ERRARE HUMANUM EST?
REMARKS ON ERROR AND ITS ROLE IN CULTURE

KRZYSZTOF GAJEWSKI

The Institute of Literary Research Polish Academy of Sciences
Warsaw, Poland

The paper shortly discusses the question of error from the point of view of philosophy, psychology, and literary studies. It gives a brief overview of philosophical reflection on error. It starts from antiquity, through the Middle Ages, the Renaissance, and the Enlightenment, to the present day. Two traditions of error are highlighted. One of them condemns error and tries to fight it, while the other shows its positive and creative consequences. The former tradition is exemplified by Plato and the representatives of Enlightenment. For Plato, all knowledge concerning material objects is wrong. Philosophers of Enlightenment seek the source of error in language. The latter tradition is represented by Aristotle and St. Augustin. According to Aristotle's poetics, factual errors are sometimes necessary for an artistic effect. The psychology of error is presented in two parts. On the one hand, the question of being right is considered, and on the other hand, the feeling of being wrong. Selected psychological mechanisms are discussed that make us sure we are right, even though we are actually wrong, such as the Dunning-Kruger effect or anosognosia. Nonetheless, we are condemned to believe opinions and convictions that we hear from others and cannot prove. The paradoxical nature of the feeling of being wrong is indicated, namely, it can exist only in the past tense. Subsequently, the study of errors as a separate field of investigation, wrongology, is characterized, mostly by the examples of theories by Kathryn Schulz and James Reason. In the final part of the paper, an example of a historical scientific error from the domain of paleoanthropology is evoked together with possible consequences for literary studies.

KEYWORDS: *Error, error studies, wrongology, Dunning-Kruger effect, anosognosia*

One can hardly overestimate the importance of the topic of the error. In a way, the whole science is about errors, since it shows us how wrong and mistaken some of our beliefs were. Most definitely, it does concern philology. When interpreting a literary work, one looks for a meaning hidden behind it. This real, correct, hidden meaning is often different and even contrary to naive, literary, surface meaning. Thus, hermeneutic procedures let us break the veil of error and ignorance, and stop us from being wrong. Sometimes—as the famous Latin says, "to err is human"—the capability of being wrong is considered as something essentially human, even praised as the essence of humanity.

Even though we live in a constant terror of error, being afraid of other people's mistakes and mostly our own, the term itself at its beginnings was not necessarily pejorative. The root "er" supposedly originates from Indo-European language and refers to such activities as moving, setting in motion, or going. In Spanish it is preserved in the verb *ir*—to go (Schulz 2012: 58). In the seventh-century edition of the French Larousse dictionary, error is defined as: "a vagabondage of the imagination, of the mind that is not subject to any rule" (after Schulz 2012: 43). In classical Latin, *errare* means simply wandering, moving around without any specific purpose. This meaning is preserved in such terms as *juif errant*—the wandering Jew—and the knight errant. The wandering Jew, Ahaswerus, is condemned to wander and cannot stop until the second coming of Christ. It is the punishment for his maltreating of Jesus on the latter's way to Golgota. The knights errant, as Gawain, Percival, or Lancelot, the knights of the Round Table from the cycle of the legends on King Arthur, were medieval heroes, wandering around in search of military adventures to prove their chivalric ideals. The idea of wrongness and aberration appears only in the former case, whereas in the latter, erring is deprived of negative meaning.

Error in Philosophy

One of the earliest reflections on the phenomena of error appears in ancient Greek philosophy. Protagoras is supposed to be the first philosopher to take into consideration the question of error, even though he denied its possibility (Schulz 2010: 73). According to Protagoras's principle *homo mensura*, a human is the measure of all things and, therefore, there is no objective truth. Since there is not objective truth, there is no error either.

