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Editorial

The use of formal logic can improve philosophical arguments in a number of ways. A very direct way is the method for coming up with well-received course papers that Juhani Yli-Vakkuri told me about when we were both in graduate school: Take any of the articles you have read in the course and formalize its central argument; in the majority of cases, you will find that the argument is either a non-sequitur or beset by a hidden and contentious premise. Formal logic can also indirectly improve philosophical arguments by guiding informal reasoning. For instance, after learning that it is incorrect to move the existential quantifier in front of the universal quantifier, we may become more conscious of the analogous mistake in informal contexts.

Definition theory can and should play similar roles. When a term's chain of definitions is formalized, it might turn out that the term is in fact empty, all-inclusive, or simply ill-defined. And learning definition theory can also improve the concepts we develop informally, for instance because we realize that terms do not have to be defined by individually necessary and jointly sufficient conditions. Given the central role of concept development in philosophy, it is therefore surprising that definition theory appears so infrequently in philosophy courses and introductory textbooks. To my knowledge, the only treatment of definition theory in introductory English-language textbooks, besides Patrick Suppes' *Introduction to Logic*, is Benson Mates' *Elementary Logic*, a showcase for the clarity of thought that logic and definition theory can bring to a topic.

Mates' "On the Verification of Statements About Ordinary Language" is another such showcase. This article from 1958 anticipates much of the current discussion about a central method of experimental philosophy, the investigation of people's intuitions by way of surveys. Mates' first consideration already anticipates a justification of armchair analysis of philosophical intuitions that is still implicitly and sometimes explicitly assumed. It is "the comfortable suggestion that the average adult has already amassed such a tremendous amount of empirical information about the use of his native language, that he can depend upon his own intuition or memory and need not undertake a laborious questioning of other people, even when he is dealing with the tricky terms which are central in philosophical problems" (p. 165). Mates offers a rejoinder that, half a century later, would also be put forth by experimental philosophers: "Such [an] assertion is itself an empirical hypothesis, of a sort which used to be invoked in favor of armchair psychology, and it is not born out by the facts. It has been found that even relatively careful authors are

often not reliable reporters of their *own* linguistic behavior, let alone that of others" (p. 165). Mates furthermore points out that "the intuitive findings of different people, even of different experts, are often inconsistent" (p. 165). This is the central result of what is now sometimes called experimental restrictivism', and with his remark about the inconsistency of *experts'* intuitions, Mates also challenges the expertise defense of armchair analysis.

Mates goes on to map out two different strategies for investigating intuitions empirically. The first, which he calls the 'extensional approach', is experimental philosophy's method of surveying intuitions regarding vignettes about philosophically interesting cases. When used to arrive at philosophical theories that account for the intuitions, the approach is now sometimes called 'experimental analysis'. Mates lists a number of challenges that this approach faces, many of which have been taken up years later by experimental philosophers in response to criticisms of their experimental studies.

The extensional approach in experimental philosophy has also been challenged as a whole by the contention that reflective equilibrium (or something along those lines) is the proper method of discovering philosophical truths or the true meaning of words. Experimental philosophers have countered that the reflective equilibria achieved by philosophers cannot be assumed to be the same for everyone else. Thus, there is still a need for surveys. In this approach, which Mates calls 'intensional', the experimental philosopher administers "a test which will amount to a sort of Socratic questionnaire" during which she asks the subject what he means by a given word or how he uses it. Throughout the test, "there will have to be prodding questions aimed at drawing the subject's attention to borderline cases, counterexamples, and various awkward consequences of his first and relatively off-hand answers" (p. 169). This continues "until the subject settles down more or less permanently upon a definition or account" (p. 166).

Mates next turns his attention to an issue that, it seems to me, is ahead of today's discussion about experimental philosophy. He points out that the extensional and the intensional approaches will often give different results and, furthermore, the results of the intensional approach may depend on the kind of questionnaire used. Mates suggests putting this to the test by trying to design both questionnaires that lead to a convergence of subjects' answers and questionnaires that tend to lead to greater and greater disagreement between the subjects. If the latter was possible, Mates notes, "it would obviously be awkward to interpret the Socratic method as a method of *finding out* what the subject means, as against *teaching* him something new" (n. 11). Thus, he suggests empirically investigating the relationship between the extensional and intensional approaches, the extent to which the intensional approach leads to convergence, and whether such standard philosophical methods as reflective equilibrium lead to discoveries or changes in intuitions.

