly created different structures form the **branches of evolution**.

Complex structures can be destroyed. Matter will return to the form of more simple structures. They can be combined again. And destroyed again. And so on. The process of **evolution goes in waves**.

WILL TO LIVE

Random events can start the **destructive processes** outside, or contradicting processes inside the structure, the self-destruction. It is inevitable. It is a matter of time.

Some complex structures may obtain the **will to live** during the evolution. The self-preservation mechanisms that can **block some of the destructive processes**, and can allow to continue their existence.

SPECIES

Some structures may obtain the ability to **reproduce** themselves or other structures, leading to the series of the identical structures. It increases the chances of this branch of evolution to survive the chaos and destruction.

Random events, **mutations**, may lead to the copies that are not completely identical, creating the **species diversity**, collecting various qualities of the structures within the branch of evolution.

Technically, the process of **reproduction is not a necessary part of the evolution**. The structure that represents the particular branch of evolution may survive the chaos by chance, be combined with some other structure, and become something bigger.

MEMORY

Obtaining the ability to **save and extract information**, to have the memory of the previous events, is the first crucial moment in the process of evolution.

Structure, that has memory of the **events inside** it, as well as the **events outside** it, has **consciousness**, self-awareness.

Conscious structures naturally explore themselves, or other structures around them, and save information. Matter explores itself. **The universe explores itself.**

FREE WILL

The possible actions of the structure are partially predetermined by its overall design and its memory, if present.

Some structures may obtain the **free will**. A chaotic mechanism that allows to start the **contradicting processes** within the structure. They will be destructive. But they will allow to **make a choice against** the behavior, predetermined by the overall design of the structure.

The real choice can be made through the self-destruction only.

The processes of the **self-preservation**, created by the will to live, naturally work **against the free will**.

PURPOSE

The fact that the choice can be made, means that the **purpose of the existence is not predetermined**. Fate does not exist. Destiny does not exist.

The **result of the existence**, the consequences of it, can be observed at the time **after the end of the existence**. But it cannot be completely planned or predicted due to the chaotic element of the choice in the process. And because of the random events outside as well.

INTELLIGENCE

The next step of the evolution is the obtaining of the **intelligence**. The ability to **make a new rule** in the addition to the natural order, **and follow it**.

The memory about the events is necessary to make a new rule. **Consciousness is a necessary condition of the intelligence.**

The ability to make the choice is necessary to follow the rule. **Free will is a necessary condition of the intelligence.**

It is interesting to notice, that the concept of the **biological life** looks like an artifact that is being commonly used within humanity to create the rules. But it **is not predefined by the universe.** Everything is the same matter.

Complex rules require more information to be saved. The complexity of the rules, the **level of the intelligence,** **depends on the amounts of the memory** in the structures design.

Structure becomes **intelligent as a whole** when some of its parts become intelligent. Human is intelligent as a whole, although some parts of it may not be intelligent.

The **chaotic universe** is not intelligent. It does not change the rules. Once the intelligent structure is being created by a random event, matter becomes intelligent. The universe **becomes intelligent.**

CREATORS

New rules lead to the creation of the **infrastructure.** The combination of the various structures that exist and act by this new set of rules. Some of the intelligent structures become the **creators** of it.

Creators and the created environment become the one complex structure of matter, with some new qualities.

Infrastructure may allow to **save the information outside the creators, exceeding their individual limits,** which may depend on their design or the time of their existence.

Obtaining the ability to **intentionally increase the memory,** to increase the level of the intelligence, to make more and more complex rules, is the second crucial point. After it, the **speed of the evolution increases drastically.**

MASTERMIND

The third and the last crucial point of evolution is the eventual **theoretical** creation of the **mastermind.** The vast infrastructure across the universe with the memories about the every existing rule in the universe. It will be able to control everything that can be controlled, and create everything that can be created. This concept can be found in various forms in religious and philosophical schools all over the history of humanity. It is worth mentioning. Although it is more a matter of speculations.

Along the evolution, the theoretical mastermind is being constructed within, and **limited by the natural order**, therefore, **is NOT almighty**.

Since the mastermind is derived from the intelligent structures, it **is intelligent**.

The mastermind **may choose to create a new universe** eventually.

Creation of the new universe requires matter. The current structures in the universe must be destroyed. **The mastermind must be self-destroyed** in order to give the birth to the new universe.

This very poetic idea can be found in many circumstances. Later we will see that a lot of the processes in the behavior of the structures require some degree of the self-destruction.

Creation of the new universe may be perceived as the **final destination**. The only possible end of the evolution. Everything gets back into the singularity. All the matter disassembles back into the primary chaos of particles. The consequences are being lost. The clock resets. The process of evolution starts again.

