The Reasoner

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Contents

Editorial

Welcome to the January issue of The Reasoner. It is a great pleasure for me to have interviewed Roy T. Cook. Roy is Professor of Philosophy at the University of Minnesota, and a research fellow at the Minnesota Center for Philosophy of Science. He works mainly in philosophy of mathematics, philosophy of logic, and philosophical logic, but he has also written on the history of analytic philosophy, the aesthetics of comics, and Lego bricks.

Roy is well known for his outstanding work on semantic and other paradoxes, on which he has published extensively. Very recently, his book titled *The Yablo Paradox. An Essay on Circularity* (2014, OUP) came out. There, he explores versions of the antinomy, and examines whether they involve some kind of circularity. His results have already had considerable impact on the study of semantic paradoxes.

Roy is also a specialist in Frege, and has many interesting publications on (neo)logicism. At the moment, this philosophically appealing programme faces the challenge of discerning between 'good' and 'bad' abstraction principles, the so-called *Bad Company problem*. Successive attempts to solve it so far have failed in some way or another, and it is clear now that any successful solution will be technically complex. Roy claims to have found a solution, but we'll have to see when his next big book comes out.

When he's not working on logical matters, Roy is most likely doing research on popular art, comics in particular. He is a big fan of the She-Hulk, a Marvel Comics character and cousin of the famous Incredible Hulk. He has published many articles on the topic, and co-edited *The Art of Comics: A Philosophical Approach* (2012, Wiley-Blackwell) with Aaron Meskin. Next semester he is co-teaching a graduate seminar with feminist philosopher Naomi Scheman on superheroes and identity, examining the superhero from the perspective of feminist philosophy, critical race theory, and disability studies.

Roy is also the proud owner of 3 million Lego bricks, which he stores in his basement. He has given numerous public lectures on Lego as a form of art.

I am very grateful to Roy for agreeing to be my interviewee, and to the editors of The Reasoner for the invitation to edit this issue.

Lavinia Picollo
Munich Center for Mathematical Philosophy

Features

Interview with Roy T. Cook

Lavinia Picollo: What brought you to philosophy and, in particular, to philosophy of mathematics and logic?

Roy T. Cook: When I was an undergraduate at Virginia Tech, I originally thought I was going to be some sort of scientist or mathematician, but I got tired of mathematics, and started taking other courses. I eventually became a political science major, and figured that I'd probably move to Washington DC and do political science—do something very evil and get paid a lot of money. I ended up taking some political theory classes and really liked them, however, so I decided to take more philosophy classes. Then, during the second or third week of a logic course, a professor named Peter Pruim proved Cantor's theorem. My jaw dropped. I remember the very moment—it was one of those striking turning points in life. I recall looking at the board and thinking "I want to do that for a living". I don't think at the time I knew what it meant to do that for a living, but I knew I wanted to do it. I added a double major in philosophy, and here I am.

LP: What drove you to paradoxes, and why do you think they play an important role in philosophy?

RC: My official answer for people with power and money, like deans and administrators, is this: I think a lot of the really hard problems we struggle with in lots of different areas in philosophy can be traced back to paradoxes and similar puzzles. I'm certainly not the only person who thinks this. Paradoxes tend to show that one or more of our most fundamental, and seemingly simple, concepts—like truth, or collection, or knowledge—is somehow flawed. And this shows us where serious, important philosophical work needs to be done.

So that's the official answer. And I believe the official answer. I probably wouldn't do this if I couldn't give that answer, because that gives my work significance—it's important. But I really work on paradoxes because they are beautiful and fun. I couldn't do this if it weren't fun. You're lucky if you have a job where you're enjoying every minute of it, and I get to play with puzzles all day. They're also quite often mathematically beautiful. Paradoxes are much more complex, mathematically, than most people think. So one of the things I'm trying to do in some of my own work is to bring out variations and show how complex these puzzles really are.

LP: Recently you published a very nice book on the Yablo paradox. Why do you think this paradox is particularly important? What does it show? Or is it just a lot of fun?

