

The background features a dark field with numerous small, glowing blue and red circular particles, resembling a microscopic view of cells or bacteria. A yellow measuring tape is positioned vertically on the right side of the image, with its numbers and markings visible. The text is overlaid on this background in white and yellow boxes.

Sveučilište u Rijeci – Medicinski fakultet
KATEDRA ZA DRUŠTVENE I HUMANISTIČKE ZNANOSTI U MEDICINI

Sveučilište u Rijeci – Fakultet zdravstvenih studija

Sveučilište u Zagrebu – Katolički bogoslovni fakultet – Teologija u Rijeci
KATEDRA FILOZOFIJE

Uniwersytet Mikołaja Kopernika w Toruniu – Wydział Teologiczny

RIJEČKI ZNANSTVENI MOSTOVI 7

Mjera za mjeru: izazovi mjerenja i umjerenosti u ljudskom zdravlju, ponašanju i stvaranju

Rijeka, 25. studenoga 2022.

Međunarodni znanstveni simpozij

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DEPARTMENT OF SOCIAL SCIENCES AND MEDICAL HUMANITIES

University of Rijeka - Faculty of Health Studies

University of Zagreb - Catholic Faculty of Theology - Theology in Rijeka
DEPARTMENT OF PHILOSOPHY

Nicolaus Copernicus University of Toruń - Faculty of Theology

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Program simpozija

10.00 – Otvaranje simpozija i pozdravne riječi

Prvi blok predavanja

10.20 – **Prof. dr. sc. Rajka Jurdana-Šepić** (Sveučilište u Rijeci, Fakultet za fiziku)

»Promišljanje mjerenja u relativističkom kvantnom svemiru«

10.35 – **Izv. prof. dr. sc. Marko Medved** (Sveučilište u Rijeci, Medicinski fakultet)

»Mjerne jedinice kao susretnošte kultura: nekoliko primjera iz ranonovjekovne povijesti Rijeke«

10.50 – **Izv. prof. dr. sc. Anto Barišić** (Sveučilište u Zagrebu, Katolički bogoslovni fakultet)

»Mjerom kojom mjerite vama će se zauzvrat mjeriti«

11.05 – Rasprava

Drugi blok predavanja

11.20 – **Izv. prof. dr. Vojko Strahovnik** (Univerza v Ljubljani, Teološka fakulteta)

»The Measure of Justification: On How to Form and Maintain Beliefs Rationally and Virtuously«

11.35 – **Doc. dr. sc. Branko Murić** (Sveučilište u Zagrebu, Katolički bogoslovni fakultet)

»„Paradigma“ i „model“ u teološkoj upotrebi kao moguće epistemološko mjerilo«

11.50 – **Doc. dr. sc. Franjo Mijatović** (Sveučilište u Rijeci, Medicinski fakultet)

»O umjerenosti: ništa previše – manje je bolje!«

12.05 – Rasprava

12.20 – Kratki predah

Treći blok predavanja

- 12.35 – **Fr. Dr Adam Jeszka** (Uniwersytet Mikołaja Kopernika w Toruniu, Wydział Teologiczny)
»„*Relation*“ as a way of measuring of the divine presence in the creation in Martin Buber’s philosophy«
- 12.50 – **Izv. prof. dr. mult. Aleksandar Racz** (Zdravstveno veleučilište Zagreb / Sveučilište u Rijeci, Fakultet zdravstvenih studija)
»*Shinrin Yoku i grljenje drveća iz perspektive medicine utemeljene na dokazima: drevna mudrost, učinkovita komplementarna metoda liječenja ili zaogruto nadriliječništvo i legitimizirana pseudoznanost*«
- 13.05 – **Izv. prof. dr. sc. Felix M. Wensveen** (Sveučilište u Rijeci, Medicinski fakultet)
»*Why we get sick; interactions between the immune and endocrine systems during viral infection*«
- 13.20 – Rasprava

Četvrti blok predavanja

- 13.35 – **Meghan D. Page, PhD** (University of Pittsburgh / Loyola University Maryland)
»*Rules Made to be Broken: Calibrating Climate Proxies*«
- 13.50 – **Doc. dr. sc. Saša Horvat** (Sveučilište u Rijeci, Medicinski fakultet)
»*U potrazi za pravom mjerom odnosa ljudske i umjetne inteligencije u medicini*«
- 14.05 – Zaključna rasprava
- 14.20 – Zatvaranje simpozija