Giovanni Reale indicates two principal meanings of the term "error" for ancient Greeks: logico-gnoseological and moral. The logico-gnoseological meaning is related to the notion of *doxa,* i.e., popular opinion, while the moral one is linked to *hamartria* or tragic mistake (Reale 1989: 102). *Doxa,* a popular opinion, was despised by Heraclitus as the source of errors. Eleatics, basically, identified *doxa* with error. For Plato, *doxa* concerns the sphere of becoming, it is something between being and nothing. Doxa is much less perfect than the ideas that are the single reliable source of knowledge (Reale, 1989: 102). *Hamartria,* a tragic mistake, was one of the topics of Aristotle's *Poetics*. According to him, the most beautiful tragedies are those that develop from happiness to disaster. An important condition must be fulfilled, namely, that the disaster should not be a fitting punishment for a crime, but an effect of a momentous, unexpected, tragic mistake (Aristotle 1453a; Bremer 1969: 12). *Hamartria* resembles the Biblical notion of original sin. First, people made a mistake, and, as a consequence, they lost their place in paradise. In this case, the mistake consists of breaking arbitrary Yahweh prohibition, so its sense is more religious than moral.

Yet, it seems that more kinds of error are already present in antique philosophical thought. Aristotle, in *Poetics,* writes about errors and faults in poetry and art. He distinguishes two kinds of error: the more important errors related the rules of art and the less important ones, the incidental, factual errors. "For it is much less a fault if the painter did not know that the doe does not have horns than if he painted her inartistically" (Aristotle 1997: 154; 1460b). Only artistic errors count, whereas factual errors are incidental and irrelevant. Aristotle enumerates several ways to defend poetry against accusations about factual errors: attaining better artistic effect, presenting an ideal reality, using a metaphor, etc. His advice for poets was: "You should choose to render things that are impossible but will look plausible, rather than things that are possible, but look unbelievable" (Aristotle, 1997: 154; 1460a). The classical system of rhetoric exemplified a similar approach. Rhetorical tropes and figures of speech represent an aberration in the use of language, thus, they resemble errors. However, this was not their weakness. Quite the contrary, it was the source of their persuasive power (Sng, 2012: 5-6).

For the subtle mind of St. Augustine, the fact of being mistaken serves as a foundation of certainty. In the dialogue "On the Free Choice of the Will," he implies his own existence from the fact of his capability of being deceived:

> So, to start off with what is clearest, I ask first whether you yourself exist. Are you perhaps afraid that you might be deceived in this line of questioning? Surely if you did not exist, you could not be deceived at all. (Augustine, 2010: 35)

This argumentation was so dear to the Bishop of Hippo that he used it again in *The City of God* in the form "Si fallor, sum" (If I'm mistaken, I exist). Augustine anticipated the famous Descartes' maxim "Cogito, ergo sum" (I think, therefore, I am). Descartes sought fundamentals for his philosophy and tried to overcome skepticism. He imagined a malicious and powerful demon and asked to which extent this demon could deceive him. Is there anything about this demon that is not able to deceive us? Yes, this is our own existence. How can I be sure about my existence? I can be sure about it because without it, I would not be able to do what I am doing now: think.

Similarly, Francis Bacon intended to eradicate errors with his concept of idols of the mind. For him, our mind is not a tabula rasa that perfectly mirrors reality. It is a mirror that distorts the images of things we perceive. He names four sources of distortion, and calls them idols of the mind: the idol of the tribe (human nature), the idol of the cave (individual personality), the idol of the marketplace (communication), and the idol of the theater (philosophical systems).

His namesake, Roger Bacon, three centuries earlier, in his *Opus majus* (1267), also refers to four obstacles to the truth—*offendicula*: following unreliable authority; the influence of custom and popular opinion; covering our own ignorance with the pretense of knowledge (Schulz 2010: 177).

From the epoch of the Renaissance, the idea of certainty and freeing our knowledge from errors was gaining more importance in philosophy. The peak of this critical approach was Enlightenment.

> If we consider, in the Fallacies, Men put upon themselves, as well as others, and the Mistakes in Men's Disputes and Notions, how great a part is owing to Words, and their uncertain or mistaken Significations, we shall have reason to think this no small obstacle in the way to Knowledge. (Lock, after Sng 2010: 15)

John Locke states in his "Essay Concerning Human Understanding" (1690) that words have an uncertain nature. For Locke, language becomes one of the major sources of error. Locke sees words as the

medium through which we perceive objects from the external world. The medium is not perfectly transparent, though. It is obscure and casts a mist in front of our eyes. This obscurity is brought about by the fact that words and ideas designated are not related by any natural connection but by voluntary, arbitrary convention. Therefore, sounds never correctly express our thoughts. Consequently, most of the quarrels in philosophy were caused by simple language-related misunderstandings, not disagreements about ideas. It is impossible, Locke utters, to talk clearly and distinctly without taking into consideration the nature of the language (Sng 2010: 21).