Mates' analysis is remarkable because he mapped out both sides of the current debate about experimental philosophy in one fell swoop. To a large extent, he was able to do this just by analyzing the logical and definition-theoretical features of the extensional and intensional approaches. This, I think, is what logic can do for philosophy. It is one reason why I value logicians' takes on philosophical problems and why I was delighted to interview Reinhard Muskens for this issue.

Sebastian Lutz
Uppsala University

Features

Interview with Reinhard Muskens

Sebastian Lutz: You often work at the intersection of logic, linguistics, and philosophy of language; how do you see their relation?

Reinhard Muskens: Well, when I'm working on something I don't think about the differences between these fields much. There definitely is a continuity of interesting puzzles between linguistics and the philosophy of language, to the extent perhaps that most or all of the work in philosophy of language that seems worthwhile at all is also theoretical linguistics. Logic can sometimes be used to help solve those puzzles, but sometimes it can't. Then, if you are lucky, there are interesting reasons why it can't and you can try to define a new logic that can overcome these difficulties. Subsequently you can study the logic's properties. So logic has an impact on our theories of language, but the influence also goes in the other direction in that linguistic problems inspire new work in logic.

The influence of logic on the philosophy of language has been huge, of course, but that is also true of its impact on linguistics. In syntax the whole idea of working with formal grammars already has a definitely logical flavour to it and Chomsky's early work on grammars, which lies at the basis of most recent work, had a precursor in the logician Emil Post's production systems. Some grammars, such as the categorial grammars defined by Joachim Lambek, simply *are* logics. The subfield of linguistic semantics has had strong logical underpinnings since Richard Montague provided them in the late 60s and Barbara Partee made linguistic sense of his work. Pragmatics is much less formalised, but it has profited a lot from philosophers such as Austin, Grice, Kaplan, and Stalnaker. Only in phonology—which is a deeply interesting and fun field—I do not see much logical or philosophical influence.

There actually is a fourth discipline that comes in here—computer science. I am always amazed how thoroughly philosophers manage to ignore this field, given its wealth of sophisticated ideas. Logic and linguistics on the other hand both have computational variants. I'll just mention two computational ideas that have been important for the study of language. The first is the notion of a 'discourse referent', something that can be referred to in discourse even if there is nothing in reality that corresponds to it. This notion naturally popped up when Lauri Karttunen asked himself how a device that must keep track of what is said should be programmed.

Another example that I like is the way the recursion theorist Yannis Moschovakis explains Fregean sense—as the *algorithm* that provides an expression with a reference (or doesn't when it hangs). That certainly seems close to Frege's 'Art des Gegebenseins' and may help solve some puzzles that standard possible worlds semantics cannot deal with.

SL: Your examples of results from computer science that are important but ignored in philosophy are cases where *concepts* from computer science are important for *philosophy of language*. Do you think the problem also occurs for *results* from computer science and for philosophical areas besides philosophy of language? In philosophy of science, for instance, Craig's theorem regarding recursively enumerable theories played a central role in discussions about the need for non-observational sentences.

RM: There is a lot of interplay between concepts and theorems, of course. If your concepts are well-defined you have a chance to prove theorems about them, and proving theorems may lead to finding new concepts and definitions, as Lakatos emphasised. I am inclined to think that there is a primacy of concepts here. After all, you can use Craig's theorem only after you have adopted a certain conceptual (logical) framework.

As far as I can see, few results from computer science play a role in philosophy, but that could become different if philosophers would become more interested in computational concepts. Not only in what things *are* but also in what they *do*. In your own field, the philosophy of science, many find it fruitful to identify scientific theories only with certain sets, certain classes of models. Those sets are things in Platonic heaven that we can contemplate and admire but that actually give very little information about the dynamics of science, how it works, how certain things are derived from other things, how hypotheses are tested, etc. The view is rather static—the data structures are captured, not the algorithms. Classes of models also give very little information about how *complex* a theory is or how complex derivations in that theory are. Moving to a perspective in which there is also room for proof theory (and there is no dichotomy of choice here—it's possible to keep the models) would alleviate this because there are intimate connections between proofs and computations and between model checking (testing) and computation.