Conference Programme

10.00 – Opening of the conference and welcome speeches

The first block of lectures

10.20 – **Prof. dr. sc. Rajka Jurdana-Šepić** (University of Rijeka, Faculty of Physics)
»Rethinking of measurement in a relativistic quantum universe«

10.35 – **Izv. prof. dr. sc. Marko Medved** (University of Rijeka, Faculty of Medicine)
»Units of measurement as a meeting place of cultures: several examples from the early modern history of Rijeka«

10.50 – **Izv. prof. dr. sc. Anto Barišić** (University of Zagreb, Catholic Faculty of Theology)
»With the measure you use, it will be measured to you«

11.05 – Discussion

The second block of lectures

11.20 – **Izv. prof. dr. Vojko Strahovnik** (University of Ljubljana, Faculty of Theology)
»The Measure of Justification: On How to Form and Maintain Beliefs Rationally and Virtuously«

11.35 – **Doc. dr. sc. Branko Murić** (University of Zagreb, Catholic Faculty of Theology)
»Theological Usage of „Paradigm“ and „Model“ as an Epistemological Standard«

11.50 – **Doc. dr. sc. Franjo Mijatović** (University of Rijeka, Faculty of Medicine)
»On Temperance: Nothing in Excess - Less is Better!«

12.05 – Discussion

12.20 – A short break

The third block of lectures

- 12.35 – **Fr. Dr Adam Jeszka** (Nicolaus Copernicus University in Toruń, Faculty of Theology)
»„Relation“ as a way of measuring of the divine presence in the creation in Martin Buber’s philosophy«
- 12.50 – **Izv. prof. dr. mult. Aleksandar Racz** (University of Applied Health Sciences / University of Rijeka, Faculty of Health Studies)
»Shinrin Yoku & tree hugging from evidence-based medicine perspective: ancient wisdom, effective complementary medical method or clothed naked quackery and legitimized pseudoscience«
- 13.05 – **Izv. prof. dr. sc. Felix M. Wensveen** (University of Rijeka, Faculty of Medicine)
»Why we get sick; interactions between the immune and endocrine systems during viral infection«
- 13.20 – Discussion

The fourth block of lectures

- 13.35 – **Meghan D. Page, PhD** (University of Pittsburgh / Loyola University Maryland)
»Rules Made to be Broken: Calibrating Climate Proxies«
- 13.50 – **Doc. dr. sc. Saša Horvat** (University of Rijeka, Faculty of Medicine)
»In search of a proper measure of the relationship between human and artificial intelligence in medicine«
- 14.05 – Closing discussion
- 14.20 – Closing of the conference

Uvod u temu simpozija

*Sporost rađa sporost, a žurba žurbu tjera;
Šilo za ognjilo, za mjeru uvijek mjera.¹*

Mjera i mjerenje pojmovi su koji oblikuju gotovo sve sfere ljudske djelatnosti. Pronalaženje *prave mjere* kroz vlastite čine i mišljenje jedno je od drevnih zadaća ljudskog nastojanja. Sedmo izdanje »Riječkih znanstvenih mostova« želi posvjestiti koliko su zapravo pojmovi mjere i mjerenja nezaobilazni u različitim znanstvenim i akademskim disciplinama, ali i u svakodnevnim odlukama.

Predavanja u sklopu konferencije imaju za cilj promišljati neke od brojnih tema vezanih uz mjeru i mjerenje, kao što su: mjera/umjerenost u etici i moralu; mjera dobrog života; čovjek mjera svih stvari; kulturološka uvjetovanja »prave mjere«; povijest mjerenja; mjera, mjerenje i modeli u znanosti i humanističko-društvenim disciplinama; problem apsolutne preciznosti; medicina i prava mjera u odnosu liječnik-pacijent; mjerenja u medicinskim istraživanjima; umjetnost i vječna ljepota – savršen omjer/mjera; fizika/astrofizika: (ne)mogućnost mjerenja prostora i vremena.

Sedmi u nizu »Riječki znanstveni mostovi« jedinstveni je znanstveni događaj koji će okupiti domaće stručnjake iz različitih znanstvenih polja, dok međunarodne goste očekujemo iz Sjedinjenih Američkih Država, Poljske i Slovenije. Simpozij je susret stručnjaka različitih znanstvenih polja, koji su, svjesni metodološke ograničenosti vlastitih pristupa, spremni za transdisciplinarni polilog. Cilj simpozija je osvijetliti često zaboravljenu činjenicu koliko je čovjek određen mjerom, ali i kako uz pomoć mjere mjeri sve ono što mu dolazi u susret.