RC: Of course it's a lot of fun! But it's also serious. The book doesn't attempt to solve the paradox, but instead explores various features that might be part of the explanation of its paradoxicality. One of the main things that's interesting about the Yablo paradox is that, unlike the Russell paradox, or the Liar paradox, or many of the other paradoxes that we teach and study, it doesn't seem to involve any circularity of reference, or circularity of membership, or any other kind of circularity. Much of the book is devoted to figuring out whether that impression is actually correct, and that involves sorting out different versions of the Yablo paradox, and sorting out different understandings of circularity, and then determining which types of circularity are or aren't present in the different variants. Given the fact that circularity has been a central focus in almost every account of the nature of paradoxes, and in almost every solution to paradoxes, it's very important to get straight on what exact role circularity does or doesn't play.

That being said, I don't think that the Yablo paradox is, amongst all paradoxes, especially important or especially central. My thinking in writing the book was not that a hundred people ought to start writing books on the Yablo paradox because it's somehow more important than the Liar or Russell. Rather, a hundred people already have written books on the Liar paradox and a hundred more on the Russell paradox. So I thought the Yablo paradox deserved at least one book of its own.

LP: Which philosophers or academics shaped your views the most in your career?

RC: The historical philosopher that's probably shaped my views the most is Frege. I wasn't much of a fan of the history of philosophy in the beginning. When I was an undergraduate or graduate student I understood the importance of learning the history of philosophy. But I never enjoyed studying the history of philosophy. At least, not until late in grad school, when I discovered two things: one was Leibniz, who I have a small obsession with, although I don't have the time to think about him as much as I would like; and the other was realizing that Frege was history—that I could think about Frege not just in terms of doing Fregean philosophy of mathematics, but also in terms of what Frege's actual views were, and how they differ from contemporary views that we label "Fregean". A few years later I became involved in a project aimed at producing the first full translation of Frege's *magnum opus*, the *Grundgesetze der Arithmetik*. The project was a huge undertaking—it took ten years. During this time I spent a lot of time thinking about how Frege's logical system works differently from our own, contemporary, formal systems, and slowly realizing that sometimes the contemporary way of doing things isn't necessarily better than what Frege was up to.

With regard to real-life living people who influenced me, as is usually the case, the majority of the credit goes to my three main teachers in graduate school. First is Stewart Shapiro, who was my advisor and was and still is my favorite male human being on the planet. Neil Tennant also had a huge impact on me—to be honest, in retrospect I feel a little guilty for not listing him as co-advisor. Finally, George Schumm, a modal logician at Ohio State, was extremely important in emphasizing the importance of clarity and rigor in philosophy. In addition to these three, Crispin Wright was and continues to be a mentor and friend. I certainly owe a lot of who I am as a philosopher to having him as both a colleague and a mentor while I was a postdoc at Arché in St Andrews, and to his continuing support of me, my career, and my often crazy ideas ever since.

LP: Would you describe yourself as a neologicist?

RC: Yes, I definitively count myself as a card carrying neologicist. And our ranks are growing, we might be up to eight or ten people now!

It's actually kind of interesting, because early in my career I was publishing papers very critical of neologicism. I was a believer at the time, but I kept noticing problems that needed to be addressed. So a lot of people—including people working on neologicism—didn't realize I was a believer. I'm still working on many of those problems and I think I have solutions to some of them.

LP: What are you working on next?

RC: My next big project is pulling together the work on the Bad Company Problem that I've been doing off-and-on for the past 15 years and writing a book. Solving the Bad Company problem amounts to distinguishing between the 'bad' neologicist abstraction principles—like Frege's Basic Law V—that for one reason or another can't serve as the sort of implicit definitions of mathematical concepts that abstraction principles are meant to provide, and the 'good' principles—like Hume's principle—which do provide implicit definitions of mathematical concepts. It turns out that drawing this distinction is much more complicated than it first appeared. Mere consistency is not enough for goodness. Conservativeness is not enough. Stability, contrary to a recent article I wrote, is not enough. And so on.

