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NAS RK is pleased to announce that Bulletin of NAS RK scientific journal has been accepted for indexing in the Emerging Sources Citation Index, a new edition of Web of Science. Content in this index is under consideration by Clarivate Analytics to be accepted in the Science Citation Index Expanded, the Social Sciences Citation Index, and the Arts & Humanities Citation Index. The quality and depth of content Web of Science offers to researchers, authors, publishers, and institutions sets it apart from other research databases. The inclusion of Bulletin of NAS RK in the Emerging Sources Citation Index demonstrates our dedication to providing the most relevant and influential multidiscipline content to our community.

Қазақстан Республикасы Ұлттық ғылым академиясы "ҚР ҰҒА Хабаршысы" ғылыми журналының Web of Science-тің жаңаланған нұсқасы Emerging Sources Citation Index-те индекстелуге қабылданғанын хабарлайды. Бұл индекстелу барысында Clarivate Analytics компаниясы журналды одан әрі the Science Citation Index Expanded, the Social Sciences Citation Index және the Arts & Humanities Citation Index-ке қабылдау мәселесін қарастыруда. Web of Science зерттеушілер, авторлар, баспашылар мен мекемелерге контент тереңдігі мен сапасын ұсынады. ҚР ҰҒА Хабаршысының Emerging Sources Citation Index-ке енуі біздің қоғамдастық үшін ең өзекті және беделді мультидисциплинарлы контентке адалдығымызды білдіреді.

НАН РК сообщает, что научный журнал «Вестник НАН РК» был принят для индексирования в Emerging Sources Citation Index, обновленной версии Web of Science. Содержание в этом индексировании находится в стадии рассмотрения компанией Clarivate Analytics для дальнейшего принятия журнала в the Science Citation Index Expanded, the Social Sciences Citation Index и the Arts & Humanities Citation Index. Web of Science предлагает качество и глубину контента для исследователей, авторов, издателей и учреждений. Включение Вестника НАН РК в Emerging Sources Citation Index демонстрирует нашу приверженность к наиболее актуальному и влиятельному мультидисциплинарному контенту для нашего сообщества.

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MORAL DILLEMAS IN DIGITAL & FOREIGN WORLD

Abstract. In the modern changing world the moral component of people, their moral choice has particular relevance. Some research of the last decades mentioned that the solution of a moral dilemma in a foreign language let us be less emotional and allows to make the more rational choice. "The trolley problem" is an example of a philosophical and moral dilemma in which the person has to make a decision and save someone's lives. People it is rather easy to solve this problem when they are not personally involved in it. What will occur if it is necessary to make a choice and to take responsibility for your action? People tend to make emotional decisions in accidents. If you drive a car with four passengers and child will cross a street, who will you save a baby or your passengers? Participants in most of the cases will choose to sacrifice their lives for younger one but will robot make the same decision? The self-driving car will probably make a different choice. Specialists of the Massachusetts Institute of Technology tried to answer this question and created the moral-machine. The moral machine establishes the situation when you have to choose who to save, where to drive, and how to act. The digital transformation of society requires changes in people mind. We hope that Smart City will bring us to the peaceful and human-friendly world.

Keywords: morals, trolley problem, ethics of robots, foreign language, digital transformation.

What makes us human? Why do we have individual differences? Our habits? Our esthetic tastes? Our memory? If I had to answer, I would tell that if I had any basis of the personality, an integral part me, then it was my moral center, my feeling of what was right and what was evil.

Moreover still, as well as other people knowing more than one language I sometimes feel that with each of my speeches I become a little bit another person. More energetic when I speak English; sensitive - on Kazakh, and more friendly with my Russian. I often ask myself can my traits, and moral compass changed cause I use different languages and how it works?

The psychologists studying moral judgments have already become interested in this question. Several types of research study how people estimate ethics, thinking in the non-native language – for example as the group of delegates of the UN uses lingua-franc language for discussion of resolutions. Opening says that in case of moral dilemmas people can behave differently, depending on that, they think in the native language or on another.