Organizacijski odbor:

Dr. Saša Horvat (Rijeka)
Dr. Amir Muzur (Rijeka)
Dr. Vojko Strahovnik (Ljubljana)
Dr. Nenad Malović (Zagreb)
Dr. Piotr Roszak (Toruń)
Dr. Franjo Mijatović (Rijeka)
Dr. Veronika Nela Gašpar (Rijeka)
Dr. Marko Medved (Rijeka)

¹ William Shakespeare, *Mjera za mjeru*, Zagreb, 1987., 126.

Introduction to the topic of the conference

*Haste still pays haste, and leisure answers leisure;
Like doth quit like, and Measure still for Measure.*¹

Measure and measurement are concepts that characterise almost all areas of human activity. Finding the right measure through one's own actions and thoughts is one of the age-old tasks of human endeavour. The seventh edition of »Rijeka scientific bridges« aims to raise awareness of how indispensable the concepts of measure and measurement are in various scientific and academic disciplines, but also in everyday decisions.

Presentations at the conference aim to reflect on some of the many issues related to measure and measurement, such as: measure/moderation in ethics and morality; measure of the good life; human being as the measure of all things; cultural conditioning of the »right measure«; history of measurement; measure, measurement and models in science, social sciences and humanities; problem of absolute precision; medicine and the right measure in the physician-patient relationship; measurements in medical research; art and eternal beauty - perfect ratio/measure; physics/astrophysics: (in)possibility to measure space and time.

The seventh in a series of »Rijeka scientific bridges« is a unique scientific event that will bring together local experts from various scientific fields, while international guests from the United States, Poland and Slovenia are expected. The symposium is a meeting of experts from different scientific fields who are aware of the methodological limitations of their own approaches and are ready for a transdisciplinary polylogue. The aim of the symposium is to shed light on the often forgotten fact that human being is determined by measurement, but also how he uses measurement to measure everything that comes in his way.

Organizing committee:

Dr. Saša Horvat (Rijeka)

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Dr. Piotr Roszak (Toruń)

Dr. Franjo Mijatović (Rijeka)

Dr. Veronika Nela Gašpar (Rijeka)

Dr. Marko Medved (Rijeka)

¹ William Shakespeare, *Measure for Measure*, Vol. 20, Cambridge, 2009, p. 91.

Sažeci / Abstracts

Anto Barišić

Mjerom kojom mjerite vama će se zauzvrat mjeriti

U izlaganju polazimo od evanđeoske riječi i izjave „Mjerom kojom mjerite vama će se zauzvrat mjeriti“ te od izjave sofističkog filozofa Protagore koji je davno prije Krista izjavio da je „čovjek mjera svih stvari“. Teološki razmišljamo o svezremenskoj aktualnosti i važnosti Isusove riječi u čovjekovoj svakodnevici, u svakodnevici vjernika. Pretpostavljajući da je primjenjiva u svakom vjerskom i etičkom sustavu, razmatramo njezine implikacije na području antropologije, te osobito na području čovjekova sveukupna djelovanja, ponašanja i odgovornosti. Nakon toga zapitat ćemo se i pokušati odgovoriti na pitanje koji i kakav čovjek može biti ne samo mjera stvari, nego mjera svih stvari. Namjera nam je da u našem izlaganju eventualno pokažemo društvenu i praktičnu djelotvornost i funkcionalnost spomenutih izjava.

With the measure you use, it will be measured to you

The presentation starts from the evangelical words and the statement “With the measure you use, it will be measured to you”, as well as the statement of the sophist philosopher Protagoras who declared long before Christ that “man is the measure of all things”. We contemplate theologically about the all-time topicality and importance of the word of Jesus in man’s everyday life, in the everyday life of believers. Assuming that it is applicable in every religious and ethical system, we explore its implications in the

field of anthropology, and especially in the field of man's overall actions, behaviour and responsibility. After that, we will ask ourselves and try to answer the question of which and what kind of man can be not only the measure of things, but the measure of all things. Our intention is to eventually show the social and practical effectiveness and functionality of the mentioned statements in our presentation.