The book will pull together some material from my published articles on the topic and also a good bit of new work, and provide a solution the Bad Company problem—an exact demarcation of the line between the good abstraction principles and the bad. But the criteria that we end up with are surprisingly complex, in both a philosophical and a mathematical sense. And this is going to cause philosophical troubles, because the distinction between good and bad principles is, it turns out, massively undecidable. In particular, for some areas of mathematics, we might be able to obtain a priori knowledge via the stipulation of an appropriate abstraction principle that happens to be good, but we might not be able to know that we know those mathematical truths because we might not be able to know that the principle is good—proving that the principle satisfies the criterion might be in-principle impossible. So there's some epistemic ugliness to the account. I think the account is right, but this probably means that some other philosophical claims about neologicism are going to have to be rethought, at least in the details.

LP: Would you say your work in aesthetics is related to your work in logic?

RC: I would actually. I'm sometimes told by real aestheticians that the papers I write could only be written by a logician who is doing philosophy of art. By the way, I don't mean to use the term "real aesthetician" to make a judgment about the quality of their work versus mine, but merely to pick out those people who actually did their PhD studying philosophy of art, had advisers who knew something about philosophy of art, etc. I am for the most parts self-trained in aesthetics, because I discovered my interest in these issues very late.

I'm of course very interested in comics, but another theme that I'm obsessed with is metafiction, what a lot of scholars call "self-referential fiction" or "reflexive fiction". I don't like those terms for the phenomenon in question, but the existence of these terms already indicates that there's probably some kind of connection between the issues in fiction that interest me and the issues in logic, and in particular paradoxes, that interest me. I get really excited when characters break the fourth wall in comics; when they reach outside the panel borders; when they interact in some way with the audience, or with the writer or artist or editor; or when certain elements on the page act both as text and picture at the same time. All these different metafictional strategies involve comics creators breaking the rules somehow. The main reason I'm interested in metafiction is that I'm interested in figuring out what comics are and how they work. And so I'm very interested in figuring out what rules govern the creation of comics, and what rules govern our understanding and appreciation of comics. Looking at metafiction—looking at these comics that break the rules—is a really fruitful way to figure out what the rules are in the first place.

LP: Why do you have a special interest in the She-Hulk? Is it because of this metafiction going on there?

RC: The honest answer I give when I give talks on the She-Hulk—and I give talks on the She-Hulk a lot because she's my favorite character—is that there are two distinct reasons. First, John Byrne's run on *The Sensational She-Hulk* in the late 80's and early 90's, and Dan Slott's run on *She-Hulk* in the early 2000's, are both chock-full of really clever and complicated metafictional content. In the Dan Slott run the She-Hulk is a lawyer for a firm that specializes in defending captured supervillians, and the basement of her firm's building houses a massive collection of comic books. The reason is simple: because all comic books carry the Comics Code Authority seal, they count, within the fictional world of Marvel Comics, as historical documents—they're admissible in court as accurate records of what really happened!

I always begin with that metafiction-motivated justification for my interest in the She-Hulk. But, being a fan of full honesty, I also freely admit that there is a second reason: My interest in the She-Hulk back in the late 80's, when I was a teenager and I was buying John Byrne's comics, was not because of any theoretical interest in metafiction. It is because I'm a nerd and, apparently, I find fictional 7-foot tall super-strong green-skinned women attractive. And I still do—I just find the character fun, and funny, and sexy. There are, of course, serious problems with gender representation in comics—both in general, and with respect to the She-Hulk in particular—and I've also addressed these in some of my writings on the She-Hulk.

LP: Do you think they are interesting philosophical issues surrounding Lego?

RC: Definitely! Sondra Bacharach and I are currently co-editing a Blackwell popular culture volume on Lego and philosophy, which will be out sometime next year. It's going to have an essay on how picture proofs work similar to Lego models. There will be essays on gender, and I am writing about the representation of race in Lego. The volume also has essays on political philosophy, ethical issues, Asian philosophy, and a host

of other topics and approaches. So Lego can be used to raise a lot of different philosophical issues. But, to be honest, I don't think this is too surprising, because Lego has become such a massive multifaceted international phenomenon. There are the toys, television shows, and theme parks; there are mathematicians studying the properties of Lego; there is the hit movie. There are artists like Ai Weiwei and Zbigniw Libera and Olafur Eliasson working with Lego as a medium. There are lots of different places for various kinds of philosophers, with various kinds of interests, to latch onto Lego, if they are so inclined. Of course, as someone who owns 3 million Lego bricks, I'm definitively so inclined.

