EMPATHY, INTERDEPENDENCE, MORAL BEHAVIOR AND SUSTAINABILITY

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Abstract

Sustainable future, as many authors have noted, requires two major changes. The first is abandonment of the mechanical worldview and acceptance of the systems theory, which takes into account interdependence and holistic approach. The other one calls for shift in our moral behavior. The latest findings in neuroscience, evolutionary biology, psychology and other related disciplines strongly support empathy as possible common denominator and driving force for these two changes, because it allows us to understand and internalize the principles of interdependence and holism and, at the same time forms the basis for the social and moral development. Thus, it has a lot in common with social responsibility.

Key words: sustainability, empathy, interdependence, holistic approach, moral behavior, social responsibility

EMPATIJA, SOODVISNOST, MORALNO OBNAŠANJE IN TRAJNOST

Povzetek: Trajnostna bodočnost zahteva, kot so opazili številni avtorji, zahteva dve večji spremembi. Prva je opustitev mehaničnega svetovnega nazora in sprejem sistemske teorije, ki upošteva soodvisnost in celovit pristop. Druga sprememba premik v našem moralnem obnašanju. Novejša spoznanja v nevroznanosti, razvojni biologiji, psihologiji in drugih, z njimi povezaih strokah, močno podpirajo empatijo, t.j. sposobnost vživljanja v druge, kot možen skupni imenovalec in motor za obe spremembi, ker nam omogoča, da razumemo in osvojimo načela soodvisnosti in celovitosti, hkrati pa daje podlago za družbeni in moralni razvoj. Tako ima veliko skupnega z družbeno odgovornostjo.

Ključne besede: empatija, trajnost, soodvisnost, celovit pristop, moralno obnašanje, družbena odgovornost

1. Introduction

Some of the biggest problems of time and space in which we live include the economic crisis, pollution, global warming, natural disasters, poverty, hunger, diseases, depletion of natural resources and geopolitical conflicts. Technological advances and the associated "full-monty" transparency also accentuate increasing insecurity and deepening complexity in the environment, but also within the organizations. In short, we are plunged to the edge of chaos.

Finding solutions to accumulated problems and moving targets from the sphere of the survival into the realm of thriving is request for the brains of 7 billion people living on this planet.

For a long time, our predominant view of seeing, thinking and doing things was mechanical, Newtonian clockwork model. Machine-like organizations, rigid, made on blueprints, depending on "command and control" principles, relying on stability and predictability, "changeproofed", well-oiled and unable to do anything else except producing money, brought us to a tipping point (dreamethicchange.com).

In order to provide sustainable future, first change we have to embrace is that instead of mechanical worldview we have to start using systems theory as introduced by German biologist von Bertalanffy which, in short, explains that organisms, as well as human organizations and societies, are open systems. They are systems because they consist of a number of component subsystems that are interrelated and interdependent. They are open because they are connected to their environments, or supra-systems, of which they are a part (Stacey, 2007). The idea that Earth is a living organism made of interdependent relationships was nicely presented in the book Emphatic Civilization (2009) by Jeremy Rifkin. He believes that empathy could help us not just experience deep interdependence between things that we once thought of as separate, but also avoid planetary collapse, which is a realistic option if we continue practicing take-make-waste discipline at which Newtonian oriented organizations are very good.

The second major change calls for shift in our moral behavior, especially to escape our orientation toward greed. The core of the problem was beautifully depicted in Oliver Stone's movie The Wall Street (1987) when Gordon Gekko said: "The point is, ladies and gentleman, that greed, for lack of a better word, is good. Greed is right, greed works. Greed clarifies, cuts through, and captures the essence of the evolutionary spirit". The hawks of unfettered capitalism were using the books "The Wealth of Nations" by Adam Smith and "On the Origin of Species" by Charles Darwin to free the man from responsibility towards other people in capitalism. The metaphor of "invisible hand" and the concept of "survival of the fittest" has become a core justification for unbridled greed and selfishness in competitive markets. What was forgotten is that both Smith and Darwin in other books were also exploring social orientation of humans and animals, and that they highlighted the development of moral principles. Smith, in his "Theory of Moral Sentiments" stressed sympathy/empathy as the bedrock of all forms of human communication, including commercial