Izv. prof. dr. sc. Anto Barišić

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Saša Horvat

U potrazi za pravom mjerom odnosa ljudske i umjetne inteligencije u medicini

Umjetna inteligencija oblikuje medicinu na brojnim područjima. Velika obećanja i entuzijazam nezaobilazni su, kao i pozivi na oprez. Unatoč brojnim koracima naprijed, još smo daleko od jasnih uputa ili smjernica o tome kako, u kojoj mjeri i pod kojim okolnostima umjetna inteligencija može ili mora utjecati na liječničke odluke o liječenju pacijenta. U predavanju ćemo promišljati određene moguće etičke norme u uspostavi odnosa liječnik – umjetna inteligencija uz pomoć dosadašnjih spoznaja i prijedloga, ali i uz pomoć usporedbe s nekim drugim područjima ljudskog djelovanja, kao na primjer šaha – gdje prirodna i umjetna inteligencija surađuju već više od sedam desetljeća.

In search of a proper measure of the relationship between human and artificial intelligence in medicine

Artificial intelligence is shaping medicine in many areas. Great promises and enthusiasm are inevitable, as is the call for caution. Despite many advances, we are still far from clear instructions or guidelines on how, to what extent, and under what circumstances artificial intelligence can or must influence physician decisions about patient care. In the talk, we will reflect on certain possible ethical norms in shaping the relationship between physicians and artificial intelligence, using previous findings and proposals, but also comparing them to some other areas of human activity, such as chess - where natural and artificial intelligence have been working together for more than seven decades.

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Adam Jeszka

“Relation” as a way of measuring of the divine presence in the creation in Martin Buber’s philosophy

Martin Buber (1878-1965), a Jewish philosopher, believes that man’s experience of God takes place within the limits of the created world through beings. Man, by entering into a relationship with nature and with his fellow human beings builds a bond with the Creator, who is at the same time the foundation of all other bonds. He Himself, as the eternal “You”, reveals Himself within the boundaries of the maintained relationships. He is present whenever man enters into the “I-You” relationship.

God, as the beginning and end of all things, is the one who creates, orders and directs. Furthermore, he is the one who breathed life into human beings and wants to be known, sought and loved by man. The nature of God is therefore the presence in which the creation is immersed. God’s presence permeates all personal relationships, which are one of the ways in which God’s presence manifests itself in human life. These relationships happen in the world; it is the Earth that is the space for people to act and the stage on which man meets God and his neighbour, forming bonds with them.

The world created by God is at the same time the speech with which He addresses man. God is not the same as the world, although He is its Creator. There is an infinite, absolute distance between God and man.

The world of the human ‘here and now’, in which human life takes place as the existence in relation to the divine ‘You’, constitutes the only possibility of man’s encounter with God. Existence creates a form of measurability of the divine presence in the world.

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Rajka Jurdana-Šepić

Promišljanje mjerenja u relativističkom kvantnom svemiru

Već više od stoljeća dvije konceptualne revolucije u shvaćanju prirode i svemira, kvantna fizika i teorija relativnosti imaju izniman utjecaj na razvoj znanosti, tehnologije i društva. Obje duboko zahvaćaju epistemološka pitanja, a posebno zadiru u razumijevanje čina mjerenja, njegovih ograničenja i ishoda.

Einsteinova specijalna teorija relativnosti postulira konačnost i konstatnost brzine svjetlosti. Posljedice spregnutosti prostora i vremena su kontrakcija duljine i dilatacija vremena, odnosno činjenica da opažači koji se relativno gibaju ne mjere iste duljine niti iste vremenske intervale. Heisenbergove relacije neodređenosti u kvantnoj fizici opisuju prirodno ograničenje istodobnog mjerenja komplementarnih veličina, odnosno činjenicu da je u mikrosvijetu nemoguće istodobno točno izmjeriti položaj i količinu gibanja čestice. Također, u aktu mjerenja mjeritelj interagira s objektom mjerenja, on je dio fizičkog sustava sa svim posljedicama te činjenice.

Navedeni fenomeni povezani s mjerenjem utjecali su značajno na filozofiju i umjetnost 20. stoljeća te i danas izazivaju na ekstrapoliranje našega zora i razbijanje predrasuda koje izvire iz primijene jezičnih i misaonih konstrukata makrosvijeta i klasične fizike na prirodu koja jest relativistička i kvantna.