As a final note, I'll point out that my answer to this almost has to be "yes", because I have a theory that philosophers should not have hobbies. I like putting it that way because people hear it and think I'm saying something evil, like they have to work all the time. What I'm actually pointing out is that philosophy is so broad that just about anything interesting enough and complex enough to keep a professional philosopher entertained is also probably interesting enough and complex enough that philosophical questions about that activity will arise. The beauty of this is then you can get the university to give you money to study your hobby, and then it's not a hobby because somebody else is paying for it. For example, I've managed to get a number of small research grants to purchase comics for my research collection. I haven't figured it out how to get other people to buy me Lego yet, but I'm working on it.

The Diagonal Lemma Fails in Aristotelian Logic

Gödel's theorem does not need an introduction. But it is generally not acknowledged that all instances of Gödel's sentence are vacuous (see below). On the contrary Aristotelian logic permits only sentences that are *not* vacuous. The consequences of these observations are surprising.

What does the article title mean? First of all by "Aristotelian logic" we will understand the logic of the traditional syllogism. By "classical logic" we will mean modern symbolic logic. It is well known that the laws of Aristotelian logic are valid only if all the terms refer to non-empty sets.

Traditional Aristotelian logic recognizes four types of sentences:

A : All F are G

E : No F is G

I : Some F are G

O : Some F are not G

Certain relationships are said to hold between these types. For example A and E are *contraries*. This means that both cannot be true, but both can be false. Here the modern logicians spotted a problem. Suppose that we interpret the four types as in Table 1 below.

A : $\neg(\exists x)(Fx\&\neg Gx)$

E : $\neg(\exists x)(Fx\&Gx)$

I : $(\exists x)(Fx\&Gx)$

O : $(\exists x)(Fx\&\neg Gx)$

Table 1

Suppose further that F is empty, i.e., that $\neg(\exists x)Fx$. Then according to classical logic both A and E will be true. The above interpretation [Table 1] does not hold. The issue was analyzed by P. F. Strawson (1952: *Introduction to Logical Theory*, London, Methuen, pp. 163-179). He showed that given the interpretation below

A : $\neg(\exists x)(Fx\&\neg Gx)$ & $(\exists x)Fx\&(\exists x)\neg Gx$

E : $\neg(\exists x)(Fx\&Gx)$ & $(\exists x)Fx\&(\exists x)Gx$

I : $(\exists x)(Fx\&Gx) \vee \neg(\exists x)Fx \vee \neg(\exists x)Gx$

O : $(\exists x)(Fx\&\neg Gx) \vee \neg(\exists x)Fx \vee \neg(\exists x\neg)Gx$

Table 2

all the laws of the traditional syllogism will hold (p. 173). Traditional logic assumes that the subject term refers to something that does exist. However, the formulae in Table 2 are implausible translations of the natural language sentences (p. 173) So he proposed to take the term $(\exists x)Fx$ as a *presupposition*. This means that $\neg(Ex)Fx$ does not imply that A is false, but rather $(Ex)Fx$ "is a necessary precondition not merely of the truth of what is said, but of its being *either* true *or* false." [Original italics] (Strawson, p. 174) We will, however, do one better and take the entire $(\exists x)Fx\&(Ex)\neg Gx$ as the presupposition. Then A *is neither true nor false if* $(\exists x)Fx\&(\exists x)\neg Gx$ is not true. For our purposes it is important to note that there is no such thing as a vacuously true proposition. Vacuous propositions are by definition neither true nor false.