It is likely that none of the intelligent structures of the present time, at least in our branch of evolution, will exist long enough to be able to prove any theories about the mastermind or the destination, so we will continue in the more practical field, and we will try to collect the knowledge that can be collected and used today, within our current limitations.

II

BASIC IMPULSES

PREFACE

In the field of psychology, psychiatry, we are interested in the behavior, the actions, of the intelligent structures. The following model will be applied primarily to them, exploring the high level behavior of the most complex structure known to humanity. The human itself.

Since the model is based on the process of evolution, and the behavior depends on the theoretical chemical structures and processes present inside of the other, more complex structures, the model can be constructed back, deepen with smaller details, and spread into the field of the non-

intelligent structures in the upcoming work, moving into the fields of the practical biology and medicine.

STRUCTURAL PARTS & IMPULSES

During the evolution, the four important structures within the human psyche had been acquired:

1. **Will to live.** The mechanism to stop the hostile processes.
2. **Memory.** Naturally leading to the consciousness.
3. **Free will.** The ability to make the choice.
4. **Intelligence.** The ability to make and follow the rule.

These structures start the processes, the **basic impulses**, that affect the behavior.

These impulses can be perceived as **proactive** and **reactive**. The collections of the impulses for every of the four structures are being split into two parts by this quality. They are opposite to each other. Mirrored to some degree.

The **relations between the impulses** are the main **point of interest** for us. It is the ground to build everything in the following work.

It is likely that the **set of the impulses is not completed yet, and it will be improved in the future, adjusted to the different species**, as the empirical knowledge is being collected.

Nonetheless, the present set of the impulses allows to build the **model**, that **predicts the human behavior**, as well as many observable effects in the human society, **accurately enough for many applications**. The future improvements will not affect the benefits of it at the present time.

WILL TO LIVE

The will to live naturally creates the impulses, related to the diagnostics, defense, and the impulses related to the danger in general.

Proactive. Find the problem. Aim. Finish it:

- **Diagnosing.** Looking for the flaws in yourself and the environment. You need to find the problem first, in order to deal with it.
- **Counterbalance.** Creation and targeting of the process, that goes against the destructive one.
- **Reprisal.** The complete destruction of the problem. Not just stop it. Not just hurt it. But destroy. It is

important to differentiate this from the aggression. The process of reprisal has the precise target that is to be completely annihilated.

Reactive. The problems happen. What will you do about it?

- **Ignoring** the problem. Not producing any reaction. The problem may be resolved on its own. No need to spend the energy on it.
- **Dread**. Fear. Anticipation of the great danger. Not dealing with the problems, but waiting for them to happen.
- **Reconstruction**. Repairing of the broken things. Refueling. It is essential for survival to fix and fuel your boat. And yourself.

MEMORY OF THE ENVIRONMENT

The memory about the events outside the structure, about the environment, the consciousness, will affect the behavior drastically, increasing its diversity.

Memories, related to the reactions of the environment to your actions:

- The environment is **indifferent** to the actions. Actions seem to not produce the expected consequences.
- The environment is resistant. It **stops** the actions. It may not be hostile, but it does not allow to act.
- The environment is full of energy and opportunities for the actions. The environment **helps** to act.

Memories, related to the actions of the environment, that require your reactions:

- The environment is **dangerous**. It requires some reactions.
- The environment is **safe**. It naturally leads to the different reactions.
- The environment **gives the gifts**. You can take them.

FREE WILL

The free will gives us the set of impulses, related to the choices and destruction.

Proactive impulses, to make changes:

- **Temptation** to use the resources outside yourself, to try something new. It can be forbidden. It can be dangerous. It can be against the natural way of things. That is the choice to make.

- **Destruction** of the environment. This is not a protection mechanism, but the way to achieve something.
- **Aggression**. Pure rage. The uncontrollable explosion without any precise target, that may go against the rules, the environment, or even the structure itself.

Reactive impulses, the ways to adapt to the changes:

- **Exhaustion**. The destructive way to use the available resources, the gifts of nature. To the end. Consequences are not important.
- **Adaptation**. Destroy yourself to survive. The choice to adapt may lead to the circumstantial survival, but it is destructive by its nature.
- **Justification**. Bending the rule to defend the choice. The natural order can not be bent. But some other rules can. Can't they?

INTELLIGENCE

The intelligence is related to the rules and creation of the environment, so the impulses relate to these concepts.

Proactive, to create, to achieve the goals, to keep the order:

- **Creation** of the new things. The most natural thing to do for the intelligent structures.
- **Inflexibility**. The willingness to follow the rule no matter what. To concentrate. To work hard. To achieve the goal. If nobody follows the rule, then there is no rule.
- **Protection**. To keep the things as they are. To keep the order. To keep the rules. To keep the created.