If for Locke, language was one of the causes of mistakes, for Diderot and D'Alembert, it was the only one. Enlightenment's optimism is growing with time. They disclose it in the entry on "Erreur" in their "Encyclopédie" (1751–1766):

> In tracing our errors to the origin that I have just indicated, we enclose them within a single cause. If our passions give us cause to err, it is because they misuse a vague principle, a metaphorical expression, or an equivocal term, applying them to allow ourselves to deduce an opinion that is flattering to ourselves. Therefore, if we fool ourselves, then these vague principles, metaphors, and equivocations are causes that are anterior to our passions. Consequently, renouncing this empty language would suffice to dissipate all the artifice of error. (Diderot, D'Alembert, after Sng 2010: 15)

Encyclopédistes clearly exhibit here epistemic optimism of Enlightenment philosophy. They are convinced they can eradicate all errors from human knowledge and activity by sheer reform of language, by throwing away empty language: vague principles, metaphorical expressions, and equivocal terms. This optimism will culminate in logical positivism and will end soon, simultaneously with the decline of the ideas of the Vienna Circle.

Two philosophical traditions of thinking about *error* can be perceived. On the one hand, errors are condemned and should be avoided, but on the other hand, certain errors have some positive values. For Plato and Enlightenment tradition it is a trap for the human mind, but erring contributed to an effective way of speaking (ancient rhetors) and helped founding reliable knowledge (St. Augustine).

Allegedly, very much in the same vein, Edmund Husserl said about Immanuel Kant: "One must be a great philosopher to make a great mis-

take" — according to testimony of one of his student, Roman Ingarden (1967: XXIII). Ingarden interprets the maxim of his master, remarking that some errors come from looking further than previously, seeing entirely new horizons and problems, and trying to predict future solutions and conclusions, while being still too far from them. Ingarden distinguishes these sort of big, creative mistakes from small and banal mistakes that come from claiming something we are not authorized to, in the situation when we do not even try to go beyond the knowledge we learned in a dogmatic way.

Psychology of Error

As for an error in the context of psychology, perhaps the most famous ones are Freudian slips. His "The Psychopathology of Everyday Life" became a bestseller and popularized the theory of psychoanalysis. Sigmund Freud analyses such phenomena as forgetting proper names and foreign words, slips of the tongue, slips when reading or writing, memory slips, and others. He concludes that none of these mistakes are accidental nor made by chance. For all of them, we can find an explanation in the activity of the unconscious part of our mind (*id*). They have an important function in comforting our psychical structure, letting us forget unpleasant past events from our life or not use words that recall things of which we are afraid.

Following the approach proposed by Kathryn Schulz, I have divided the general psychology of error into two parts: the experience of being right and the experience of being wrong. The question of error and mistake cannot seemingly be dealt with without a parallel reflection on the twin question of rightness and correctness.

Being Right

Czesław Miłosz takes a following statement as a motto for his book on Polish communism, *The Captive Mind* (1955). The author of the motto is designated by Miłosz as "An old Jew of Galicia":

> When someone is honestly 55% right, that's very good and there's no use wrangling. And if someone is 60% right, it's wonderful, it's great luck, and let him thank God. But what's to be said about 75% right? Wise people say this is suspicious. Well, and what about 100% right? Whoever says he's 100% right is a fanatic, a thug, and the worst kind of rascal. (Miłosz 1955: 2)

Miłosz's work is a classic of anti-communist literature. It was published in Paris in 1953, immediately after Miłosz ended working for the Polish government as a diplomat in France and the USA and emigrated to France and subsequently to the USA, where he stayed until 1993. This motto is supposedly his main argument line against communism, or rather communists. They were too self-confident, too much convinced about their ideas. As much as it can be true, the maxim can be accepted broadly, even if not universally. The same argument can be easily applied to critics of communism, as Miłosz himself did, and many other representatives of every ideological, political, and religious option.