For a fun read defending the view that philosophers should care about computer science (and in particular complexity theory) see Scott Aaronson's "Why Should Philosophers Care About Computational Complexity".

SL: Given your interest in linguistics, what is your view on experimental philosophy?

RM: I'm all for experiments, but it's nothing new. If you think—like I do—that it does not make a lot of sense to study the philosophy of X without also studying X and that it will be hard in practice, and maybe also in theory, to draw a boundary between the two, then you are already committed to taking the results of experimental work into account (unless X is math, or logic, or computer science, of course). So if you are working on, say, norms, it seems to me you should have a sophisticated theory of how actual normative reasoning and normative behaviour work, the mechanics of it all, before you can say something more general that makes any sense. That is where theoretical modelling, but also experiments come in.

In this context I should also perhaps say something about the role of intuition. In linguistics, if you want to know something about, let's say, Warlbiri syntax, you consult a native speaker of Warlbiri and ask him or her for a series of grammaticality judgments. Those judgments are based on the informant's intuition, but they constrain your grammatical theory of Warlbiri. Intuitions are *data*! What else could your theory be based upon? Now it can be the case that a researcher is herself a native speaker of the language and it can then be acceptable that she uses her own judgments as input. So if philosophers who are native speakers of English have certain intuitions about who the name "Gödel" refers to in a given scenario, that is their semantic competence, which is perfectly acceptable data, and we can draw conclusions from that about how semantic reference in a certain dialect of English works. Machery et al. draw attention to the fact that such data do not warrant drawing *universal* conclusions—conclusions that will hold for other languages and dialects as well. That is undoubtedly right and worthwile to remind people of, but methodologically it is unsurprising.

SL: So do you think of the theories in theoretical linguistics and philosophy of language just as scientific theories that are confirmed or disconfirmed by language behavior? To put it differently, do you think of the relation between theoretical linguistics and philosophy of language on the one hand and experimental linguistics on the other as analogous to the relation between theoretical and experimental psychology?

RM: I would be on thin ice if I were to say much about psychology and the relation between theories and testing there, because I do not know much about it. There seems to be a lot of fascinating work in psychology that remains in a kind of limbo between very nice idea and fully worked out theory from which it is actually possible to unambiguously derive something. But I may be mistaken there.

But to answer your first question: I am not inclined to put a lot of emphasis on language *behaviour*. We all have *knowledge* of our languages and we even have *common* knowledge of language within our language community. We know that 'the cat is on the mat' is grammatical but that some arbitrary word salad is not and we also know who 'Gödel' and 'the man who proved the Incompleteness Theorems' refer to in a given scenario, given our dialect. All communication presupposes such mutual knowledge, but that knowledge does not amount to a theory since it is not explicit. The task of the linguist is to elicit implicit linguistic knowledge and to reverse-engineer the algorithms of the mind that embody it, so that we can turn it into explicit and precise theories. We can test the latter against people's judgements, which they have by virtue of their implicit knowledge.

SL: At the moment you are working on logics that capture natural reasoning. Can you say a bit about the motivations of the project?

RM: Natural logics are logics that either make use of natural language (as pre-Fregean traditional logic did) or make use of artificial languages that are very close to natural language or linguistic representations. One idea is that it is unneccessary to translate language to one of the standard logics—say first

order logic—in order to do reasoning. We can hardly assume that language users perform such a step. Another idea is that there are special forms of reasoning—in particular *monotonicity* reasoning—that people are good at. This kind of reasoning can rather easily be done on the basis of linguistic structures, as Johan van Benthem and his student Victor Sanchez pointed out a long time ago.

My project starts from the observation that certain terms of the typed lambda calculus—I call them Lambda Logical Forms—are actually very close to linguistic representations. They do not contain the usual logical constants (quantifiers, connectives, boxes, diamonds) but it is possible to write tableau ('truth tree') rules for them. Some of these rules embody the monotonicity reasoning just mentioned. One reason to work with tableaux is that they search for models of the sentences that are given to them. This is very close to the ideas of one prominent psychologist of reasoning—Philip Johnson-Laird's.

My student Lasha Abzianidze—I should say former student, because he has just successfully defended his thesis—has now taken these ideas and has written a theorem prover for natural logic based on an extension of a small tableau system I had defined. The prover can take its input from one of two wide-coverage categorial grammar parsers (the Clark & Curran parser and EasyCCG), turn that input into Lambda Logical Forms, and reason with them. The system performs rather well on certain test suites for entailment in natural language.