Reactive, to sit back and relax:

- **Inaction**. The choice to not create. To relax. To wait. The opposite to the choice to create.
- **Satisfaction**. Relaxing reaction to the gifts, results of the hard work, fulfillment of the wishes and expectations. No need to concentrate.
- **Call for pity**. The willingness to be protected by some other intelligent structure. To be petted. The concept of pets is the prerogative of the intelligent structures.

PARALLELS WITH THE LANGUAGE

It would be interesting to notice that the proactive impulses, related to different structures, are being addressed within many of the human languages for centuries. They can be found in the form of the **common phrases**. Looking at them, we may notice that the **sources** of the impulses are **different** in them.

The impulses from the **intelligence and the memory** are usually associated with personality. With "self". With the placement of **yourself in the world**, in the environment.

The impulses from the **free will** are being associated with the "**devil**", that can "get you". And it is definitely a different thing, not the same as the "self".

The ones from the **will to live** are being associated with the higher power. Consciousness that torments you. The **right way to be**. And again, the impulses do not come from the "self". It is some other, external source.

This may mean that the presence of the different structures, that start the processes in the psyche, **had been discovered by humanity a long time ago, but had not been explored properly**. Most likely because of the pessimistic views on the concept of the religion in the world of science. We will explore this subject. We will take a closer look at the rules of the engagement, the natural order, between these structures and between the impulses they create.

III

PATTERNS OF BEHAVIOR

PREFACE

The collection of the basic impulses raises some questions. How the complex behavior is being constructed from these basic blocks? Are there any rules? Are some of them being connected? How? Answers to these questions will allow to build the system that can predict the behavior.

In the practical field of psychology it will be important to explore not only the rules, but the possible defects in the system. The theoretical defects will predict the diseases. And since all the intelligent structures inherit the same impulses from the ancestors, the same diseases are to be expected. Human, animals, and even the theoretical artificial intelligent structures, that will be constructed from the same blocks, same impulses, will suffer from the same diseases.

THE RULES

Some of the impulses cannot exist simultaneously within the complex structure. It should be obvious. Destruction and reconstruction cannot happen simultaneously. The environment in the memories cannot be safe and dangerous at the same time. Creation and not creation cannot be done together.

Some impulses are connected. Creation changes the environment, and, naturally, affects the following memories about this environment. Adaptation is destructive for the structure itself, and, naturally, affects the will to live.

At the moment of evolution, when the complex structures get several structures within them, that produce impulses, we start to get the loops. Three impulses can be connected in the loop. The **loop** creates the stable **pattern of behavior**, that persists in time.

PATTERNS OF BEHAVIOR I

From the logic and observation, we may get the following set of the possible loops of three impulses, patterns of behavior, that do not include any contradictory impulses. Later, we will address them as the **patterns of behavior of the class I**.

- | | | | |
|---------------------|---------------------|----------------------|-------|
| 1. E:indifferent | -> W:counterbalance | -> F:aggression | -> E. |
| 2. E:stops | -> I:inflexibility | -> W:reprisal | -> E. |
| 3. E:helps | -> F:temptation | -> I:creation | -> E. |
| 4. F:destruction | -> W:diagnosing | -> I:protection | -> F. |
| 5. E:helps | -> F:destruction | -> W:reprisal | -> E. |
| 6. E:indifferent | -> W:diagnosing | -> I:creation | -> E. |
| 7. E:stops | -> I:protection | -> F:aggression | -> E. |
| 8. F:temptation | -> I:inflexibility | -> W:counterbalance | -> F. |
| 9. E:danger | -> F:adaptation | -> W:ignoring | -> E. |
| 10. E:safety | -> W:dread | -> I:call for pity-> | E. |
| 11. E:gives | -> I:inaction | -> F:exhaustion | -> E. |
| 12. F:justification | -> I:satisfaction | -> W:reconstruct. | -> F. |
| 13. E:safety | -> W:reconstruct. | -> F:exhaustion | -> E. |
| 14. E:gives | -> I:satisfaction | -> W:ignoring | -> E. |
| 15. E:danger | -> F:justification | -> I:call for pity-> | E. |
| 16. F:adaptation | -> W:dread | -> I:inaction | -> F. |

W = Will to live; **E** = Environment, the memory of it; **F** = Free will; **I** = Intelligence.

Some of these 16 loops, created purely mechanically, may look weird. Why would any structure behave like this? But the loops are there. Later we will see, that there is indeed some logic present in them. The **legacy**, that we got from the distant ancestors.