Even though the pleasure of being right does not seem to be the biggest and the noblest one, we can hardly resist it, even at the detriment of our friendship and familial relations. Kathryn Schulz notes in the introduction to her book, *Being Wrong: Adventures in the Margin of Error* (2010) that we would like to be right on all topics, both in the area of our profession and out of it. We experience a pleasure of being right even as far as unpleasant contexts are involved, as fulfilling someone darkest predictions. We tend to feel that we are right even on topics difficult to determine and foresee, as weather conditions, future economic and political situation, as well as solutions for social problems. It may seem that a conviction about being right is necessary for our psychological comfort. This is one of the easiest to attain, one of the cheapest of life's pleasures. What more, self-confidence is expected or even indispensable in many life situations. A politician, a manager, or a mountain guide cannot show hesitation otherwise their authority would be undermined, which could, in consequence, seriously hinder their work.

The subjective feeling of being right does not affirm that we are actually right. According to a classical definition, knowledge is a "justified true belief." To know something, we not only need to be sure that it is true, but we also need to be able to prove it. Yet, sometimes we feel so compelled to believe some statement that we cannot even think about denying it. In the treaty "On Certainty," Ludwig Wittgenstein refers to George Edward Moore's example with a hand. For Moore, holding up his two hands and making a gesture with them was proof that there is an external object independent of our experience and, therefore, of the external world. Wittgenstein undermines the righteousness of applying the attitude of doubting to the question of the existence of someone's own hands because doubting works, as he puts it, only in a language

game. There is no everyday language game indicating that we doubt the existence of our hand, other than the situations someone has them amputated, as Wittgenstein remarks (1972: 21).

Yet, one can find examples of people who are convinced about something obviously false. People suffering from anosognosia are unaware of their own body health conditions. Schultz gives the example of a paralyzed person who does not allow the slightest presumption that she is paralyzed. When asked to stand up and to come to another room, she either refuses, saying she is too tired to move or pretends to be so. One of the extreme examples of anosognosia is Anton's Syndrome: a blind person does not know she is blind. When asked to describe the face of the doctor, she described it even though the doctor was hidden behind a screen. She also described the appearance of objects in front of them—an entirely false description delivered with unwavering certainty (Schulz 2010: 88). The case of anosognosia teaches us that subjective feeling of certainty can be easily connected with wrongness and that our epistemic capabilities are subordinated to other more important functions of our mind, like, for instance, comforting our ego and helping it to preserve the integrity of our mind.

In their article "Telling more That We Can Know: Verbal Reports on Mental Processes," Richard Nisbett and Timothy Wilson (1977) put forward a general thesis about a tendency to overestimate our knowledge, even the direct perceptual one. They presented four identical pairs of stockings and asked the subjects of the experiment to evaluate the quality of each pair. Most of the subjects had chosen the article on the right-hand side. When asked for their motivation, they denied that the position of the article influenced them, giving, however, other explanations, such as the appearance and quality of the objects.

These kinds of explanations—be that by people with anosognosia or by healthy people put in the specific situation—are called confabulations, or secondary rationalizations, known from psychoanalysis. We are not able to accept certain facts, such as our disability, behavior, or mistake, and we subconsciously try not to think about them. The strategy is not being silent about the fact, but accepting an alternative version of reality we prefer over the actual one. The alternative version conceals the actual one.

It is not an easy task to evaluate someone's own epistemic abilities as our personal limits in general. We are mostly ignorant about our ignorance and capabilities. "We know ourselves, as far as we've been tested," Wisława Szymborska wrote (2016: 35). There is some opti-

mistic news, though—the capability of self-evaluation grows in proportion to the increase of expertise. David Dunning and Justin Kruger addressed the problem of ignorance, or meta-ignorance in a systematic way. They showed that people who perform poorly in a particular social or intellectual domain are quite unaware of the deficiency of their knowledge. Their ignorance is invisible to them. David Dunning explains it by indicating a few categories of information relevant to a certain project (Dunning 2011: 252):

1. known knowns (the information people have and they know they have it),

2. known unknowns (the information people do not have and they know they do not have it),

3. unknown unknowns (the information people do not have and do not know they do not have it).