Rethinking of measurement in a relativistic quantum universe

For more than a century, two conceptual revolutions in the understanding of nature and the universe, quantum physics and the theory of relativity have an exceptional impact on the development of science, technology and society. Both are deeply concerned with epistemological issues, and in particular they interfere with the understanding of the act of measurement, its limitations and outcomes.

Einstein's special theory of relativity postulates the finitude and constancy of the speed of light. Consequences of the coupling of space and time are length contraction and time dilation, i.e. the fact that observers who move relatively do not measure the same length and the same time interval. Heisenberg uncertainty relations in quantum physics describe the natural limitation of simultaneous measurement of complementary quantities, that is, the fact that in the microcosm it is impossible to accurately measure the position and momentum of a particle at the same time. Also, in the act of measurement, the observer interacts with the object of measurement, he is part of the physical system with all the consequences of that fact.

The aforementioned phenomena related to measurement had a significant impact on the philosophy and art of the 20th century and even today they challenge us to extrapolate our view and break the prejudices that arise from the application of language and thought constructs of the macroworld and classical physics on nature which is relativistic and quantum.

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Mjerne jedinice kao susretište kultura: nekoliko primjera iz ranonovovjekovne povijesti Rijeke

Sjeverni Jadran i Istra bili su kroz povijest prostor austrijskog i mletačkog utjecaja. U pojedinim mjestima s vlastitom jurisdikcijom susrećemo domaće nazive mjera bez obzira na to što su u trgovanju vrijedile austrijske odnosno mletačke službene mjerne jedinice. Za područje pod austrijskom vlašću, dakle i za Rijeku, u ranom novom vijeku uz službene i službeno propisane državne mjerne jedinice, nalazimo i domaće. Na temelju nekoliko primjera iz povijesti Rijeke, autor ističe kako za prostor Rijeke i okolice, prije negoli o jednom općevažećem sustavu, valja govoriti o prostoru miješanja hrvatskog, njemačkog, slovenskog i talijanskog nazivlja mjera.

Units of measurement as a meeting place of cultures: several examples from the early modern history of Rijeka

Throughout history, Northern Adriatic and Istria were areas of Austrian and Venetian influence. In some places with their own jurisdiction we encounter local names of measures, regardless of the fact that Austrian and Venetian official units of measurement were valid in trade. For the area under Austrian rule, in the early modern period, in addition to the official and officially prescribed state units of measurements, we also find local units. On the basis of several examples from the History, the author

points out that for the area of Rijeka and its surroundings, rather than a universally applicable system, it is appropriate to speak of an area of mixing of Croatian, Austrian, Slovenian and Italian measurement nomenclature.

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Franjo Mijatović

O umjerenosti: ništa previše – manje je bolje!

Neosporno je kako u današnjem svakodnevnom, pa i onom znanstvenom diskursu, vrlina umjerenosti ne igra tako važnu ulogu. Već i sami nazivi za ovu vrlinu su toliko pogubni i pogrđni da je gotovo nemoguće naći primjerenu i prikladnu riječ za umjerenost koja bi imala pozitivne konotacije. Umjerenost isključivo označava nešto negativno: obuzdavanje vlastitih želja, kroćenje vlastitih nagona, samokontrolu, poniznost, zatumljivanje požuda, suzdržanost u jelu i piću, nedostatak radosti, red, asketizam... Ukratko, umjerenost je ograničenje po vlastitom izboru i neka vrsta podvrline koja priprema put važnijim moralnim ciljevima. Međutim, promatrajući povijesni razvoj vrlina zapažamo kako je vrlina umjerenosti uvijek zauzimala važno mjesto unutar filozofijskih škola i crkvene prakse. Razlog za ponovnu rehabilitaciju vrline umjerenosti leži prvenstveno u činjenici čovjekovog konzumerističkog odnosa prema svemu živomu: životinjama, okolini, prirodi, ekonomiji... Nedvojbeno je kako umjerenost (σωφροσύνη) označava mjeru, srednost, traženje ravnoteže između previše i premalo. Jedan od dopriosa ovoga rada sastojat će se u problematiziranju delfijske maksime „ništa previše“ i predložene paradigme manje je bolje. To bi pretpostavljalo kako se u javnom diskursu paradigma manje je bolje „malo je lijepo“ može razviti u dinamičnu paradigmu „veličina je kontekstualna“. Umjerenost u obliku istinskog sklada upravljana razumom ostaje model izvrsnosti i zadaća za kojom svakako vrijedi težiti više.