exchange (nytimes.com). In his later works like “The Descent of Man and The Emotions and the Expression of Man and Animals”, Darwin sees morality (including sympathy/empathy) as a natural tendency. He also puts cooperation, harmony and mutuality side by side to a harrowing fight when it comes to survival (Preston, de Waal, 2002).
I would dare to say that if they were alive today, Smith and Darwin would surely have had a lot of criticism both at the expense of the free market, as well as social Darwinism, and in the heart of their criticisms would definitely stood absence of empathy, and moral crisis.
The other important aspect of moral behavior shift deals with communication. We could define communication as exchange of information between individuals through a common system of symbols, signs, or behaviour. Therefore, behaviour is an important component of communication, which is unfortunately often overlooked. By definition, behaviour represents an aggregate of all actions made by an organism/organization/system in any situation. We all know that actions are more important than words and we could agree that coherence between thoughts, words and actions represents a way to ethical communication. Besides that, the Golden rule, which could be found in some form in almost every ethical tradition (Blackburn, 2001), has empathy in its foundation. Together with trust, empathy makes a platform for responsible communication and cooperation, which are important ingredients of sustainability.
The latest findings in neuroscience, evolutionary biology, psychology and other related disciplines strongly support empathy as possible common denominator and driving force of both changes, because it allows us to understand and internalize the principles of interdependence and holism and, at the same time forms the basis for the social and moral development.

2. Empathy

2.1. Science of everyday mind-reading

Today, we know much more about empathy, or "everyday mind-reading", as William Ickes metaphorically defines it (Ickes, 2003), than we did decades ago. An army of philosophers, primatologists, developmental psychologists and scientists are engaged in this multidimensional concept, whose importance continues to grow and develop, destroying false beliefs from the past and revealing new perspectives on empathy and its cultivation. The explosion of findings in the field of empathy was encouraged by rapid development of neuroscience, fueled by development of technology. As never before, scientists get insight into the interaction between brain and mind. This has opened a way to numerous discoveries, while at the same time we started realizing the complexity of human brain, which, inter alia, manages our social behavior. It would be foolish to expect all the secrets of the brain and its interaction with the outside world to be revealed soon. Perhaps we could think about a slow process of unveiling mystery of the most complex things discovered in the universe. We could also say that scientific findings are nothing less than fascinating, despite the fact they often provide only a limited picture of a narrow activation of each module, embedded in a complex network of social brain*.

*It is heuristic label, because of the fact that there in no unique center in our brain, which controls social interactions. We rather speak about set of neural modules that orchestrates our activities when we interact with other people and which are hidden among 100 billion neurons with their approximately 100 trillion synapses. We cannot expect that we will get a specific and accepted “map” of the social brain, soon, but numerous studies show, with an increasing precision, the areas that are most often active in certain social interactions (Goleman, 2006)

There are many definitions of empathy. Although there is no consensus and unified definition of this notion, many experts agree that empathy requires three different skills: the affective ability to share another person's feelings, the cognitive ability, to understand what another person is feeling, and "socially beneficial" intention to respond compassionately to that person’s distress (Decety, Ickes, 2009).

2.2. Starve in order to prevent the suffering of others

For a long time, the mistaken belief was that empathy is reserved only for the human species. Now we know that it is not true and that there is a lot of evidence that primates and some other species demonstrate this same ability. Probably the most convincing proof of this survey on Rhesus monkeys, which reported that the monkeys refused to pull chain which has provided food, if that meant suffering of another monkey. Six monkeys were taught to pull a chain to get food. On one occasion, the seventh monkey gets a shock when one of the six monkeys pulled the chain. When they saw the monkey suffering, the four of them begin to pull the second chain, which gives less food, but does not cause suffering of the seventh monkey. The fifth monkey did not pull any chains for five days, and the sixth - for full twelve days. These primates were literally starving to prevent suffering of other animals (de Waal, 2009, Goleman 2006).
What primatologists and socio-biologists try to teach us is that empathy is “hardwired” in us and that it is the result of the evolution. Even Darwin believed that humans are biologically equipped for social behavior and cooperation for the purpose of survival.