The last one is the crucial one. It consists of knowledge relevant to our actions and about which we do not have the slightest idea. Not only do we not know it, but we do not know that we do not know it. It is as if we started to learn something completely new. We are confused even about what we should know. We have no general epistemic orientation and a map of problems. Fresh car drivers are often more self-confident than people who have been driving for some time already and have had some unpleasant experiences. When we go to the mountains for the first time, we may not be aware of the need to be equipped not only with good shoes and comfortable clothes but also a bottle of water, something to eat, a rain jacket, a compass, a map, and first aid kit. If we are lucky, nothing bad happens. If we have bad luck though, we can find ourselves in a problematic or even dangerous situation. What we lacked then was unknown unknowns, the knowledge we would like to possess, but we were unable to, since we did not even know about its existence.

The Dunning-Kruger effect concerns mostly people with poor competences, but it seems that meta-ignorance is a more general problem. In *The Wisdom of Crowds*, James Surowiecki claims that experts are often mistaken the same way as dilettantes. He evokes several examples: in 1927, Harry Warner, the chief of Warner Bros, was supposed to say, "Who the hell wants to hear actors talk?"; in 1943, Thomas Watson from IBM predicted that "there is a world market for maybe five computers" (Surowiecki 2005: 32-33).

It is not an easy task to precisely define the borders of our own knowledge. Socrates said, "I know that I know nothing." This is supposedly why Pythia from the Oracle of Delphi called him the wisest person

in Athens. Was she right? Socrates uses a paradox similar to the antinomy of the liar. He pretends he has no expertise at all, yet he uses the verb "to know," so the pretends to have knowledge of himself. The subjects of David Dunning and Justin Kruger did not know that they knew nothing.

What about us? Do we know that we know nothing? We are certain of so many things we cannot have knowledge about. It means that we hold them true, even obvious, although we are not able to prove them to be true. We believe in the Big Bang theory, we believe in God, we believe in natural evolution, we believe that earth is a ball, we believe there was French Revolution, and we believe that the Roman Empire existed. However, on a personal level, we are unable to prove these and many other statements. We know people who could prove it, but we do not have enough knowledge or skills, or there are other constraints. What about our parents? How can we be sure that they are our parents indeed? They do pretend it, and all the people around us do this too, but we are personally unable to prove it. We trust them and other witnesses but we have no direct knowledge of this fact.

> I considered the innumerable things I believed which I had not seen, events which occurred when I was not present, such as many incidents in the history of the nations, many facts concerning places and cities which I had never seen, many things accepted on the word of friends, many from physicians, many from other people. Unless we believed what we were told, we would do nothing at all in this life. Finally, I realized how unmoveably sure I was about the identity of my parents from whom I came, which I could not know unless I believed what I had heard. (Augustine 1998: 143-144)

We are supposed to believe what we hear from other people. We are condemned to trust other people. Yet it seems to come naturally. We tend to sometimes trust more in people, than in opinions. We are unwilling to reject belief shared with a person we respect and, conversely, we are eager to support opinions expressed by individuals whom we admire, and who have authority over us. One can even say that sometimes we prefer to be wrong with some people than to be right with others. As a matter of fact, holding some beliefs is not our private affair, but it makes us members of a community. In this way, we can say that the epistemic community has some features of participatory culture and social mind. Unfortunately, this dispersed model of knowledge is related to a number of disturbing phenomena, such as cognitive con-

formism (Salomon Ash) or groupthink (Irving Janis), phenomena that contributed to many spectacular failures in the history of mankind.

Being Wrong

As much as being right is related to a feeling of pleasure and elation, doubting, let alone being wrong, causes many discomforts.