On Temperance: Nothing in Excess - Less is Better!

It is undeniable that in today's everyday, even scientific discourse, the virtue of temperance does not play such an important role. Even the names for this virtue are so destructive and insulting that it is almost impossible to find an appropriate and fitting word for temperance that would have a positive connotation. Temperance means exclusively something negative: curbing one's desires, restraining own drives, self-control, humility, overcoming lust, temperateness in eating and drinking, preachiness, lack of joy, order, asceticism... In short, temperance is a self-imposed boundaries and a kind of sub-virtue that paves the way for more important moral goals. However, if we look at the historical development of virtues, we find that the virtue of temperance has always occupied an important place in philosophical

schools and in christian life. The reason for the rehabilitation of the virtue of temperance lies mainly in the fact that human being adopts a consumerist attitude towards all living beings: towards animals, the environment, nature, the economy... Undoubtedly, temperance (σωφροσύνη) is a mean-state, seeking a balance between two vices of excess and deficiency. One of the contributions of this work will be to problematize the Delphic maxim „nothing in excess“ and the proposed paradigm less is better. This would require that in public discourse the paradigm less is better „small is beautiful“ can evolve into a dynamic paradigm „size is contextual“. Temperance in the form of genuine harmony orchestrated by reason remains a model of excellence and a task worth striving for more.

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Branko Murić

„Paradigma“ i „model“ u teološkoj upotrebi kao moguće epistemološko mjerilo

Polazi se od problematiziranja pojmovne upotrebe izraza „paradigma“ i „model“ u teologiji kako bi se mogla uvidjeti njihova epistemološka vrijednost ili relevantnost za teologiju. S oba pojma se želi na sustavan način izložiti narav, izvornost, zakonitosti, dinamike, širina, posebnosti i ishodi predmeta nekog teološkog promišljanja. Time se dobiva određena epistemološka važnost ili mjera neke teološke paradigme ili teološkog modela. Poznato je kako oba pojma teologija posuđuje zahvaljujući njihovoj upotrebi u prirodnim znanostima. Premda su oba pojma vrlo slična, uočava se njihova jezična razlika te se problematizira treba li ih shvatiti kao istoznačnice. Način uporabe ima svoje epistemološke učinke. Ta razlika ne znači odvojenost nego prožetost, koju bi trebalo razumjeti kao asimetričnu (L. Žák).

Kada je riječ o paradigmi, poznato je da u znanstvenu jezičnu uporabu ulazi zahvaljujući T. S. Kuhnu koji je pomoću nje objasnio strukturu znanstvenih revolucija. Problem razlikovanja između paradigme i modela emblematičnim se pojavljuje u djelima švicarskog teologa Hansa Künga. Premda je svjestan i razrađuje njihovu razliku, Küng ih upotrebljava kao međusobno zamjenjive, istovremeno predlažući svoj način teološke klasifikacije kroz paradigme/modele.

S druge strane, kada je riječ o modelu, uočava se kako je primjena toga pojma najraširenija u teologiji. Često se taj pojam upotrebljava bez prethodnog određenja što bi značio i koji su kriteriji klasifikacije po modelima, pa se često može iz ponuđenih opisa tek naslutiti što bi ulazilo pod određeni model. Unatoč tome, uporaba modela postala je svojevrsno „mjerilo“ korisno kako bi se sustavno prikazao ili vrednovao neki spoznajni tijek ili razvoj teološkog problema. Kao primjer autora koji određuje epistemološku vrijednost upotrebe modela uzet će se A. Dulles.

Theological Usage of „Paradigm“ and „Model“ as an Epistemological Standard

First, it is attempted to problematize the conceptual applications of the concepts “paradigm” and “model” in theology before examining their potential epistemological significance and relevance. Both concepts aim to demonstrate the nature, originality, rules, dynamics, characteristics, and results of the topic of some theological reflection in a systematic way. This provides a theological paradigm or theological model with a definite epistemological relevance or measure. Both concepts have been used in the natural sciences, therefore it is obvious that theology has borrowed them. Despite the close similarities between the two names, there are linguistic variances that raise the question of whether they should be regarded as synonyms. Epistemological consequences are specific to the modality of use. This distinction should be interpreted as asymmetrical permeation rather than separation (L. Žák).