It might be easier to interpret the connections between the loops in the form of the table, with some common names. The names are purely optional, yet they can help to organize things and to connect them to the practical field of psychology.

PATTERNS OF BEHAVIOR

Proactive

(1) "invisible" E:indifferent W:counter F:aggression	(2) "obsessed" E:stops I:inflexibility W:reprisal	(3) "genius" E:helps F:temptation I:creation	(4) "recidivist" F:destruction W:diagnosing I:protection
(5) "gladiator" E:helps F:destruction W:reprisal	(6) "artist" E:indifferent W:diagnosing I:creation	(7) "prisoner" E:stops I:protection F:aggression	(8) "philosopher" F:temptation I:inflexibility W:counter

Reactive

(9) "adaptive" E:danger F:adaptation W:ignoring	(10) "helpless" E:safety W:dread I:call for pity	(11) "lazy" E:gives I:inaction F:exhaustion	(12) "apologetic" F:justification I:satisfaction W:reconstruct.
(13) "fool" E:safety W:reconstruct. F:exhaustion	(14) "consumer" E:gives I:satisfaction W:ignoring	(15) "victim" E:danger F:justification I:call for pity	(16) "conformist" F:adaptation W:dread I:inaction

This table can be perceived as the main tool, the cheat sheet, for the field psychology.

PATTERNS OF BEHAVIOR II

Some combinations of the patterns do not contradict and can be used together as a complex pattern of **two loops**, the pattern of the **class II**.

Patterns in the **same row** or in the **same column** contradict with each other, and **can NOT be used simultaneously**.

Proactive and **reactive** patterns are not connected by any impulses, therefore **can NOT be combined into the one pattern** of behavior.

The **rest** combinations of the loops **can be created**.

Proactive:

Reactive:

1 plus 6/7/8

9 plus 14/15/16

2 plus 5/7/8

10 plus 13/15/16

3 plus 5/6/8

11 plus 13/14/16

4 plus 5/6/7

12 plus 13/14/15

With the total amount of **24 patterns of the class II.**

The third pattern will not be connected or will contradict with the patterns, that are already included in the pair. The two-loop **patterns of the class II are final.**

SWITCHING BETWEEN THE PATTERNS

Patterns of the **class I are unstable.** Structures can **switch** between them from time to time.

It is interesting to notice, that the **little human kids**, that are hardly intelligent, use the **patterns from the first column** a lot. These are the patterns where the **impulses from the intelligence are not present.** When the mother is indifferent, they start to cry and throw things chaotically (1). They can become surprisingly violent if nobody stops them (5). They ignore the danger (9). And in safety they will fix the hole in the mouth with every candy on the table, not thinking too much about the consequences (13). Of course, we assume that every human is in fact intelligent, and even the little ones use various patterns, but this observation is very interesting nonetheless.

Patterns of the **class II are stable.** They are self-sustaining. Structures do not have a natural tendency to switch back from the acquired pattern of the class II. This creates a lot of bizarre effects that are hard to deal with in the realms of the practical psychology.

PREDATORS AND PREY

Observing these patterns in the animals and people, we may notice, that the **proactive** patterns are the patterns of the **predators.** And the **reactive** ones are the patterns of the **prey.**

This mental picture helps to get the logic saved in these patterns. For example, in the pattern (10) we see the fear of safety. It seems odd. Why would the individual be scared by the safe environment? But the **predators attack in silence.** The silence is dangerous. We anticipate the danger. Later we will see, that some personality disorders are being constructed on this logic.

It is **very unlikely**, that the **individual, who had been a predator of the class II** his whole life, who built the environment, suitable for predators, who raised the pack of predators, will **start to want to become the prey** one day. Most likely he will think, that he will not survive that switch. And most likely he will be absolutely right.

The **little kids**, that are technically **pets**, being protected from the environment, **can switch** between the patterns, suitable for the predators and the prey. But the **adults tend to choose the side and stick to it**.

It is important to notice, that the emotions do not affect the behavior that much. **What we feel and what we do is not the same**. This may be the legacy as well. If you are the prey, and you see the **predator**, you **run**. You may feel whatever you want, you may have a good day, or a bad one, but you will run.

The **emotions can be perceived as the universal language**, that can be used to establish the communication between the individuals, not only in the same species, but within the whole branch of evolution, where the species acquired this mechanism. This topic will be explored in the future work, but in the context of behavior we will stick to the idea that the mechanism of emotions is not the structure that defines the final observable behavior.

THERAPY

If we want to change the behavior of the particular individual, we have to stop one of the impulses he uses. We need to **break the loop**. This action will push the individual to use the rest of the loops, the other patterns of behavior.