> Where certainty reassures us with answers, doubt confronts us with questions, not only about our future but also about our past: about the decisions we made, the beliefs we held, the people and groups to whom we offered our allegiance, the very way we lived our lives. (Schulz 2012: 217)

Discovering an error in our knowledge not only contributes to the failure in the undertaken activity but puts into doubt our whole personal system of knowledge. If there were a bug somewhere for a long time, it can easily be hidden in any other opinion or belief. It is difficult to allow the thought that we cannot be sure about any element of our knowledge. As far as our knowledge is concerned, we are rather conservative and do not like to change opinions, whereas doubt is an early mark about possible opinion correction. Hence, doubt may impede actions and therefore is not expected in the case of people confronted with a necessity of quick reactions, such as political leaders, business managers, mountain guides, military officers, and other kinds of leaders. Their doubts could affect the people around them and lead to them losing authority. It is even better for them sometimes to be sure and mistaken than to be right but not self-confident. People can forgive leaders' mistakes but they cannot forgive them for the act of hesitation. It looks as if we encounter here a similar mechanism as in the case of the Aristotelian theory of poetry. As we remember, the Stagirite advised prefering to render impossible things that look plausible than possible things that look unbelievable. We, the people, are great admirers of self-confidence and plausibility.

However, there is even a deeper problem with error than pretending we are immune to it. Contrary to what one might expect, we are unable to experience being wrong. There is nothing like a first-person experience of being wrong. There is only an experience of discovering our own wrongness. When we are wrong, we do not know that we are wrong. When we know we are wrong, we are not wrong anymore. Therefore, being wrong feels exactly the same as being right does (Schulz 2010: 29).

Kathryn Schulz calls this feature "error-blindness." To feel wrong is not a psychological impossibility, it is logically impossible. The sentence "I am wrong" is as much paradoxical as "I am lying" or "I know that I know nothing." The paradox is brought about by the self-reference included in these sentences. The only valid report of our own errors is in the past tense. "I was wrong" is the only manner of expression of my mistake. It is expressible only after I discovered it, so it is not a mistake anymore. Error reporting has no present tense; it is possible only in the past.

There are no such logical constraints as far as other people's mistakes are concerned. As much as we are unwilling to admit our own errors, we enjoy correcting others' mistakes. Is it possible that this is the motivation behind a big part of bottom-up internet activity, such as internet comments or Wikipedia? Some researches show that people often start to edit Wikipedia or leave internet comments because they want to correct some mistake or something they hold as a mistake.

Besides logical paradoxes related to being mistaken, there are also many strong negative emotions and feelings we experience directly after realizing we were wrong. "Certain mistakes can actually kill us, but many, many more of them just make us want to die" (Schulz 2010: 39). From the perspective of a person who committed an error, it looks like their personality failed the test—like they pretended to be a different person than they were and the mistake revealed it. They did not speak such good French, ride a bike well, or have deep enough knowledge as she thought that she did.

Not only do we not want to announce our mistakes, but neither do we want to remember them. Schulz states that majority of people do not have a mental category named "Mistakes I Have Made." We prefer talk about it as "embarrassing moments," "lessons I've learned," "stuff I used to believe" (Schulz 2010: 32) rather than thinking about errors as something wrong from our part. It is as if a mistake did not constitute an element of our identity or as if we would not be happy to accept it as part of our life. It is actually our identity itself that is at stake. When we realize that we made a mistake, it is not our single belief that had been lost, but the very trust in our own reason. If something has failed once, it can fail again. It is a very unpleasant moment when we feel our self-confidence undermined and our confidence in our own mind fails. One cannot live normally in a state of mind, when they cannot rely on someone's own knowledge and thinking. It may impede capability of acting, setting goals and achieving them. In such a situation, we are usually eagerly looking for any possible reason of error (not necessarily the reveal one) so that our cognitive integrity can be rebuilt and renovated.

Even in error, we can find some brighter sides. Lord Henry, a witty character from an Oscar Wilde novel, refers to human errors in a quite positive way in the following passage from the novel *The Picture of Dorian Gray*. He is known for his talent for witty and funny responses and advice. Thus, the Duchess tells him:

> "Ah! Lord Henry, I wish you would tell me how to become young again."
>
> He thought for a moment. "Can you remember any great error that you committed in your early days, Duchess?" he asked, looking at her across the table.
>
> "A great many, I fear," she cried.
>
> "Then commit them over again," he said gravely. "To get back one's youth, one has merely to repeat one's follies." (Wilde 2006: 37)

Also, researchers on the topic of error state that errors make us young again, with good and bad sides to this fact. We have been suddenly deprived of some part of our knowledge that turned out to be worthless, or even harmful and caused some damage. Still, there is a positive outcome, namely that at the same time, we gained some new valuable, tested in practice, dependable knowledge. Errors allow us not only to learn new knowledge but also to get to know ourselves better. Sometimes we are supposed to change a lot in our life, after having committed an error rich in consequences. This is maybe one of the reasons for our reluctance to make mistakes: we do not like changes.