SL: Could you say a bit about these test suites?

RM: There are quite a number of them. The first test suite was made in the context of an EU project called FraCaS in 1996. There were at the time, as there are now, several schools of thought within formal semantics. So it became pressing to have some common ground in the form of an overview of the kind of phenomena theories should be able to handle. The FraCaS consortium contained some of the very best people from a diversity of schools and they set up a suite of 346 sequents consisting of a series of premises, followed by a question, to which the correct answer can be 'yes', 'no', or 'don't know', sometimes with additional constraints. The sequents were carefully chosen to represent a wide range of linguistic phenomena.

The FraCaS test suite is really very small compared to the kind of corpora that are available now. Within computational linguistics (but not in theoretical linguistics) there has been a shift to corpus-based methods, which was a kind of paradigm change within the field. This has certainly led to a diminished interest in logic for a time. But entailment problems do not go away and they are technologically important, so there is a lot of interest in entailment again (although people in the new paradigm do not necessarily want to use logic in modelling it—I'm watching this with great interest). This has led to the Recognizing Textual Entailment challenges and to corpora that are much larger than the FraCaS suite. The Stanford Natural Language Inference Corpus, for example, sports no less than 570k human-written English sentence pairs.

SL: Do you think natural logic could also be used in the philosophy of science for identifying inferences that scientists would actually draw? Or is scientific inference too far removed from ordinary reasoning?

RM: My first guess would be the latter. Good scientific theories are independent of formulations in natural language and natural logic is focussed on it. If you take a very broad perspective, I guess that all human reasoning is probably based on our original capacities to plan and reason, capacities that come with the species. So I would be surprised if it turned out that there were any very deep and hard discontinuities between scientific inference and natural reasoning. And I also think formal logical work may have applications in studying both. But I am sceptical about direct applications of natural logic in the philosophy of science.

SL: Humans very often reason incorrectly, and sometimes systematically so. Are you trying to model only the justified inferences or also the terrible ones?

RM: I certainly planned to say something about such systematic mistakes at some point, but I have put that idea on the backburner in favour of doing something that is closer to home but also important—studying modes of reasoning that differ from the classical one. In the classical approach you do a systematic search for a countermodel to your argument, and conclude that the argument is valid if that search fails. That is also the way Lasha's prover works. But it is well-known that tableaux are also useful for other forms of reasoning. At the moment I am trying to model *abductive* inference. This is a mode in which you may *add* extra premises under certain conditions and I think there are ample hints that this is in fact a very important mechanism in natural language interpretation and natural language reasoning. So I want a theory that models abduction in natural language. No guarantees that I will find anything. :-)

News

Drug Safety, Probabilistic Causal Assessment, and Evidence Synthesis, 27–28 January

On 27-28 January 2017, the workshop Drug Safety, Probabilistic Causal Assessment, and Evidence Synthesis took place at the LMU in Munich. The goal of the workshop was simple, yet ambitious: to provide a platform for scholars of various disciplines and decsion makers to meet and discuss issues of causal assessment in drug safety.

In confronting such a multifaceted topic, relying on just one perspective is inadvisable, if not outright dangerous. Therefore a closer collaboration between experts of different fields and regulators is pivotal for improving our policies and our answers to crucial questions in pharmaceutical risk assessment. 21 presentations from speakers based in Australia, Austria, Germany, Great Britain, Italy, Luxembourg, the Netherlands, Norway, South Korea, Spain and Sweden offered perspectives from a wide variety of angles. Such a broad perspective is especially important for philosophers involved in a research program which strives to develop a variety of tools to address methodological and epistemological issues in causal assessment in medicine, since such a program requires the interaction with, and thus knowledge of, the work of health professionals, methodologists, statisticians and epidemiologists. It also provided non-philosophers an opportunity to learn more about current philosophical work.