Such a logic *can* be formalized. This can be accomplished by generalizing truth-relevant logic (Richard M. Diaz 1981: *Topics in The Logic of Relevance*, Philosophia Verlag, München) to the predicate calculus. In this logic the sentences

$(P\&\neg P) \rightarrow Q$

$\neg(P\&\neg P) \vee Q$

$\neg((P\&\neg P)\ \&\neg Q)$

are not truth-relevant tautologies (Diaz, p. 67). Similarly in Strawson's logic the sentences

$(x)(Fx \rightarrow Gx)$

$(x)(\neg Fx \vee Gx)$

$\neg(\exists x)(Fx\&\neg Gx)$

are not true if $\neg(\exists x)Fx$. (Nor are they false). But truth-relevant logic *can* be extended not only to monadic predicate calculus but also to the logic of relations: see Newberry (2014: Generalization of the Truth-relevant Semantics to the Predicate Calculus).

Let us now turn our attention to the diagonal lemma and in particular to Gödel's theorem. In Peano Arithmetic there exists a decidable relation *Diag(y,z)* such that if y is the Gödel number of a formula with one free variable then z is the Gödel number of the formula obtained from y by substituting (the numeral of) the Gödel number of y for the free variable in y. Further let *Prf(x,z)* be a predicate such that x is the Gödel number of a sequence that is a proof of the sentence with Gödel number z. Then consider the formula

$$\neg(\exists x)(\exists z)(Prf(x,z)\ \&\ Diag(y,z)) \qquad \text{(U)}$$

with one free variable y. Let the constant k be the Gödel number of U. We substitute k for the free variable y in U. We obtain

$$\neg(\exists x)(\exists z)(Prf(x,z)\ \&\ Diag(k,z)) \quad \text{(G)}$$

As a result of this construction *Diag(k,z)* is satisfied only by the Gödel number of G. We will denote the Gödel number of G as '<G>'. Then according to classical logic G is equivalent to

$$\neg(\exists x)Prf(x,<G>) \quad \text{(H)}$$

and thus

$$\neg(\exists x)(\exists z)(Prf(x,z)\ \&\ Diag(k,z)) \leftrightarrow \neg(\exists x)Prf(x,<G>) \quad \text{(J)}$$

The sentence (J) above is an instance of the diagonal lemma also known as the fixed point theorem. We replaced the free variable z in $\neg(\exists x)Prf(x,z)$ with the Gödel number of some sentence φ such that $\varphi \leftrightarrow \neg(\exists x)Prf(x,<\varphi>)$. In this case φ happens to be G.

Now we are coming to the crux of the matter. Let us substitute natural numbers for y in G:

$$\neg(\exists x)(Prf(x,1)\ \&\ Diag(k,1))$$

$$\neg(\exists x)(Prf(x,2)\ \&\ Diag(k,2))$$

$$\neg(\exists x)(Prf(x,3)\ \&\ Diag(k,3))$$

For any n either $\neg(\exists x)(Prf(x,n)$ or $\neg(\exists x)Diag(k,n)$. Given the following equivalences

$$\neg(\exists x)(Prf(x,n)\ \&\ Diag(k,n)) \equiv$$

$$(x)(Prf(x,n) \rightarrow \neg Diag(k,n)) \equiv$$

$$(x)(Diag(k,n) \rightarrow \neg Prf(x,n))$$

we find that if $n =< G >$ then

$$(x)(Diag(k,n) \rightarrow \neg Prf(x,n))$$

is vacuous. So let $n =< G >$:

$$\neg(\exists x)(Prf(x,<G>)\ \&\ Diag(k,<G>)) \quad \text{(K)}$$

According to the logic of presuppositions both terms in K must refer to non-empty sets. In particular $(\exists x)Prf(x,<G>)$ must hold; it is a *presupposition* of K. That is, if $\neg(\exists x)Prf(x,<G>)$ then K cannot be true! The equivalence J no longer holds. By cutting the Gordian knot we are able to say that G is not true even though G cannot say it of itself.

X.Y. Newberry

News

Epistemic Norms, 9–11 November

In the last decade, there has been a surge of interest in the epistemological literature in the question regarding what, if any, epistemic norms govern certain actions or mental states.