Wrongology

Studies on error, illusion, mistake, fallacy and other related phenomena are an alive and prosperous branch of research, lying at the intersection of many disciplines. One of the pioneer researchers in this field was psychologist James Sully, the author of *Illusions* (1881). Kathryn Schulz proposes the term "wrongology," along with the postulate of rehabilitation and apology for error (Schulz 2010: 9). She undertakes her investigations from a psychological and philosophical point of view, like that of James Reason. Both approaches differ in many respects. James Reason declares his approach to the studies on human error to be narrow and deep (Reason, 2009: 7). He applies the term error chiefly to errors in action. His working definition of error goes as follows:

Error will be taken as a generic term to encompass all those occasions in which a planned sequence of mental or physical activities fails to achieve its intended outcome, and when these failures cannot be attributed to the intervention of some chance agency. (Reason 2009: 25)

James Reason takes into consideration an intentional action. In this case, there are two possible weak points. According to him, there is no error without intention. The first type of error occurs when the performance of the intention fails to be satisfied because of the wrong execution of the action. The failure takes place on a skill-based level. Slips and lapses belong here. Slips are potentially observable errors in the execution of the action—slips of the tongue, slips of the pen, slips of action—whereas lapses refer to more covert errors, like failures of memory that they can manifest themselves only indirectly in behavior (Reason 2009: 25-26). Both types of errors are caused mainly by inattention—double-capture, omissions following interruptions, reduced intentionality, etc.—or over-attention, like omissions, and repetitions.

The second type of errors is mistakes. They occur when the action is executed correctly, the intention was satisfied, yet, the planned results are not attained. This means that the application of the rule or some elements of our general knowledge was wrong. Therefore, there are two kinds of mistakes, related appropriately to two levels of performance: rule-based and knowledge-based. As far as a failure on the level of the rules is concerned, it can be either misapplication of good rules or application of bad ones. On the level of knowledge we encounter such types of mistakes as confirmation bias, overconfidence, halo effect, and many other kinds of epistemic flaws (Reason 2009: 96-129).

Besides classifying errors based on type, Reason distinguishes forms of error as well based on two factors, similarity and frequency. These forms apply to all of the abovementioned types of error on every performance level. On the one hand, we are inclined to mistake two similar elements (similarity-matching); on the other, when we experience indeterminacy and lack of knowledge, we tend to choose a frequent, conventional, stereotypical response (Reason 2009: 132).

In the studies on error two principal approaches can be described as:

1) A pragmatic, negative, pessimist approach, represented by Plato, Lock, Diderot, D'Alembert, James Reason, Tadeusz Kotarbiński, and many others, presumes that error and wrongness are unwanted and should be limited as much as possible.

2) A positive and optimist approach is exemplified by rhetors such as Aristotle, St. Augustine, Kathryn Schulz, William James, Benjamin

Mako Hill, and others. Supporters of this view appreciate the experience of being wrong as a inseparably element of our artistic experience, intelligence, learning process, and creative thinking.

Schulz stresses the value of error as a tool in statistics. A statistical error that occurs on a regular basis, following Pierre-Simon Laplace's normal distribution, helps in analyzing and explaining many natural phenomena from the domains of mathematics, physics, chemistry, biology, psychology, and sociology. Karl Popper's idea of falsification also puts error into a central position as a necessary factor to help establish dependable scientific knowledge. Benjamin Mako Hill discovers the unknown potential of error that helps us to reveal the technology around us. They can disclose affordances and constraints of invisible technology that surrounds us, as when we see a Window's "blue screen" on an ATM display (Hill 2010: 28).