Barbara Osimani (MCMP/LMU) presented an inferential framework for the purpose of probabilistic causal asses-

sment, which she is developing together with Jürgen Landes (MCMP/LMU) and Roland Poellinger (MCMP/LMU) within the ERC project: Philosophy of Pharmacology: Safety, Statistical Standards, and Evidence Amalgamation. This consists in a Bayesian network specifically adapted to model epistemic dynamics in probabilistic causal assessment that blends together different perspectives that in standard Evidence Based Medicine are working relatively independently so far. Roland Poellinger further elaborated on the concept of exploiting a Bayesian evidence amalgamation framework to formally explore the interplay between heterogeneous evidence and the different components of a causal hypothesis in pharmacological risk assessment. Jürgen Landes strengthened the case for the Variety of Evidence thesis (the thesis that more varied evidence speaking in favour of a hypothesis confirms it more strongly than less varied evidence, ceteris paribus).

The CauseHealth project contributed two presentations: Rani Lill Anjum (Norwegian University of Life Sciences) and Elena Rocca (Norwegian University of Life Sciences) suggested an integrated framework in which post market monitoring, through the study of treatment failure, feeds pre-clinical and clinical research with mechanistic hypothesis, while Stephen Mumford (University of Nottingham) presented suggestive points in support of a dispositionalist stance regarding understanding of probability and synthesis of evidence. The EBM+ consortium, which seeks to make the role of evidence of mechanisms in the evidence appraisal process more explicit, was introduced by Jon Williamson (University of Kent), who spoke about two research projects related to evidence of mechanisms. For the Making Scientific Inferences More Objective project Felipe Romero (University of Tilburg) presented approaches in finding a middle ground in the current reform efforts to increase replicability in sciences.

Jeff Aronson (Oxford University) gave great insight on a crucial aspect of any discussion about causality in medicine and pharmacology, namely the definition of what a "signal" is. Ralph Edwards (Uppsala Monitoring Center, WHO) presented on the problem of discovering causality in pharmacovigilance from real-world data.

David Teira (UNED Madrid) argued that the shift toward evidential pluralism undergoing in regulatory agencies (at least in the U.S.A.) involves a de facto relaxation of regulatory paternalism, while Bennett Holman (Yonsei University) spoke on the problematic and unavoidable deep connection that runs between industry and science and how the former shapes the latter by means more subtle than one might expect.

Regarding the hot debate that is going on over Randomized Controlled Trials and its reputation as being the cornerstone of Evidence Based Medicine, Mike Kelly (Cambridge University) presented an alternative narration in form of the Medicines Adaptive Pathways to Patients, while Ulrich Mannsmann (IBE/LMU Munich) provided a detailed analysis on how to quantify the effect of and correct design-dependent bias in RCTs. Stephen Senn (CCMS, Luxembourg Institute of Health) addressed the benefits and limits of randomization in technical research and covered some fallacious critical arguments against RCTs. Adam La Caze (University of Queensland) examined three different approaches to amalgamating drug safety evidence, pointing out that there is still room for conceptual refinement. Jacob Stegenga (Cambridge University) defended a middle view between the claim that causal inference in medicine should be based on statistical evidence and the one that identify the focus in mechanistic evidence, showing how reasoning about causal relations by appealing to both is vindicated by our best general theory of inference.

Martin Posch (Medical University of Vienna) underlined the challenges that decision makers have to face in data interpretation, in which a balance between a qualitative and a quantitative approach have to be reached.

Last but not the least there were the voices of the regulators and decision makers themselves, who provided invaluable insight on the mechanics and the reasoning behind the everyday decision-making processes in pharmacovigilance, which in itself was of tremendous interest to all participants. Norbert Benda (Bundesinstitut für Arzneimittel und Medizinprodukte) discussed some principles for a decision-theoretic framework in drug safety and benefit risk assessments, the related challenges and consequences and contrasted Bayesian and frequentist reasoning in risk assessment. Brigitte Keller-Stanislawski (Paul Ehrlich Institut and PRAC) discussed aspects of the European Union regulatory approach for benefit risk assessment post-authorization and gave an overview of the legal framework for decision making in the EU. Beth Shaw (NICE) outlined the use of heterogeneous knowledge in guideline development and some challenges and potential solutions with this approach, focusing in particular on possible alternatives to Randomized Controlled Trials.

For the first time, an event brought philosophers, statisticians and decision makers together to discuss drug safety. The lively discussions throughout the workshop covered a wide range of issues which are ongoing and continue to deepen our understanding. Together we shall face arising challenges in drug safety by drawing on the expertise of researchers with a great variety of backgrounds.