Stopping one of the patterns while helping to use another one, setting a direction, can be an **effective method** of the behavior control in the processes of the upbringing and therapy. We just need to keep in mind the problem of the predators and the prey.

It is important to notice that every pattern of the **class II** has **one primary impulse** that is being included into both loops. This impulse is **harder to stop**. There is always another choice.

It is common to see the situation, where the **environment blocks some of the patterns**. The memory about the dangerous environment, the so-called **psychological trauma**, can block the patterns (10), (11), (13), (14). They include the memories about the safe environment and the one that gives the gifts. And yes, these **memories about the danger do not affect the predators willingness to hunt**. Most likely they will not understand, why they should even hear about the old traumas.

Patterns (4), (8), (12) and (16), the right column, are the **only ones that are not connected to the memories about the environment**. They can be the easiest to establish if the said environment is not under our control and constantly changing.

If we follow these rules, we can affect the behavior of the individuals. Or predict them. But if the system is broken, then the more nuanced approach may be required.

IV

MALFUNCTIONS IN THE SYSTEM

PREFACE

In the field of psychiatry, our main points of interest are the possible malfunctions within the system. What can be broken? How it can be diagnosed? How it can be cured? Can it? Those are the questions.

We will not be able to find the right medicine during these explorations, but we will try to find all the possible malfunctions, and to find the ways to work with them in the therapy in order to make the patient's life easier.

The patterns of behavior, both the class I and the class II, are being considered normal. Natural. The individual, who uses them, does not feel sick. There are no internal conflicts.

There are several kinds of malfunctions to expect within the system. They make individuals feel not right. Not normal. They can be perceived as the sickness. And they correlate with the observable symptoms, the consequences of the breakdowns.

We will explore the possible malfunctions and their theoretical consequences, and will make some hypothesis about the diseases and causes that are not yet discovered.

DESTRUCTION OF THE SYSTEMS

What happens when the system, that produces impulses, is being **destroyed**? This is the first and the most obvious problem to expect.

If one system is destroyed, then 75% of the patterns stop immediately.

If two systems are destroyed, then 100% of the patterns stop, which is practically means that the patient will be thrown back in the process of evolution for millions of years.

There are four systems to destroy. There are **four types of degenerative diseases to expect.**

In **any case of destruction**, we have the same picture of the **four patterns of the class I left.** One column. If we consider

the predators and the prey problem, then it will be only two patterns left. Quite a tragic situation. And the patterns of the class II naturally can not be constructed within a column.

INTELLECTUAL DISABILITY

Without the intelligence, the individual will use the patterns from the first column, and will **behave like the little kids**, that we addressed earlier. This condition may be perceived as the intellectual disability, ID.

ALZHEIMER'S DISEASE

Without the memory, the individual will use the last column of the patterns. This condition may be perceived as the **Alzheimer's disease**, AD. It is expected to see the destruction and self-blaming, looking for the internal flaws (4), creation of the large amounts of the rules and then the constant temptation to throw them all away, get back the "normal" life (8), constant reconstruction of the memories and justification of the actions (12), adaptation and the constant fear (16).

NO WILL TO LIVE

Without the will to live, the individual is predicted to use the third column of the patterns. But the practical observations become difficult. Without the defense mechanism the patient will **likely be killed** by the destructive or even **self-destructive** processes, much faster than the proper observations will be made.

It is important to **differentiate** the so-called **sadness** and the **complete inability to create a defensive process** within the structure. This must be a bizarre final version of the immunodeficiency of the psyche.

PEACE?

Without the free will, the individual is predicted to use the second column of the patterns. This condition was never observed as a disease during the research. However, this condition is being mentioned in various religions, named differently, as something good. Not a disease, but something to be desired. **Follow the flow and be happy**. This sort of thing. However, the system predicts that this is indeed a disease. The destruction of the specific structure that is supposed to produce the impulses. And this is **the disease to be discovered**. Also, we may notice, that the contradictory set of the patterns of the second column can be described with the word "brainwashed". Which is quite an interesting coincidence.

THERAPY OF THE DESTRUCTIVE PROCESSES

The destructive process can be stopped in theory, by medicine, that is yet to be created. It is highly unlikely that it will be stopped by words. The possibility of the reversed process, the reconstruction, is under question.

Therapy can be helpful though. The most important thing to remember is that most of the patterns are already broken. It is important to not push further. **Do not stop the impulses.** The therapy should be supportive. Not to change the behavior, but to **keep the patterns that are still present.**

CONTRADICTORY PROCESSES

The second class of the malfunctions is related to the possibility of creation of the **contradictory impulses.** They are destructive for the structure as a whole, and consume energy. This can be observed as some **energy-related symptoms,** in the addition to the anomalies in the behavior.