The Leuven Epistemic Norms Conference aimed to, first of all, shed light on foundational issues in this respect: are there epistemic norms governing our habits of belief-formation, assertion and action? If yes, what is their structure and what is the source of their authority? Peter Graham (UC Riverside) argued that etiological epistemic functions are the source of epistemic normativity, while Frank Hoffman (University of Luxembourg) put forth a virtue epistemological account of the norm of belief.

Several accounts of the normativity of belief, assertion and action have been defended. Igor Douven's (Paris-Sorbonne University) talk provided reasons to believe that, in some contexts, versions of inference to the best explanation outperform Bayes' rule in all important epistemic respects. Jennifer Lackey (Northwestern University) looked into the epistemic norm of credibility; she argued that, contrary to what is widely thought, credibility is not a limitless good. When some get too much of it, others often get too little. According to her, then, justice demands that we look at its proper distribution not just individually, but relationally as well.

Chris Kelp (KU Leuven) proposed a function-first account of assertion, while Sandy Goldberg (Northwestern University) argued that in the same way that a speaker can do epistemic harm to a hearer by asserting unwarrantedly (thereby generating false belief), a hearer can risk the epistemic harm of other participants in the conversation by allowing them to operate on false assumptions regarding the hearer's attitude towards the asserted content.

Second, issues pertaining to how epistemic norms might interact with each other and/or other normative requirements such as, for instance, practical or moral constraints were taken up. Jessica Brown (University of St Andrews) looked into various accounts of blameless breach of epistemic norms available on the market and found them wanting. In particular, Brown argued against the sufficiency claim involved in Tim Williamson's account, which sees blamelessness as sourced in the compliance with further norms, derived from the primary one.

Contra Hilary Kornblith, Patrick Rysiew argued that practical considerations alone don't fully explain epistemic norms and their basis; in addition, according to Rysiew, Kornblith's proposal requires materials associated with an approach to epistemic norms that grounds them in features *internal* to the relevant cognitive-epistemic phenomena themselves.

Last but not least, topics related to the impact of the results in research on epistemic normativity on other debates in epistemology, like, e.g. the internalism-externalism debate, were also addressed. Pascal Engel (L'École des Hautes Études en Sciences Sociales, Paris) argued against dualist views, trying to reconcile subjective and objective epistemic normativity, while Clayton Littlejohn (Kings College London) argued that evidentialist accounts of justification are incompatible with a plausible view that takes reasons to be facts.

Mona Simion
University of Leuven

Calls for Papers

Agent-Directed Simulation: special issue of *International Journal of Modeling, Simulation, and Scientific Computing*, deadline 1 January.

Methodologies for Research on Legal Argumentation: special issue of *Informal Logic*, deadline 14 February.
Weighted Logics for Artificial Intelligence: special issue of *International Journal of Approximate Reasoning*, deadline 22 February.
Causality and Modeling in the Sciences: special issue of *Disputatio*, deadline 31 March.
Logical Pluralism and Translation: special issue of *Topoi*, deadline 30 April.
Experimental Philosophy: special issue of *Teorema*, deadline 30 April.

What's Hot in ...

Uncertain Reasoning

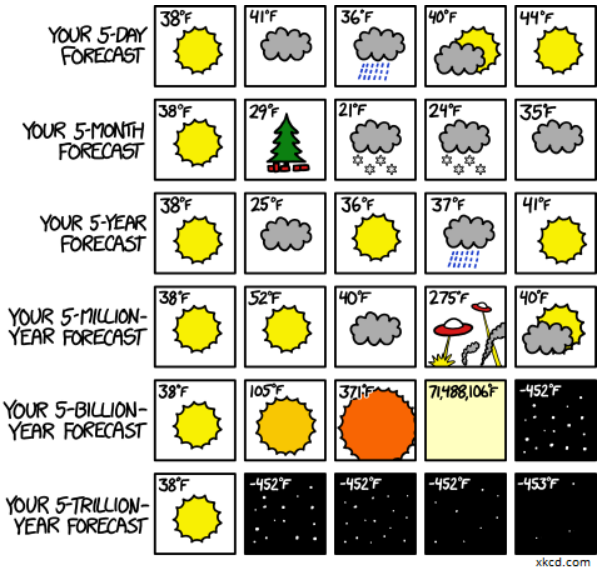
On Saturday 12th December 2015 195 countries, plus the European Union, signed the first global agreement on climate change. The historic document, among other things, contains the objective to keep global warming within 1.5 degrees of the pre-industrial level by 2100. The press cheered the agreement with little understatement. The Guardian, for instance, titled an article Paris climate change agreement: the world's greatest diplomatic success. However commentators, initially NGOs, but rapidly extending to the mainstream press, put forward a number of worries concerning the real import of the accord. Just a two days after the agreement, for instance, Nick Butler noted in the Financial Times that