2.3. Imitation – a symptom and a tool for the development of empathy

Today, we know that infants have capacities to empathise with the emotions and internal states of other people from the day they are born (Gopnik, 2009). Infants imitate adult facial expressions and it is clear that the facial expression reflects emotions. They also quickly respond to cries of another infant. Third month of life brings different reactions to the happy and sad faces, suggesting clear understanding of difference between them. Early imitation shows that empathy is our innate capacity. Gopnik noted that imitation is both a symptom of empathy a tool for its development. From the first year, the child distinguishes intentional and unintentional acts, and shows signs of caring for others. Gopnik has demonstrated that the 18-month child was already aware of the feelings of others, even if those feelings do not match his, which already corresponds to a real empathy. The next step is understanding and following the rules, which occurs at the age of three and then we can talk about creation of ethics of care and compassion (Gopnik, 2009), which only grow further. These findings also confirmed Hoffman's belief that empathy is a foundation of moral development.

The fact that children are inherently emphatic and moral was nicely presented in fMRI study done at the University of Chicago and led by Prof. Decety. The results show that in children (ages 7 to 12) regions of the brain responsible for perception of their own pain (resulting from a comparison with similar studies in adults) were also activated in the brain to register the pain of another person. Professor Decety's team also noted that in cases where the pain to another person was caused intentionally, the regions involved in social interaction and moral reasoning were also activated (sciencedaily.com).

2.4. The more you yawn, more empathic you are

The empathy in adults should be tackled in a somewhat unusual place - yawning, more exactly - contagious yawning. Many see it as a simple reflex, but research shows that contagious yawning is associated with the parts of the brain that deal with empathy. A study, performed in Leeds in 2007 by the team of Dr. Catrione Morrison, confirmed that participants, who were most succumbed to contagious yawning, simultaneously recorded the higher results on the empathy test (news.bbc.co.uk).

Another study also argues in favor of the link between contagious yawning and empathy. English scientists have reported that children with autism (a neurological disorder that severely affects social interaction and communication including empathy) yawn significantly less than their healthy peers (bioedonline.org).

Responsibility for contagious yawning may be attributed to the way that we call the "low- road", which takes place at the level of the limbic brain and is automatic, very fast, and manages social choices we make in the moment (Goleman, 2006). Oversimplified, when we see someone yawning, information through sensory cortex occurs in the thalamus and from there to the amygdala, and we have a quick answer. The low road could be the pathway responsible for processing of affective empathy.

"High-road" is the way the information from thalamus (a kind of relay that information and guidance signals) is pertinent in prefrontal cortex, which analyzes the subject and possibly modifies the initial reaction of the low road (Goleman, 2006). The high road is slower and we could say that it is pathway for neural processing of cognitive empathy.

2.5. Would you give the oxytocin to Dr. House?

Studies of the perception of another person's pain in adults have shown that observing another person in pain activates the same brain regions activated when we feel the pain ourselves (Van Hecke at al, 2010). For physicians, the case is somewhat different, as evidenced by Prof. Decety's study. The findings showed that participants in the control group (people who are not related to health care system) when viewing photos of needles pricking, report them as painful. Besides that, fMRI showed activation of pain regions in their brains. On the other hand, the physicians reported significantly lower pain score, and fMRI showed greater activation of regions responsible for self-control, which inhibits their pain regions. (newscientist.com),