These malfunctions can exist with the previous four destructive diseases simultaneously.

MANIA + DEPRESSION = CATATONIA

Several contradictory **proactive** patterns will create the behavior that can be addressed as **mania.** The manic syndrome. Large amounts of energy are being used. Lots of actions. But it is quite hard to do the productive work in one direction.

Several contradictory **reactive** patterns will create the reversed situation. The **depression.** Reactive patterns naturally require less energy, but again, the direction of the behavior is getting confused.

Both the mania and the depression look like the **problem with the mechanism that stops the loops** of the impulses. The system goes to the next pattern, but the previous one does not stop. And we see the conflict.

The expected development of the disease will look like the several random patterns, **both proactive and reactive,** that all contradict. The mania and depression at the same time. This will create the bizarre condition that can be perceived as the **catatonia.** The stupor. In the mania and depression, we see at least some direction in the form of the proactive or reactive patterns, but with the catatonia there are no directions left.

Since the mania, depression, and catatonia, have the same core problem with the loops of the impulses that do not stop, we

can make a hypothesis, that **all of these diseases are indeed the one disease**. The visible symptoms may depend on the starting point, the first loop that was not stopped properly.

This can also explain the reason, why the electroconvulsive therapy, ECT, works with this particular set of diseases and removes the symptoms. It just stops everything. This is exactly what we need. To **stop**. To press the "reset" button. The epilepsy can be the instrument to do the same job.

SCHIZOPHRENIA

There is another problem to expect. Two **mirrored patterns** of the class I or II. One proactive. One reactive. At the same time. This may be perceived as the **ambivalence** in its purest form. The schizophrenia.

For example (1) + (9), or (3) + (11), or (7) + (15) for the class I, or ((3) + (8)) + ((11) + (16)) for the class II.

This condition may look like a special case of the catatonia, but it does not have any further development, so it is unlikely.

Also, schizophrenia is not necessarily a sickness of the will, as it may be perceived in some other theories, but rather the **malfunction in the mechanism that is supposed to control the choice between the proactive or reactive behavior**. The railroad switches are broken, and they allow the completely mirrored patterns to exist simultaneously within the system.

The mirrored patterns annihilate each other. The energy is being wasted. This leads to the problem of the **lack of energy**. The symptom that is being associated primarily with the schizophrenia. Without it, we need to shut down some systems. Emotions are not required for survival. They go dark first.

Since every structure that creates impulses has the same duality of the proactive and reactive impulses, the "switch" must be the **universal ingredient**. More simple structure, that is being included in all of them. It is to be found and fixed.

THERAPY OF THE CONTRADICTION PROCESSES

The medical ways to finally cure these diseases are still in development. Unfortunately, we have to wait. The therapy can be used to help with the symptoms.

Since the main constructions in these diseases are not affected, and the problem is in the switches only, the **radical**

methods of therapy can be used. It is the opposite situation to the destructive diseases.

With the **schizophrenia** it might be a good idea to stop all the used patterns on the one side of the table. Proactive or reactive. It does not matter. This will **unbalance the system**, leading to the counterintuitive result where the **free energy** will be gained, because not all of it will be wasted in the completely mirrored self-annihilating processes.

It is important to notice, that this method **does not cure the disease**. But it removes the symptoms to some degree and makes the life much more comfortable.

The similar ideas can be used with the **mania and depression**. The only difference is that we need to identify all the patterns that are not being used and do not allow them to appear. We need to **stop the process of the collecting first**. Then we can start to **block the rest of them, until only one or two are present**. It is a lot of work, but it can be done. And again, it will not cure the disease, but it will remove the conflict and it will make the life easier.

EXAGGERATED IMPULSES

If every system works, and the switches are not broken, the next problem to expect is the amplification of the impulses. When the **impulses are being created too fast, the process becomes too intense**. Too amplified. Exaggerated. Uncontrollable. This may be perceived as the anxiety of sorts. The problem is independent, and can be added on top of any other malfunction.

There are 24 impulses. There are **24 conditions to expect**. The set is not completely identical, but surprisingly similar to the current classifications of the **personality disorders**.

The amplified **inflexibility** is basically the **obsessive-compulsive** disorder. You must follow the rule. The amplified **call for pity** is the **dependent** personality disorder. The amplified **destruction** is the **antisocial** personality disorder. **Ignoring is autism. Dread is paranoia. Reconstruction is bulimia. Exhaustion is anorexia.** Etc.