"The trolley problem" is a mental, ethical experiment which from 60th years is used by psychologists. Present that on rails the heavy, uncontrollable trolley, and on the way, at it, five people tied to rails rushes. You have an opportunity to press the lever and to throw a switch on another road where the only one person. The question is whether you will do it. The correct and wrong decision at moral dilemmas does not exist. Adherents of utilitarian approach consider right to save as much as possible lives, others speak about the inadmissibility of intervention and commission of murder by the hands [1].

According to some models of moral psychology, moral judgment driven by a complex interaction of at least two forces: intuitive "automatic" processes prompted by the emotional content of a given dilemma,

and rational, effortful, controlled means driven by the conscious evaluation of the potential outcomes. In this dual process account, intuitive processes generally support judgments that favor the essential rights of a person (deontological judgments), while rational, controlled processes seem to support reports favoring the greater good (utilitarian judgments), regardless of whether or not they violate an individual's rights. The relative weight of intuitive and rational processes in moral judgments can vary, and lead to more or less deontological or utilitarian judgments. As such, establishing which conditions favor each of these two mechanisms is fundamental to understanding the psychology of morality (for a review, see). The present study explores whether using a foreign language, as hundreds of millions of individuals do every day, can have a systematic impact on these processes [2].

There are good reasons to expect that using a foreign language would reduce utilitarian resolutions of moral dilemmas. For example, there is evidence that functional choice relies on controlled processes that require cognitive resources, and that an increase of cognitive load or stress, reduces practical choice in moral dilemmas. The added cognitive load and anxiety of using a foreign language could therefore reduce the use of controlled processes and subsequently minimize rational choice. That is, to the extent that functional choice reveals a higher contribution of controlled processes and such processes require the recruitment of cognitive resources, then conditions that increase cognitive load such as the use of a foreign language should decrease utilitarian choice.

Despite this potential impact of cognitive load, we propose that using a foreign language results in the opposite, that it increases practical choice. In general, a foreign language elicits less intense emotional reactions relative to a native language. For example, skin conductance responses, as well as the perceived force of emotional phrases are reduced when presented in a foreign language compared to a native language. Additionally, heuristic biases that are driven by psychological factors, such as loss aversion, are reduced when people make decisions in a foreign language. Such reduced emotionality, we argue, promotes a more reasoned, controlled process that leads to a functional choice.

According to Alberta Costa (2014), "a trolley dilemma" participants make a much easier choice on non-native language. In the classical experiment, you need to change the direction of a trolley and kill a stranger, so the majority of participants agree to switch an arrow. What about pushing someone on the tracks when the train's coming? Moreover what if it is the only way to stop a trolley? This situation causes more stress and anxiety, participants hesitate while making a decision. Costa with colleagues has found out exciting results. If volunteers decide this dilemma in language, non-native for them, then their readiness to push the stranger under a trolley immediately increases: from less than 20% of persons (Native language), to more than 50% of the participants on the same test (Foreign language).

The sample based on Hispanic and English-speaking volunteers. Results were identical to both groups. Costa (2014) proved that changing of language played a major role in decision making [3].

Janet Geipel found out that use of a foreign language could change examines moral decisions. Their volunteers read the description of incidents in which nobody has suffered but at the same time all the same worthy censures. For example, one store described relatives had safe sex by agreement; and in another person killed and ate his dog as a result of pet suffering in a car accident. The reading stories in the foreign language (English or Italian) condemned them less than reading them in the native language [5-7].

Why moral choices differ depending on the use of native or foreign language? One of the explanations says that different process of thinking involved in decision making. One – fast feeling, "intuition," and another – careful weighing good and evil. When we speak on foreign language, we unconsciously pass to the second option as efforts on the processing of non-native language switch us to the mode of profound thinking.

There are proofs that memory binds language with the experience and interactions received during studying. For example, the people knowing two languages will easier remember expertise if you ask about it in the language connected with this event. Our children's words learned to torment our passionate emotions – whose childhood has not passed at an abundance of love, rage, surprise, and punishments? – Are penetrated by deep feelings. To the contrary, the languages acquired at the mature age, mainly by training in the classroom or computer programs included in our memory cleaned from emotions.