Alessandro Demichelis

Calls for Papers

Probabilistic Logic Programming: special issue of *International Journal of Approximate Reasoning*, deadline 1 March.

Inferences and proofs: special issue of *TOPOI*, deadline 31 March.

Infinite Idealizations in Science: special issue of *Synthese*, deadline 15 April.

Formal and Traditional Epistemology: special issue of *MANUSCRITO*, deadline 1 July 2017.

Logic, Inference, Probability and Paradox: special issue of *Philosophies*, deadline 20 July 2017.

Foundations of Clinical Reasoning: An Epistemological Stance: special issue of *Topoi*, deadline 31 August.

Reason & Rhetoric in the Time of Alternative Facts: special issue of *Informal Logic*, deadline 1 September.

What's Hot in ...

Inductive logic

While deductive logic assesses whether the premisses of an argument force the truth of its conclusion, inductive logic typically seeks to assess the *plausibility* of the conclusion of an argument, given some premisses which may themselves be uncertain. Inductive logic isn't studied as much as it should be.

It's a fertile field and there's quite a lot of interesting new research in the area, including the following books and theses.

Some of the recent work in this area contributes in one way or another to Carnap's programme for inductive logic (c.f., e.g., his 1952: *The continuum of inductive methods*, University of Chicago Press). Notably, Jeff Paris and Alena Vencovská (2015: *Pure inductive logic*, Cambridge University Press) explore how Carnap's inductive methods, originally developed in the setting of unary predicate logic, can be extended to polyadic predicate logic. The issues here are rather subtle, but Paris and Vencovská mine a rich seam of mathematical results to guide us through them. There are also several recent PhD theses of note in the Carnapian tradition. Liz Howarth (2015: *New Rationality Principles in Pure Inductive Logic*, Manchester University) and Tahel Ronel (2016: *Symmetry Principles in Polyadic Inductive Logic*, Manchester University) develop the mathematics of polyadic inductive logic. Teddy Groves (2015: *Let's reappraise Carnapian inductive logic!* University of Kent) argues that Carnap's pragmatic approach to inductive logic survives influential criticisms and should be more widely explored. Marta Sznajder (2017: *Inductive logic on conceptual spaces*, University of Groningen) develops some of Carnap's ideas on inductive logic which appeal to geometric representations of concepts.

There is also work on inductive logic which lies outside Carnap's programme. In particular, Bayesianism can provide an alternative paradigm for inductive logic (see, e.g., Howson 2000: *Hume's Problem*, Clarendon Press). While Howson appeals to subjective Bayesianism to understand induction, in my *Lectures on inductive logic* (2017: Oxford University Press), I develop and defend an inductive logic based on the tenets of objective Bayesianism. This book also provides a general introduction to inductive logic.

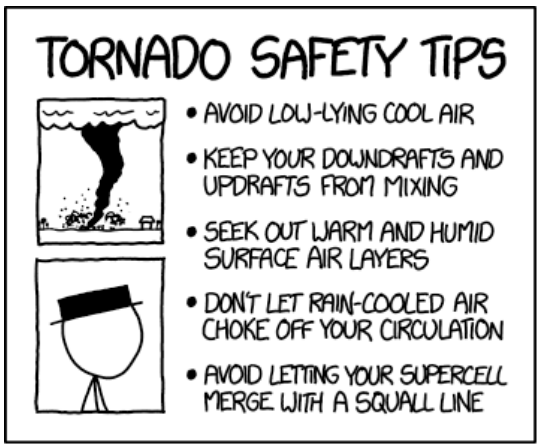
The progic workshops on combining probability and logic provide a forum for research on inductive logic. Progic 2017 takes place in Munich on 29-31 March. Come along to find out more.

Jon Williamson
Philosophy, Kent

Evidence-Based Medicine

It is estimated that by 2025 five million people in the UK will have type 2 diabetes. As a result, preventing type 2 diabetes is now seen as a priority.