> The commitments made are not legally binding and political decisions could be altered by future elections or regime changes. The funds available for adjustment are too limited and, of course, there is no carbon price.

So, is the climate accord an epic step forward towards a sustainable future, or is it rather an extremely sophisticated diplomatic *exercice de style*? Many seem to agree that independently of whether it will be implemented, the agreement is indeed a diplomatic success which is largely due to the work of the Intergovernmental Panel for Climate Change (IPCC). Those with an interest in the topic are well-acquainted with the fact that one of the difficult tasks of the IPCC is to bridge the gap between climate scientists and policy-makers and in doing so, one key problem is to do with the "severe" nature of the uncertainty involved in the assessment of the causes, extent and consequences of climate change.

Many interdisciplinary research groups have recently been working on bringing some clarity to this problem. Readers of The Reasoner will be familiar with the Managing Severe Uncertainty project at the London School of Economics (see the October 2014 issue), which combines philosophers, climate scientists and economists. Three members of this group, Roman Frigg, Erica Thompson and Charlotte Werndl, have just published—indeed exactly when the Paris talks were approaching their happy end—the first two in a series of three papers on the Philosophy of Climate Science. Part I deals with "Observing Climate Change" and Part II with "Modelling Climate Change". The authors analyse critically the methodology (including the very definitions of "climate" and "uncertainty") adopted by the IPCC in producing the reports which have recently gained such a high reputation. In addition to providing a beginner's introduction to the field, Frigg et al. point out how many classic themes from the philosophy of science are directly relevant to understanding and modelling climate change. If put to work they could potentially lead to a much better appreciation of what is largely considered to be the hardest intellectual problem of our time. And hopefully to an uncontroversial next epic agreement on climate change.