This leads to the hypothesis, that many of these unpleasant, yet on the border of the disease or not the disease, conditions, may have the same reason. The **exaggerated impulse**. And this is the problem to be solved purely by medications. We may expect to find the four catalysts, that may amplify the impulses in the four systems. Or even the one to rule them all.

THERAPY OF THE EXAGGERATED IMPULSES

The **anxiety**, the loss of control, will be present. It can, and should, be **removed before the therapy**. There are medications for that. Then we will see the situation very similar to the patterns of behavior of the **class II**. The maximum of two loops, created **around the impulse, that has been exaggerated**. The possible actions will be practically the same. Stop the loop. Reduce the self-amplification.

MALFUNCTIONS OF THE MEMORY MAINTENANCE

Three other structures may be relatively simple, but the memory is the complex one. Since the amount of the particles, the amount of the structures in the individuals design, is limited, the **information** in the memory **must be re-ordered and deleted** in order to save the new information. We can not fit everything.

There are **three structural parts of the memory**, that can make it work as a storage for information. The "writer". The "reader". And the "worker", that performs the maintenance. The defragmentation. It reorganizes the important information that should not be deleted. And deletes the rest. This trio naturally leads to some expectations.

FALSE READOUTS

If the information is being **read and restructured** at the same time, the **memory hallucinations** may appear. Something, that had never existed, and had never been saved as a whole, can be **temporarily constructed** from the moving parts of the information in the memory, **accidentally read**, and remembered. This problem is very common in the field of computer science, programming, and we expect it to appear here as well, since the constructions are practically identical.

It is important to notice, that the lack of coordination between the "reader" and the "worker" in the memory is not the proactive/reactive switch problem mentioned earlier. It is a different problem. These **memory hallucinations are not a symptom of the schizophrenia**.

Another effect to be expected is the **secondary readout** of the same information that had been just moved. This may lead to the illusion of *deja vu*. You have seen it already.

The **readout of the empty structure**, when the information from it had been just moved somewhere else, leads to the illusion of *jamaï vu*. It should be there, but it is not.

The **combinations of these effects create more complex ones.** You may feel like you have already seen something, that never existed. And you may feel like you already knew something, that never existed, and it should be there, but it is missing.

These are the **illusions to expect** in the structure of this design.

The memory hallucinations and these illusions are **not destructive.** They do not corrupt the system on their own. Yet they can become the **noticeable symptoms of the memory malfunctions.**

DEFRAGMENTATION DISORDERS

If the information is being **written during the defragmentation,** the **memories will be split.** This may lead to the so-called dissociative disorders.

The **sleep is required** to perform the defragmentation without this problem. The writing process has to stop.

This leads to the hypothesis that the **dissociative disorders can be achieved through the sleep deprivation and the intense consuming of information** at the same time. It will force the memory mechanism to start the hot maintenance. The **kids will be affected more** than the adults, because they naturally explore the world and consume a lot of new information.

In the behavior, we may observe the dissociative disorders in the form of the **random switches between the patterns,** related to the **impulses from the memory.** These switches come from the randomly constructed memories and they may look like there are no reasonable explanations for the switch.

THERAPY OF THE MEMORY MALFUNCTIONS

The **false readouts** are the consequences of the sleep deprivation. We can remember the good example of this effect. The sailors. They tend to see various things in the sea at night, and then they make all kinds of terrifying stories. The **good sleep will help** to deal with this kind of problems.

The therapy of the **dissociative conditions** is the opposite. Most likely it will be not effective at all. The **memory has to be reconstructed** in order to cure the disease, and we **do not possess any reliable tools** to do that. We may assume that the hypnosis-related suggestive methods may help to rewrite some of the memories, but the further investigations are required.

DREAMS

It is obvious, but still worth mentioning, that the sleep does not destroy the memory mechanism. It works. Some readouts continue during the defragmentation. This process creates dreams. Technically, these **dreams are memory hallucinations**. The same ones, that may happen during the sleep deprivation.

There is a common wish to be able to learn things in sleep. To upload the knowledge into the memory during the sleep and to not go to school. Even if we assume, that the saving process will work, the process of learning will inevitably hit the wall of defragmentation. This knowledge will be corrupted.
Effective learning during the sleep is not possible.

V

SOCIAL ENGINEERING

PREFACE

We, as intelligent structures, may choose to create the environment. The society. And to protect it. It would be helpful to know the rules and to not rely on the chaotic choices. To get the so-called wisdom.

The interactions between the individuals are indeed not random. Almost like the natural order itself affects them. And there are many parallels between the effects in the groups and the processes in the individual intelligent structures.

We will explore the combinations of the individuals with different patterns of behavior within groups, and will collect some recipes that work. Or do not. These recipes can be used in the practical field of management as the inspiration, how to build the stable teams, and in the therapy, to understand the environment and the possible memories about it.