A recent study in *the BMJ* looks at determining the effectiveness of one of the main approaches to preventing type 2 diabetes. The study is authored by Eleanor Barry, Samantha Roberts, Jason Oke, Shanti Vijayaraghavan, Rebecca Normansell, and Trisha Greenhalgh. They say that there are two main approaches to attempting to prevent type 2 diabetes. The first approach is to screen and then treat those individuals in the subpopulation identified to be at high risk. In fact, the relevant tests screen for *pre-diabetes*, which is a fairly arbitrary category defined in terms of impaired fasting glucose, impaired glucose tolerance, or abnomormal glycated haemoglobin. This is sometimes called the *screen and intervene* approach. The second approach is a population-level approach which attempts to prevent type 2 diabetes in the population at large by introducing relevant public health policies.



The study aims to evaluate the screen and intervene approach to type 2 diabetes prevention. The authors say that:

> 'A screen and treat policy will be effective only if a test exists that correctly identifies those at high risk (sensitivity) while also excluding those at low risk (specificity); and an intervention exists that is acceptable to, and also efficacious in, those at high risk.'

Given this, the study consists of a systematic review and meta-analysis that looks at determining both the accuracy of diagnostic tests for pre-diabetes and the effectiveness of certain interventions in terms of lowering the risk in progressing to type 2 diabetes for those diagnosed with pre-diabetes.

The study found that lifestyle interventions 'have some efficacy in in preventing or delaying the onset of type 2 diabetes', although the authors point out that they have at best moderate confidence in this efficacy because the study quality was often low. The main problem is that the study also found that screening is inaccurate in a way that results in large numbers of false negatives, so that many people who might benefit from a screen and intervene approach are missing out. The authors conclude that '[t]hese findings suggest that "screen and treat" policies alone are unlikely to have substantial impact on the worsening epidemic of type 2 diabetes'.

The authors suggest that a population-level approach may usefully complement the screen and intervene approach. This line of thought is also endorsed an editorial by Norman Waugh who argues that '[a]dherence to lifestyle changes across whole populations is the key to prevention'. It is an interesting case, because in an age of increased interest in personalized medicine, it looks like an instance where a type of impersonalized medicine may also be helpful.

Michael Wilde
Philosophy, Kent

Events

March

CaC: Causation and Complexity, The University of Sydney, 1–3 March.

C&P: Consequence and Paradox Between Truth and Proof, Tübingen, Germany, 2–3 March.

LoC: Logics of Consequence: Logical Inferentialism, Defeasible Reasoning, and Transitivity, Concordia University, Montreal, 3–4 March.

F&F: Those Pesky Categories of Fact and Fiction, University of Edinburgh, 7 March.

OaVoL: Origins and Varieties of Logicism, Institute for Advanced Study of Pavia, 16 March.

NK:O&S: Natural Kinds: Ontology and Semantics, Complutense University of Madrid, 16–17 March.

MoKno: Modal Knowledge, Bielefeld University, Germany, 16–17 March.

DLW: Edinburgh Deep Learning Workshop, Edinburgh, Scotland, 21 March.

WoIR: Workshop on Infinite Regress, University of Groningen, the Netherlands, 21–22 March.

EIPE: Erasmus Institute for Philosophy and Economics 20th anniversary conference, Erasmus University Rotterdam, 22–24 March.

EoD: The Epistemology of Disagreement, University of Tartu, Estonia, 25–26 March.

G&D: Workshop on Groups and Disagreement, University of Copenhagen, Denmark, 30–31 March.

HOR: Hamburg-Oldenburg Rationality Workshop, University of Hamburg, Germany, 30–31 March.

April

UK-CIM: UK Causal Inference Meeting: Causal Inference in the Health, Economic and Social Sciences, University of Essex, 5–8 April.

GD-MiSEC: Group Decision-Making in Scientific Expert Committees, Tilburg University, 12–13 April.

RGiL: Reason-Giving in Law, European University Institute, Florence, 24–25 April.

SaTEA: Shared and Temporally Extended Agency, University of Copenhagen, 28–29 April.

May

M-ODM: Workshop on Multi-Objective Decision Making, Brazil, 8–9 May.

ADVERSE: Adversarial Reasoning in Multi-agent Systems, Brazil, 8–9 May.

Brazilian Logic Meeting: Pirenópolis, GO, Brazil, 8–12 May.

RUaCS: Risk, Uncertainty and Catastrophe Scenarios, University of Cambridge, 9–10 May.

RCC: Reasoning Club Conference, University of Turin, 18–19 May.

ARiS: Ampliative Reasoning in the Sciences, Ghent University, 18–19 May.