Another major dilemma of wrongology occurs around the question of the very definition of error. James Reason gives a precise definition: "all those occasions in which a planned sequence of mental or physical activities fails to achieve its intended outcome, [...] when these failures cannot be attributed to the intervention of some chance agency" (2009: 25). Tadeusz Kotarbiński, a philosopher representing a current of praxeology (the theory of effective action), in his short reflections on error, concentrates mainly on a precise definition of error. Yet, he limits his reflection to "practical error," even though he also mentions "theoretical error." His final definition is as follows: "practical error due to a given goal (aspiration, need) it is behavior ineffective due to that goal (aspiration and need)" (Kotarbiński 1969: 340). Kotarbiński, too, limits the scope of his investigation to narrow the understanding of error and defines it in a relative way, referring it to a specified goal, as much as Reason, who includes to his definition of error an "intended outcome."

Schulz's approach is quite different. For her, an error is a state of being wrong; therefore, no particular goal can be related to it. She remarks that the definition of an error should be as flexible as to be applied even in situations in which there is no clear indication who is right and who is wrong (Schulz 2010: 27). As a consequence, the concept of error is similar to that of fake news—its existence depends on whose perspective is taken into consideration and who's not.

Ralph Linton, writing about *error* in anthropology as one of the examples of this phenomenon gives our approach to non-European cultures: "All heathen cultures were at best examples of human error, while at worst they were devices of Satan, devised to keep damned

souls securely in his net. In either case it was the duty of Christians to destroy them" (1936: 298). This is an interesting logical construction. Namely, one of the errors of anthropology was attributing error to the worldview of traditional, oral, and tribal cultures. Now we see that many of our inventions are mistaken and are destroying the balance of the planet. We are starting to learn from the traditional cultures of Africa that were sustainably living for many thousands of years. It seems that the pragmatic approach to error does not embrace such uses of this term, as applying it to our ideological or political choices.

Another interesting case of an error in anthropology was committed by Linton himself. Talking to the question of the origin of man, Linton writes about "the missing link" and an unknown place of human origin (Linton 1936: 298). Charles Darwin, in his book *The Descent of Man* (1871), suggested that the cradle of mankind was Africa. This thesis, based solely on biological arguments with no reference to any fossils was not accepted until 1950 when Raymond Dart and his African findings of fossils supported Darwin's theory. Still, it was not broadly recognized, until Robert Ardrey's popular bestselling book *African Genesis: A Personal Investigation into the Animal Origins and Nature of Man* (1961) was published. The opening sentence of the book is as follows: "Not in innocence, and not in Asia, was mankind born" (Ardrey 1961: 1). The progress of paleoanthropology is slow. Even though mankind lived in Africa for about 2 million years and left it only a few hundred thousand years ago, in the 1990s there were two hundred times more archaeological sites in Western Europe than in Africa (Leakey 1994: 90).

This shocking, "Copernican," revolution of a paradigm in paleoanthropology and the resistance it encountered would make us think that maybe a similar revolution should await us in linguistics. Following traditional, European school etymology, we are seeking roots of contemporary words going back to the theoretically postulated Proto-Indo-European language. One could ask why not try get deeper and not look for earlier stages of the language to African languages, the longest continuously spoken languages in the world.

To conclude, I would like to remark that it is not obvious how to define error in such a way as to explain both the everyday and the scientific use of the word. I would tend to accept the hypothesis that the notion of error is a collective term that encompasses many different phenomena with no single common feature. What brings all of these phenomena under one label is Wittgenstein's notion of family resem-

blance: each one instance has something in common with some others, but not with all of them.

Instead of a final conclusion I will allow myself to finish the quote from Wilde. Lord Henry is giving advice how to be young again — by repeating follies of the youth.

"To get back one's youth, one has merely to repeat one's follies."

"A delightful theory!" she exclaimed. "I must put it into practice."

"A dangerous theory!" came from Sir Thomas's tight lips. Lady Agatha shook her head, but could not help being amused. Mr. Erskine listened.

"Yes," he continued, "that is one of the great secrets of life. Nowadays most people die of a sort of creeping common sense, and discover when it is too late that the only things one never regrets are one's mistakes." (Wilde 2006: 37)

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