It is well known that T. S. Kuhn introduced the concept of a paradigm by using it to describe the structure of scientific revolutions. The works of Swiss theologian Hans Küng serve as an example how to distinguish the issues between paradigm and model. Küng uses them interchangeably even though he is aware of and discusses their differences; he also offers his own system of theological classification through paradigms or models.

On the other hand, the application of the model notion is most common in theology. Since this term is frequently used without prior clarification of what it would entail and what the models’ categorization criteria are, it is difficult to deduce from the provided descriptions what would be included by each model. Despite this, in order to systematically present or evaluate a cognitive process or the development of a theological issue, the model has come to serve as a “standard.” We shall use A. Dulles as an illustration of an author who assesses the epistemological importance of using models in theology.

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Meghan D. Page

Rules Made to be Broken: Calibrating Climate Proxies

Philosophical analysis of measurement in scientific practice often focuses on the development and use of measurement standards. However, when it comes to proxy measurements in climate science--e.g. indicators such as tree rings that are used to reconstruct past climate variables like temperature--scientists develop measurement standards only to eschew them for alternate guides to accuracy. I argue this is because the relevant epistemic context encourages privileging local consonance to global consonance. I go on to evaluate what features of the epistemic context make this preference the case, and its implications for a philosophical analysis of measurement standards.

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Aleksandar Racz

Shinrin Yoku & tree hugging from evidence-based medicine perspective: ancient wisdom, effective complementary medical method or clothed naked quackery and legitimized pseudoscience

Shinrin Yoku (森林浴) is a Japanese practice of immersing oneself in nature, primarily forests. The term Shinrin-yoku was coined by the Japanese Ministry of Agriculture, Forestry, and Fisheries in 1982. It can be translated as forest bathing and it can be defined as making contact with and taking someone into the atmosphere of the forest. Shinrin-yoku is promoted worldwide as a healing technique that restores the physical and psychological health of the human body through a “five senses experience” (vision, smell, hearing, touch, and taste) when the body is exposed to a forest environment. According to Hansen (2017), early studies have shown that blood glucose levels in diabetic patients decrease when they walk in a forest for 3 or 6 km, depending on their individual physical ability. According to Ye Wen (2019), several studies performed on the physiological or psychological effects of Shinrin-yoku have shown that among participants who were exposed to walking in the forest environment the cerebral cortex was in a relaxed state, parasympathetic activity was increased (lnHF increased), and sympathetic activity was decreased (lnLF/lnHF, urinary adrenalin, and norepinephrine decreased). Furthermore, cardiovascular function and hemodynamic index, neuroendocrine index, metabolism index, immune and inflammatory index, antioxidation index, and electrical physiological indexes of the human body were significantly improved and levels of anxiety and depression were significantly decreased. But it is ignored the most common participants of these studies were college students, adult males, and physically active adults, and therefore they are not representative of all subsets of the human population. In addition, most participants were volunteers, which may have introduced self-selection bias. Most studies were focused on the very short-term effects of different environments, making assessments of the participants shortly before and after the activity, and in some cases, during the activity. The longer-term implications of repeated exposure, as well as the dose-response effect, are unknown. At the same time, not only in western culture, tree-hugging has become part of the shinrin-yoku practice and positive health effects are associated with close touch with the bark of the tree and exposure to phytoncides and terpenes

(α -pinene, β -pinene, camphor). But still, there is not a single paper being published in indexed medical journals that has proved any positive physiological or psychological outcome of tree hugging and there is no proof from an evidence-based medicine perspective that can separate tree hugging from clothed naked quackery and legitimized pseudoscience.

Shinrin Yoku i grljenje drveća iz perspektive medicine utemeljene na dokazima: drevna mudrost, učinkovita komplementarna metoda liječenja ili zaogruto nadriliječništvo i legitimizirana pseudoznanost