E&EK: Expertise and Expert Knowledge. What is it? Where do we find it?, University College Dublin, 29–30 May.

R&AiS: Reasoning and Argumentation in Science, Center for Advanced Studies, LMU Munich, 31 May–2 June.

Courses and Programmes

Programmes

APhil: MA/PhD in Analytic Philosophy, University of Barcelona.

Master Programme: MA in Pure and Applied Logic, University of Barcelona.

Doctoral Programme in Philosophy: Language, Mind and Practice, Department of Philosophy, University of Zurich, Switzerland.

HPSM: MA in the History and Philosophy of Science and Medicine, Durham University.

Master Programme: in Statistics, University College Dublin.

LoPhiSC: Master in Logic, Philosophy of Science and Epistemology, Pantheon-Sorbonne University (Paris 1) and Paris-Sorbonne University (Paris 4).

Master Programme: in Artificial Intelligence, Radboud University Nijmegen, the Netherlands.

Master Programme: Philosophy and Economics, Institute of Philosophy, University of Bayreuth.

MA in Cognitive Science: School of Politics, International Studies and Philosophy, Queen's University Belfast.

MA in Logic and the Philosophy of Mathematics: Department of Philosophy, University of Bristol.

MA Programmes: in Philosophy of Science, University of Leeds.

MA in Logic and Philosophy of Science: Faculty of Philosophy, Philosophy of Science and Study of Religion, LMU Munich.

MA in Logic and Theory of Science: Department of Logic of the Eotvos Lorand University, Budapest, Hungary.

MA in Metaphysics, Language, and Mind: Department of Philosophy, University of Liverpool.

MA in Mind, Brain and Learning: Westminster Institute of Education, Oxford Brookes University.

MA in Philosophy: by research, Tilburg University.

MA in Philosophy, Science and Society: TiLPS, Tilburg University.

MA in Philosophy of Biological and Cognitive Sciences: Department of Philosophy, University of Bristol.

MA in Rhetoric: School of Journalism, Media and Communication, University of Central Lancashire.

MA programmes: in Philosophy of Language and Linguistics, and Philosophy of Mind and Psychology, University of Birmingham.
MRes in Methods and Practices of Philosophical Research: Northern Institute of Philosophy, University of Aberdeen.
MSc in Applied Statistics: Department of Economics, Mathematics and Statistics, Birkbeck, University of London.
MSc in Applied Statistics and Datamining: School of Mathematics and Statistics, University of St Andrews.
MSc in Artificial Intelligence: Faculty of Engineering, University of Leeds.

MSc in Cognitive & Decision Sciences: Psychology, University College London.
MSc in Cognitive Systems: Language, Learning, and Reasoning, University of Potsdam.
MSc in Cognitive Science: University of Osnabrück, Germany.
MSc in Cognitive Psychology/Neuropsychology: School of Psychology, University of Kent.
MSc in Logic: Institute for Logic, Language and Computation, University of Amsterdam.
MSc in Mind, Language & Embodied Cognition: School of Philosophy, Psychology and Language Sciences, University of Edinburgh.
MSc in Philosophy of Science, Technology and Society: University of Twente, The Netherlands.
MRes in Cognitive Science and Humanities: Language, Communication and Organization: Institute for Logic, Cognition, Language, and Information, University of the Basque Country (Donostia San Sebastián).
Open Mind: International School of Advanced Studies in Cognitive Sciences, University of Bucharest.

Jobs and Studentships

Jobs

Post-doc: in the History and Philosophy of Science, Tel Aviv University, deadline 1 March.
Post-doc: in Theoretical Philosophy, University of Gothenburg, deadline 13 March.
Research Associate: in Machine Learning, University College London, deadline 16 March.
Lecturer: in Statistics and Optimisation, Trinity College Dublin, deadline 23 March.
Senior Lecturer: Applied Statistics, University of Western Australia, deadline 31 March.

Studentships

PhD: in Decision-Making in Viticulture, University of Canterbury, New-Zealand, open until filled.
Phd/Post-doc: in Belief Formation and Reasoning, Karlsruhe Institute of Technology, open until filled.
PhD: in Epistemology/Metaphysics, University of Aberdeen, deadline 31 March.
PhD: in Combining RCTs with Real-Word Evidence, University of Leicester, deadline 20 April.