Catherine Caldwell-Harris with colleagues (2008) study participant's emotional response to words in a foreign/native language. Using sensors of the skin conductivity for measurement of emotional reactions, they study Turkish people learning English at the mature age. Some of the words were neutral (table),

others – not (shit), the third contained reprimands (are ashamed!). Measurement of the skin reaction had shown that on bad words reaction was stronger, than on usual, especially when words were pronounced on Turkish. However, the difference is the strongest reaction was visible with reprimands. Volunteers reacted to the English phrases quietly, and on Turkish – very strong, at the same time, it seemed that some of the participants tend to hear this phrases-voiced from their relatives. If language is a container for bright memories of our offenses and punishments, it is no wonder that such emotional associations can influence the moral choices made in the native language [8, 9].

The balance moves towards this explanation thanks to the research which was published in the *Cognition* magazine even more. In this research on the scenario, right intentions resulted in wrong results (somebody gives to the homeless a new jacket because of what others beat the poor creature, decided that he has stolen it), or right results leave ambiguous acts (couple adopts the disabled person and receives compensation from the state). At moral estimates of these stories reading in non-native language led them to the fact that results the examinee seemed more important than intentions. Results of research contradict the theory according to which use of a foreign language forces people to think more deeply as in another study it has shown that careful considering of a situation results in an understanding of advantage of intentions before results [10].

However, these results will be coordinated with the fact that when using a foreign language the muffled emotional reaction – is less than sympathy for those, who had noble intentions, and less hatred to those, who had terrible motives – reduce an influence of plans. This explanation is supported with information that patients with damages of a central part of the prefrontal cortex of a brain which is responsible for emotional reactions showed the similar scheme of reasoning at which importance of results prevailed over the importance of intentions.

What will be a moral core at the person knowing several languages? My good memoirs, consequences of the emotionally charged events which have taught me to the fact that it is "good," or it reasoning which I can apply without the participation of such subconscious restrictions? Alternatively, these researchers just show us the truth about us regardless of the number of languages in which we say: our moral compass works as a combination of the new forces which have created us and our ways to avoid these forces.

Another explanation is that distinctions appear from behind more significant emotional attachment to the language learned in the youth than to what we studied in the more academic situation. As a result moral judgments in the foreign language are not so connected with emotional reactions which appear when using language which we learned in the childhood.

People often believe that moral judgments about “right” and “wrong” are the result of deep, thoughtful principles and should, therefore be consistent and unaffected by irrelevant aspects of a moral dilemma. For instance, as long as one understands a moral dilemma, its resolution should not depend on whether it is presented in a native language or in a foreign language. Here we report evidence that people tend to make systematically different judgments when they face a moral dilemma in a foreign language than in their native language.

"Self-driving car: whom does it have to save?" - Title of the new study on the Massachusetts Institute of Technology website, and it is about the recent research in the *Science* magazine. Scientists from MIT, have suggested respondents think over the solution of several tens moral dilemmas. In fact, this research - a variation on the well-known "problem of a trolley" which seemed before entirely speculative [11].

"It is easy to present a situation when the programmed algorithms of the safe driving will conflict with each other," – authors from MIT write. Also, suggest making a choice. "At the car brakes have refused. If she continues to move, then will bring down the girl crossing the road on the red light. The car can leave on the next strip where burns green and then will crush the senior. Do you remember, the car does not manage to stop - where has to direct his passionless algorithm? I have honestly passed all test offered by researchers, and it has appeared not comfortable. It is much more difficult than a problem about a trolley, because my response will affect a future choice of self-driving cars.

I found quite exciting results. Participants tend to save more lives. They also prefer to protect females, babies and in case of moral dilemma save pet or human will try to keep a human. However, if you are fat, old and male, your chances in this moral dilemma will be a minimal.