Shinrin Yoku (森林浴) je japanska praksa uranjanja u prirodu, poglavito šumu. Izraz Shinrin-yoku skovalo je japansko Ministarstvo poljoprivrede, šumarstva i ribarstva 1982. godine, a koji se može prevesti kao šumsko kupanje. Shinrin-yoku se promovira kao tehnika iscjeljivanja koja obnavlja fizičko i psihološko zdravlje ljudskog tijela kroz “iskustvo pet osjetila” (vid, miris, sluh, dodir i okus) kada je tijelo izloženo šumskom okruženju. Prema Hansenu (2017.) rane studije su pokazale da se razina glukoze u krvi kod dijabetičara smanjuje kada hodaju šumom 3 ili 6 km, ovisno o njihovim individualnim fizičkim sposobnostima. Prema Ye Wenu (2019.) niz studija provedenih o fiziološkim i psihološkim učincima metode Shinrin-yoku pokazalo je da je među sudionicima koji su bili izloženi hodanju u šumskom okruženju moždana kora bila u opuštenom stanju, parasimpatička aktivnost povećana (lnHF povećan), a simpatička aktivnost smanjena (lnLF/lnHF, adrenalin i norepinefrin u urinu smanjeni). Nadalje, kardiovaskularna funkcija i hemodinamski indeks, neuroendokrini indeks, indeks metabolizma, imunološki i upalni indeks, antioksidacijski indeks i elektrofiziološki indeksi ljudskog tijela su značajno bili poboljšani, a razine anksioznosti i depresije značajno smanjena. Međutim zanemaruje se da su najčešći sudionici ovih istraživanja bili studenti, odrasli muškarci i tjelesno aktivni odrasli ljudi, pa stoga nisu reprezentativni za sve podskupine ljudske populacije. Osim toga, većina sudionika bili su volonteri,

što je možda uvelo pristranost u samoizboru. Većina studija bila je usmjerena na vrlo kratkoročne učinke različitih okruženja, procjenjujući sudionike neposredno prije i nakon aktivnosti, au nekim slučajevima i tijekom aktivnosti. Dugoročne implikacije opetovanog izlaganja, kao i učinak doza – odgovor nisu poznati. U isto vrijeme, ne samo u zapadnoj kulturi, grljenje drveća postalo je dio prakse Shinrin-yoku, a mogući pozitivni zdravstveni učinci povezivani su s bliskim dodirrom tijela s korom drveta i izlaganjem grlitelja stabala fitoncidima i terpenima (α -pinene, β -pinene, kamfor). Međutim još uvijek nema niti jednog rada objavljenog u znanstvenim časopisima indeksiranim u respektabilnim bazama koji bi dokazao bilo kakav fiziološki ili psihološki pozitivan zdravstveni učinak grljenja drveća i nema dokaza iz perspektive medicine utemeljene na dokazima koji mogu odvojiti grljenje drveća od zaogrnutog nadržilječništva i pokušaja legitimizacije pseudoznanosti.

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Vojko Strahovnik

The Measure of Justification: On How to Form and Maintain Beliefs Rationally and Virtuously

The debate about the frame problem exposed the important role that background information and our sensitivity to it play in our cognition and action. The frame problem arises ubiquitously in human cognition, including in belief fixation. Humans, in their cognitive processing, evidently often handle this problem well, given that we are commonly sensitive to a vast amount of background information and their relevant interconnections while forming and maintaining beliefs. The main challenge remains in answering the question regarding the specific relevance of such background information about epistemic justification. If one merely focuses on propositional justification, then a simple answer could be that much of what goes on in our cognition is handled by non-conscious processing. But things get more complicated when considering doxastic justification, which includes the condition that an epistemic agent must appreciate the evidential basis for a given belief and form the belief based on such appreciation. In the paper, I will propose a framework that can provide an attractive answer to the challenge of doxastic justification and further translate it into a view on epistemic rationality and epistemic virtuousness.

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Felix M. Wensveen

Why we get sick; interactions between the immune and endocrine systems during viral infection

Being sick makes us miserable. Following infection with a pathogen we lose appetite, get a temperature and feel weak. We experience these feelings as pathology, but in fact they are a carefully orchestrated physiological response. Upon infection, the immune and endocrine system directly communicate to change systemic metabolism and induce a state that we experience as 'being sick'. The purpose of this state is to impair replication of the invading pathogen and at the same time generate an optimal environment for immune cell function. The underlying molecular mechanism of this process have long remained unknown, but recent advances have made clear how the immune system mediates changes in endocrine function upon infection. In the context of pre-existing metabolic disease, this system derails and may promote development of pathologies such as diabetes mellitus type 2 (DM2). Importantly, patients with metabolic disease fail to induce the immune-mediated anti-viral changes in systemic metabolism, which predisposes them to severe disease outcome following infection with pathogens such as SARS-CoV-2. Indeed, DM2 is one of the biggest risk factors for morbidity and mortality in the context of COVID-19. In this lecture, our recent discoveries on immune-endocrine interactions in the context of infection will be discussed.

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