These recipes are based primarily on the well known history of the human civilization and related observations, yet we can notice some very similar patterns in many different species. Unfortunately, our current knowledge is too limited to fully adjust these ideas to them. This is the ground for the future work.

CONFLICT

Several individuals that use **different patterns** of behavior of the **class I cannot be united**.

A ? B ? C

They can be **forced to exist in one space**, but it is highly unlikely that they will be united and will work together efficiently in one direction. At least this sort of unity was never observed during the research.

This situation is very much like the **catatonia**. But this happens on the higher level of the organization of matter. The serious shock, like ECT, may help to remove the symptoms.

The individuals with the mirrored patterns will work directly against each other, creating a conflict, similar to the one with the **schizophrenia**. Most likely the resources will be wasted, some communication systems will be shut down. Like the emotions. It would be wise to not force the mirrored individuals to work together.

UNITY

However, several individuals that use the **same pattern** of behavior of the **class I** can be united as a **group**, and behave in all further processes as a whole. All is one, and one is many.

$$(A + A + A + \dots) = A$$

Once the individual is being connected to the group, he **loses the ability to switch** his pattern of behavior. He **should be extracted from the group to perform the switch**. And he will not be able to connect back using the other pattern.

The same way it happens with the **exaggerated impulses**, many repeating patterns of behavior can create an intense, **uncontrollable process within the group** at some point. This effect can be poetically described as "the madness of the crowd".

LEADERS

Individuals that use the patterns of the **class II**, more complex ones, can be perceived as the **leaders**.

Individuals that use the patterns of the **class I can join the leader that shares the pattern** with them.

$$(A + A + A + \dots) + AB = AB$$

Leaders use two connected patterns of behavior. They stabilize each other. This means that the **leader becomes the stabilizer** of the crowd, and can stop it or push it to keep the coordination between the two patterns.

This leads to the idea that it will be wise to put the individuals that use the patterns of the **class II**, not the class I, to the **formal positions of the leaders**, managers. Their stability will help to keep the things under control.

SOCIETY

Different **leaders** can be **united**, if they share the pattern, creating a **mediator group**, that balances more different interests.

$$AB + AC + AD = ABCD$$

Is this a **catatonia** of the group? Technically, yes it is. This mediator group just stops everything. It is unlikely that we will see any serious progress in the particular direction, but this mediator group can stop the self-amplifying conflicts.

The unity of the identical leaders can be powerful, but uncontrollable. Technically, they can work together for a while and be surprisingly effective, helping two different groups at once, changing things, but again, the repeating processes lead to the uncontrollable one, and there is nobody to stop them. They should be supervised within the society.

$$AB + AB = AB!$$

This means that the **stable independent group** in its most complex form can have the maximum of the **three different leaders**, that will share one pattern between themselves and with the rest of the group.

$$(A + A + A + \dots) + AB + AC + AD = ABCD$$

Not every group will become three-headed, but this is the **safe limit**, that we should be aware of.

The interests of the **predators** and the **prey** groups can be balanced by the leaders that use the impulses of **protection** and **call for pity**. This is not the ideal solution, but we don't have much choice, because the other predator options just don't care about the balance and keeping things together. It is very unlikely that any of them will be interested in the protection activities.

Since the group can include the three leaders, it can be connected to three other groups. Every group on the perimeter will have the maximum of the two leaders left to connect to the next groups. Then more. And more. The **society** is being made.

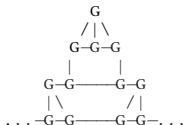
CIVILIZATION

This basic structure of the society is a tree structure. It allows to create **the chain of command**. All roads lead to Rome. We can force the ideas and drive the progress and innovations.



However, the main problem with this type of structure is that it can be **easily broken**. Only one lost connection will split the whole society in half. Any random connection.

In order to build the **stable society**, we need to create **more connections** between the groups. We need to make not only the further connections to the new groups, but also the connections to the ones, that are already included in the society.



There are endless ways to construct the graphs. The ideal one, that will have at least **three connections between any combination of its parts**, will be the most stable one. Three connections will have to be destroyed in order to split it. In the reality it is **impossible to build** the ideal graph. Even the very close to the ideal one will be very difficult to build in the most practical situations, because of the inability to choose the members and the lack of the resources in general. And this graph will start to slow down the progress eventually. This is another problem to expect.

It can be a good idea to **intentionally combine** these two types of graphs, to have the **stability in the core**, and the **progress on the perimeter**.

Following these ideas, we can try to build the system as efficient as we can within our limitations, **protect our legacy, and help our branch of evolution to continue its existence**.