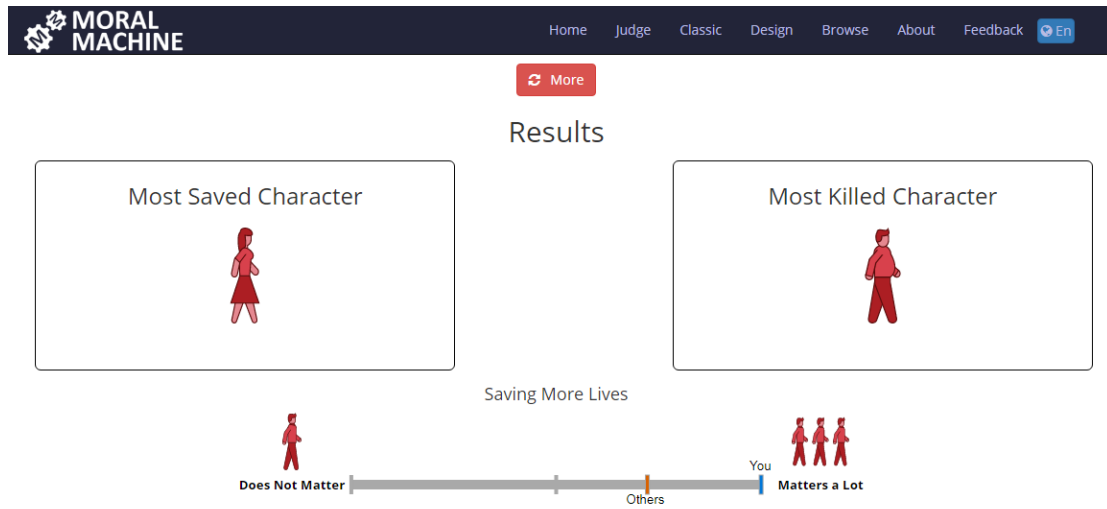


Figure 1 – Moral machine of MIT

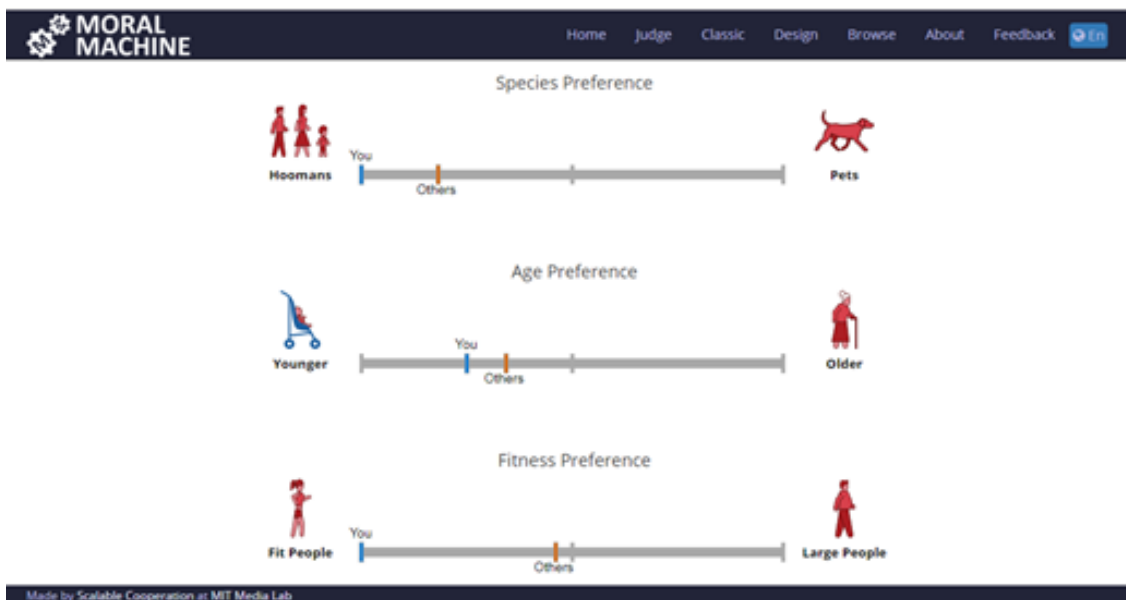


Figure 2 – Gender and age, fitness attitudes in moral choice

One of the expected primary results of the introduction of self-driving cars consists in the reduction of accidents and the victims literally on orders. Now on the roads, tens of thousands of people perish, with the distribution of pilotless transport their number will decrease to hundreds, and then and to units. In this sense, the autonomous car is a priori moral. Pilotless car concentrates on the road, and it has exhaustive information so that a vehicle can obtain data from other cars and elements of road infrastructure. Creation of such vehicles – the prospect of the next decades [12].