Hykel Hosni
Department of Philosophy, University of Milan



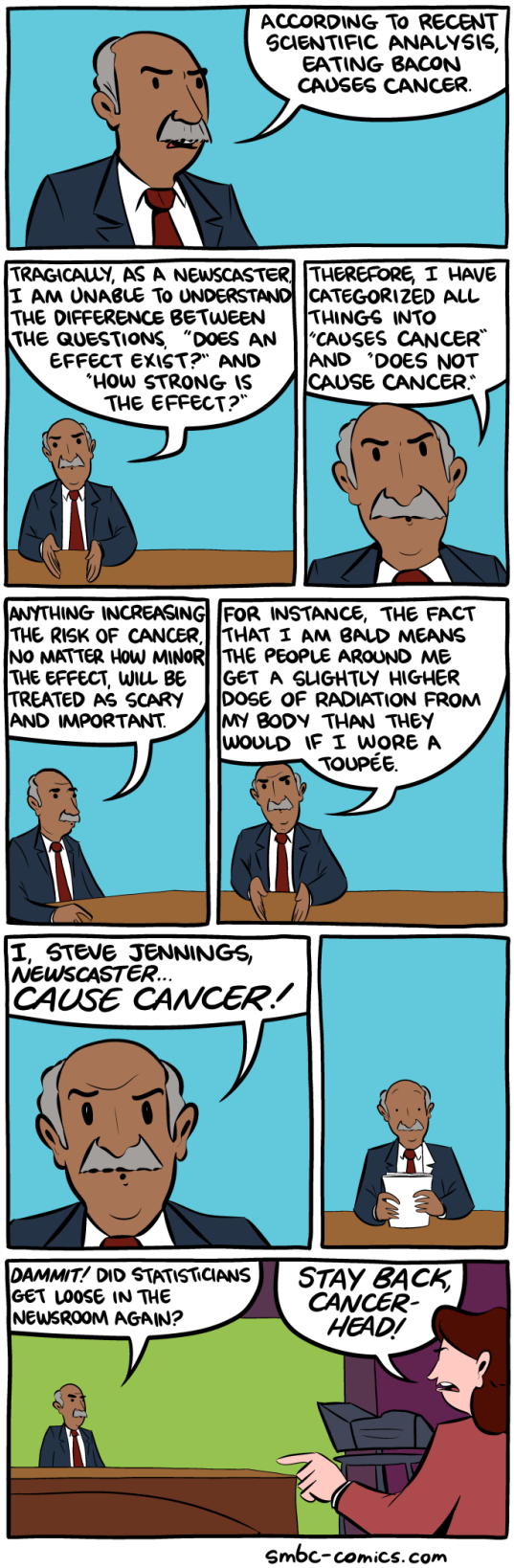
Evidence-Based Medicine

Every month, the Health and Social Care Information Centre publish anonymized data about the drugs prescribed by GPs in England. Unfortunately, this information is not presented in an easily accessible format, which has made it difficult to use the information to possibly improve prescribing behaviour. Now, a website has been set up to remedy this state of affairs: *Open Prescribing*.

Open Prescribing allows anyone to straightforwardly search all the available prescribing data. The user can look up any available drug against any other drug or group of drugs, and the site then presents these data in simple graphs. For example, the user can compare GP practices in terms of their prescribing of branded and generic statins. The user can also look at prescribing patterns over time and on a map. This makes it possible to straightforwardly see any variation in prescribing behaviour across GP practices or Clinical Commissioning groups more generally. Any variation may then be assessed in terms of whether it is warranted in order to possibly improve treatment. Best of all, the service is available to everyone. Readers of *The Reasoner* in England may want to have a play around with this service, and see how their GPs are prescribing.

The site is designed and built by Ben Goldacre and Anna Powell-Smith at the EBM Data Lab at the University of Oxford. It is currently in its beta-phase, and is actively looking for further funding for development. The project has so far received funding from the West of England Academic Health Science Network. For more information see here.

Michael Wilde
Philosophy, Kent



Events

January

CABN: Causal Analysis with Bayesian Networks, New York, New York, 5 January.
BHM: Bayesian Hierarchical Models with Applications, University of Manchester, 14–15 January.
PoM&L: Graduate Conference on the Philosophy of Mathematics and Logic, University of Cambridge, 16–17 January.
PoL: Workshop in Philosophy of Logic, University of Salento, Italy, 21–22 January.
NoL: The Nature of Logic, University of York, 26 January.

February

IBC: Introductory Bayesialab Course, Paris, 2–4 February.
FUB: False but Useful Beliefs, London, 4–5 February.
UIB&R: Understanding Irrational Belief, Action, and Reasoning, Kings College London, 19 Feburary,
.SR&HoS: Scientific Realism and the Challenge from the History of Science, Indiana University-Purdue University Indianapolis, 19–21 February.
SvCS: Science versus Common Sense, VU University Amsterdam, 25–27 February.
PoP: Philosophy of Physics Conference, University of Hamburg, 29 February–3 March.

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 & 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.

MA in Reasoning

A programme at the University of Kent, Canterbury, UK. Gain the philosophical background required for a PhD in this area. Optional modules available from Psychology, Computing, Statistics, Social Policy, Law, Biosciences and History.

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

Lecturer/Senior Lecturer: in Statistics, The Open University, deadline 5 January.
Research Fellow: in Moral Uncertainty, University of Oxford, deadline 6 January.
Assistant Professor: in Early Modern Philosophy, Trinity College Dublin, deadline 12 January.
Assistant Professor: in Statistics, University of Nottingham, deadline 29 January.
Assistant Professor: in Artificial Intelligence & Machine Learning, University of California, Irvine, deadline 15 March.

Studentships

PhD position: in statistical modeling, University of Cambridge, deadline 5 January.
PhD position: in Statistics, University College Dublin, deadline 1 April.