This study suggests that people can learn to control their empathy circuits and for physicians it is essential to make a balance between systematic thinking and empathy. The physicians must be able to establish a precise diagnosis and excellent treatment plan, all the while making patients feel heard, understood and cared about (Goleman, 2006). Psychologist Simon Baron-Cohen has developed a test to detect the ability to recognize the feelings of others. Interestingly, in these tests, women perform better than men. On the other hand, when we talk about systematic thinking, better results are achieved by men. These are the average results, but we can not avoid thinking that women are more empathic. One of the answers to the question of why is this case possibly lies in oxitocyn, neuropeptide released by pituitary gland and regulated by hypothalamus. It is considered as a chemical source of love, care and integration, and female brain contains more of it than male. One study shows that men who get oxytocin in form of nasal spray, significantly increased levels of affective empathy (sciencedaily.com). Paul Zack calls oxytocin "the moral molecule" and believes that it is responsible for trust, empathy and other feelings that help build a stable

society. He also gave the prescription, which could cause people's brains to release oxitocin – eight hugs a day (ted.com).
Below the line, as doctors need balance between systematic thinking and empathy in order to take care of patient, we need the same balance in order to take care of our planet, society and fallen economy. In addition, we know for sure that we are short in our ability to step into someone else's shoes.

2.6. Gandhi Neurons

In terms of neuroscience and empathy, we shall focus our attention to mirror neurons. They were discovered in 1992 in a monkey brain. Mirror neurons are brain cells that respond equally when we perform an action and when we witness someone else perform the action. These neurons should also enable us to empathize with other people and to understand not only their intentions but their emotions and feelings as well. V. S. Ramachandran described them as "neurons that shaped our civilization" and calls them "Gandhi neurons" (ted.com). The same scientist claims that mirror neurons will do for psychology what DNA did for biology. Although such claim is yet to be confirmed, there is a growing number of evidence to support it.
However, it should be noted that the main argument against such an important role of mirror neurons - that mirror neurons have only discovered in monkeys but not in humans - has been discarded (newsroom.ucla.edu).
The role of mirror neurons in social interactions between people is very important. Daniel Siegel points out that mirror neuron system stimulates the other within ourselves and constructs the neural map of our interdependent sense of a self. It is how we can be both an I and part of an us" (Siegel, 2010). In addition, Marco Iacoboni (2009) states that 'mirror neurons embody the interdependence of ourselves and others' and act as the glue that connects us in mutual dependency. We could say that findings about mirror neurons give greater meaning to the phrase "no man is an island".

Studies presented above are just a tip of an iceberg, which shows us that empathy is hardwired in us and that it is the result of the evolution. Even Darwin believed that humans are biologically equipped for social and moral behavior for the purpose of survival and as many authors noted, the empathy is motivational basis for social and moral development. We also saw that empathy could be controlled and developed by nurture. At last but not least, neuroscience gave us an insight on how mirror neurons enable us to empathize with others and to embody the interdependence of ourselves and others.

3. Conclusion

It is hard to imagine sustainable future without understanding and internalizing the principles of interdependence and without making a shift in our moral and social behavior towards cooperation, responsibility and altruism. The latest findings in neuroscience, evolutionary biology, psychology and other related disciplines strongly support empathy as a possible common denominator and a driving force of both embracing interdependence and shifting our moral behavior. Ergo, nurturing empathy could be one of the best possible ways to reach sustainability and well-being for all humanity. However, we have to be careful on that way. Real life and studies also show that empathy is fragile. Children are more empathic within a group that wears T-shirts of the same color (Gopnik, 2009), and adults and more empathic towards people of the same race (sciencedaily.com). The big challenge lies precisely in that fragility. Mother Nature provided us with empathy, but only if we devote our full attention to it, nurture it and spread it among all fellow human beings, other living creatures and the whole planet, as Jeremy Rifkin (2009) suggests, we can have both - the opportunity to enjoy the fruits of empathy and to cultivate it for future generations. The necessity to answer that challenge and to include empathy in the concept of sustainable development becomes even more apparent when we consider Marshall McLuhan thought that there are no passengers on Spaceship Earth. We are all crew. After all, Adam Smith was right - the invisible hand exists. It is empathy.

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