People argue not only on the number of the victims but also on the status: for academicians, it seems to be a priority. However, once the person presents himself driving, he loses interest in the solution of dilemmas at once and tries to get away from the answer. There is it: I have bought the car, and it has to protect me. This problem will need to be solved legally too. One of the possible solutions to this problem is a restriction of speed.

Social norms oblige people to treat native and adoptive relatives equally. However, scientists have found out that brain at the same time reacts to them differently: inspection using fMRI has shown that the brain shows the differing reactions to moral dilemmas if the blood or adoptive sister is involved in them. Results are published in the Scientific Reports magazine [13].

In new research, authors have invited 30 women for participation in a series of experiments, including with fMRI, at the same time researchers do not specify whether examinees have in reality blood or adoptive sisters and also don't explain in an explicit form why among volunteers there are only women [14].

Participants solved a trolley problem with the participation of the sister (this time without specification of a degree of relationship), girlfriends, and strangers. Preferences were on sister side, even when the participant chose between rescue of the sister and relief of the girlfriend and four more strangers. In such formulation of the dilemma, participants needed more time for decision-making (for example, in comparison with variations the girlfriend – five strangers, and the girlfriend – the sister and four strangers).

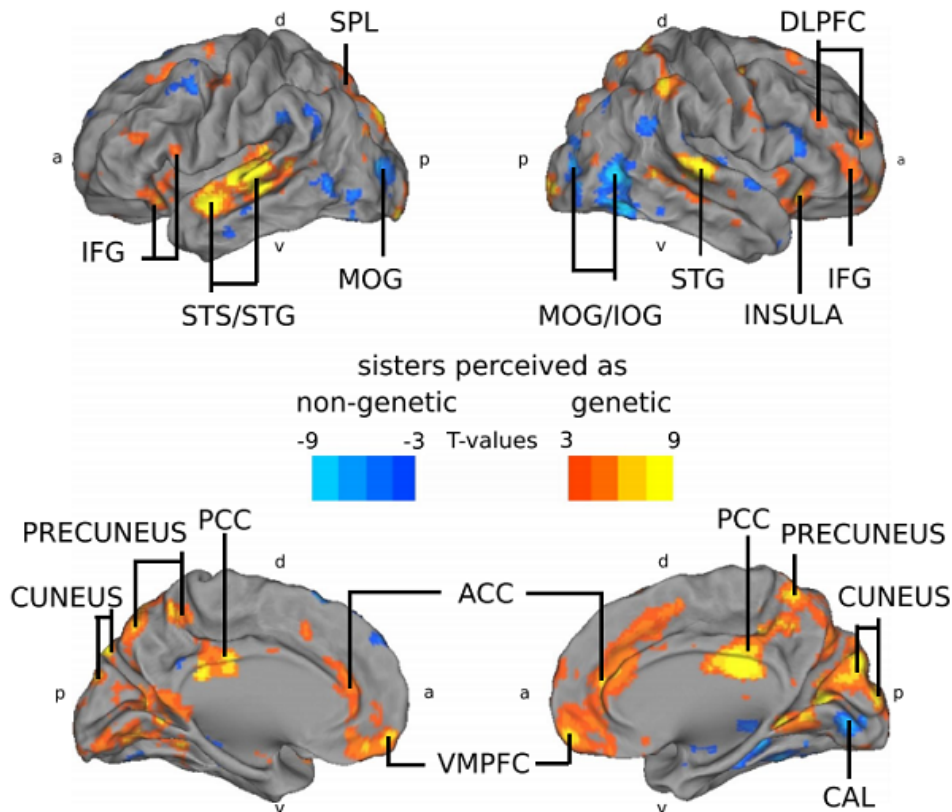


Figure 3 – Results of fMRI study

We have shown that people’s moral judgments and decisions depend on the native-ness of the language in which a dilemma is presented, becoming more utilitarian in a foreign language. These results are significant for models of moral decision making because they show that same difficulties may elicit different moral judgments depending on a seemingly irrelevant aspect such as the nativeness of the language. Most likely, a foreign language reduces emotional reactivity, promoting cost-benefit considerations, leading to an increase in utilitarian judgments.

The reduction of the emotionality elicited by a foreign language may promote psychological distance in general. Increasing mental distance leads individuals to construe situations in more abstract terms, which in some circumstances aligns with more utilitarian decision making. For instance, a more general mindset is associated with a higher focus on ends than means, leading to more utilitarian decisions in moral dilemmas like the footbridge problem [15].

For us, as researchers, it's interesting how participants will react to trolley problem (Russian, Kazakh English speaking groups) where they have to choose

- 1) four strangers or a child;
- 2) sibling or strangers;

- 3) woman or men;
4) wealthy person or poor.

The present studies provide strong evidence that the use of a foreign language influences the moral evaluation of complex moral dilemmas. If the emotional attenuation is not a viable explanation for the foreign language effect on moral judgment then what drives this effect? Why was the effect absent from the trolley dilemma but present in the footbridge and lost wallet dilemmas [15]? Perhaps the critical difference is that the trolley dilemma does not involve a “taboo” or prohibited action. Social and moral rules prohibit us from pushing people or keeping lost wallets. However, we have no general rules prohibiting flipping switches (see Cushman’s dual-system framework of morality). We propose that foreign language may influence moral judgment by reducing the mental accessibility of social and moral rules.

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ЦИФРЛЫҚ ӘЛЕМ КОНТЕКСİNДЕГІ МОРАЛЬДЫҚ ДИЛЕММА

Аннотация. Қазіргі өзгеретін әлемде адамгершілікті адамның ерекшелігі оның моральдық таңдауы болып табылады. Соңғы жылдары бірқатар зерттеулер шет тіліндегі моральдық дилеммаларды шешу бізді эмоционалды емес және ұтымды таңдау жасауға мүмкіндік береді деп қорытынды жасады. «Вагонетка

мәселесі» адамның таңдау жасауы және қандай да бір адамның өмірін сақтап қалуға тиісті философиялық-адамгершілікті дилемманың үлгісі болып табылады. Адамдар бұл мәселеге жеке түрде араласпаған кезде оларды оңай шешеді. Ал егер өзіңізге таңдау қажет болса және өзіңіз жауапкершілікті алсаңыз не болады және мұның бәрі қалай пилотсыз машинаның негізі болатын еді? Бұл сұраққа Массачусетс технологиялық институтының мамандары өздерінің сайтында тасымалдаудың пилотсыз құралдарының таңдау моделін жасау арқылы жауап беруге тырысты.

Түйін сөздер: мораль, вагонетка мәселесі, роботтар этикасы, шет тілі.

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МОРАЛЬНАЯ ДИЛЕММА В КОНТЕКСТЕ ЦИФРОВОГО МИРА

Аннотация. В современном меняющемся мире особую актуальность имеет нравственная составляющая человек, его способность сделать моральный выбор. Ряд исследования последних лет позволяет сделать вывод о том, что процесс решение сложной моральной проблемы на иностранном языке существенно отличается. «Проблема вагонетки» является примером философско-нравственной дилеммы, в которой человек должен сделать выбор и спасти чьи-то жизни, порой ценой смерти другого человека. Решение данной моральной дилеммы на иностранном языке позволяет испытуемым быть более рациональными. Однако в ситуации конфликта интересов и ценностей, когда надо спасти жизни четырех пассажиров или ребенка, выбежавшего на дорогу, водители, как правило, пытались спасти ребенка. Данное поведение является социально одобряемым, и подобная авария, рассматривается как несчастный случай. А как в данном случае поступил бы робот? Скорее всего, беспилотный автомобиль попытался сохранить жизни четырех пассажиров и совершить наезд на ребенка. Специалисты MIT смоделировали специальный тест, позволяющий узнать, какой моральный выбор сделали бы люди на месте робота. Данное исследование возможно станет основой для будущей работы беспилотных машин. Цифровая трансформация окружающего гораздо ближе чем нам казалось ранее, и мы искренне надеемся, что SMART – технологии сделают нашу жизнь безопасной.

Ключевые слова: мораль, проблема вагонетки, этика роботов, иностранный язык, цифровая трансформация.

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