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90 ter arguers. This focus on the arguer has also characterised much of Dan's recent scholarly work: he may be best known for his work on the application of virtue theory to argumentation.

90 The relationship between virtues and arguments was the theme of the most recent Ontario Society for the Study of Argumentation conference, at which Dan was a keynote speaker (2013, "[Virtue, in context](#)," *Informal Logic*, 33(4), pp. 471–85). In that paper, which sums up his work of the previous decade, 96 Dan defends a virtue theory of argumentation as the best theoretical basis for the pursuit of fully satisfying arguments. Virtue 97 argumentation theory has enjoyed a recent surge of attention (this [bibliography](#) identifies more than 150 relevant works). In 97 particular, it is the theme of a forthcoming [special issue](#) of *Topoi* which Dan and I have just finished editing. It contains some 98 excellent papers, and we hope that it will broaden and deepen what is already a rich debate. My thanks again to Dan for an engaging discussion and to the editors of *The Reasoner* for the invitation to edit this issue.

[ANDREW ABERDEIN](#)

Florida Institute of Technology

EDITORIAL

It is a pleasure to return as guest editor for another issue of *The Reasoner*. I am particularly grateful to Prof. Daniel Cohen of Colby College for agreeing to be this month's interviewee. Dan is a well-known figure in the informal logic community, and beyond: his [TEDx talk](#), "For argument's sake," has received more than one million views. In that talk he addresses the challenge of how to make arguments fully satisfying for all the parties involved—something confrontational styles of argumentation all too often fail to achieve. He concludes that better arguments will require bet-



FEATURES

Interview with Daniel Cohen

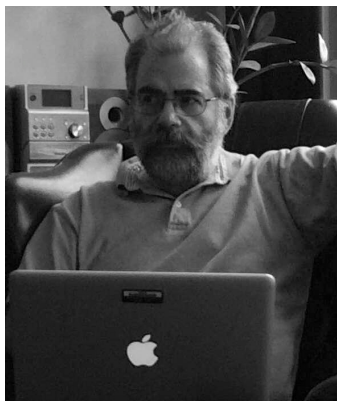
Andrew Aberdein: You're best known for your work on argumentation, but you were a student of Nuel Belnap and Michael Dunn. What first attracted you to logic?

Dan Cohen: My first intellectual love was mathematics but philosophy seduced me away by being even more abstract, even more beautiful, and even more fun! I never stayed awake all night as an undergraduate arguing with my friends about mathematical theorems but on many occasions I did argue about metaphysical theories well into the wee hours. Logic was the bridge connecting mathematics to philosophy, so when

I was introduced to relevance logic as a graduate student, I was immediately interested. The technical cleverness and elegance displayed by Nuel and Mike and other relevance logicians was impressive enough, but it was the sheer philosophical audacity of trying to capture the formal notion of relevance at the heart of entailment that made it irresistible.

AA: How did you end up moving from relevance logic to informal logic?

DC: Two paths led me to informal logic. First, from the start of my academic career there has been a symbiotic relation between my theoretical research and my pedagogical practice. Each has informed the other in important ways: courses have had their genesis in my research, and published papers have emerged from courses I have taught. It is important to me that my philosophical thought and practice be integrated, and for all its aesthetic virtues and intellectual achievements, relevance logic is just not all that relevant to achieving that kind of integrity. (I am, of course, still open to argument on this point.)



The second evolution was more conceptual. My interests in formal logic led me to wrestle with Ludwig Wittgenstein's *Tractatus Logico-Philosophicus*. As I read it, it begins as a profound testimony to the powers of logic and logical analysis in philosophical matters, but ends as a profound challenge to any pretensions on their part to philosophical omnipotence. From there, my interests spread to include questions in the philosophy of language and then a focus on metaphors. The final step to argumentation was largely due to Lakoff and Johnson's extended use of the argument-is-war metaphor as an example of how metaphors both reflect and inform our thinking and practice. My first entry into the field was a paper I delivered at the first OSSA [Ontario Society for the Study of Argumentation] conference in 1995 titled, "[Argument is War... and War is Hell: Philosophy, Education, and Metaphors for Argumentation](#)." The feedback that I received from that paper was so encouraging (read: the arguments that resulted were so enjoyable), that I sensed right away that this was an area I needed to explore more thoroughly.

And then, as you know, Andrew, it was your commentary on [a paper](#) that I gave at the OSSA meeting in 2005 that retroactively crystallized many of my inchoate thoughts from the previous ten years and gave form to Virtue Argumentation Theory. I remain very grateful for that generous act of "hermeneutical ventriloquism."

AA: Thank you for your flattering assessment of my modest contribution! In the last few years Virtue Argumentation Theory has attracted a fair bit of attention. What would you say is its distinctive contribution to informal logic?

DC: It has opened our eyes to broader perspectives on argumentation. Arguments have been described, analyzed, and

explained from a multitude of angles: logical, epistemological, sociological, ethical, aesthetic, psychological, etc. But because argumentation is so multi-faceted, even this wealth of approaches does not exhaust the field. What I find so appealing in Virtue Argumentation Theory is how the seemingly innocuous shift in focus from arguments to arguers manages to shed so much new light on all the old theoretical questions while also revealing entirely new aspects of argumentation for us to appreciate, wonder about, and try to explain.

AA: I agree. A wealth of new perspectives results from the shift of attention from arguments to arguers. Which do you find the most interesting?

DC: Suppose we take the goal of informal logic to be intelligent, critical assessment of arguments. There are many different aspects that could be offered in support of a positive (or negative) critical assessment of an argument, most notably that the inferences are strong, that the reasoning succeeds in persuading the opponents, or that the parties reach a satisfactory resolution. Notice that these three answers implicate different conceptions of what an argument is. The first treats arguments as propositions arrayed in an inferential structure; the second addresses the performative aspects; while the third focuses on the communicative exchange. In some ways, I find these approaches comparable to plot summaries of novels that ignore the characters: descriptive reports of what happened rather than explanations of why. This changes in virtue theories, where the prime question is, "What kind of arguer do (and should) I want to be?" The answer, of course, is a *good* arguer, but that deflects the question with a vacuous truism. It deserves a more substantial answer, so the first thing that I like about virtue theories is that they emphasize that arguing is an integral part of who we are as rational beings and epistemological agents. I want to be someone who benefits from arguing, of course, but it cannot be at the expense of the other arguers because I want others to continue to want to argue with me so that I will continue to have opportunities to argue. A good argument, traditionally conceived, is a discrete event (*pace* those theorists who think of arguments as timeless, abstract arrays of propositions): the narrow judgment that it was good tells us nothing about any effects it had on its participants nor does it have any predictive value on their future arguments. Its goodness might be merely fortuitous. In contrast, the judgment that an arguer is a good arguer requires a broader perspective. The virtues approach to argumentation embeds arguing in the larger context of what it is to be rational.

Another thing I like about approaching argumentation this way is that it forces us to confront another question, *viz.*, *why* do we argue? I mean that to be a teleological *why* with normative force—i.e., what should we want to get out of arguing?—not the *why* in search of a causal explanation. Epistemological and other cognitive considerations have to be prominent parts of an account of argumentation. Again, virtues approaches to argumentation embed arguing in a larger context: our cognitive lives.

A third thing I find attractive about thinking of arguments in terms of the virtues of arguers is that it also implicates our lives as rational, cognitive *agents* who are members of *communities* of similar agents. There is an ethics of argumentation. It includes principles about how to argue but also principles about when and when not to argue. Argumentation theories cannot

ignore the normative dimension, and I think virtue argumentation theories do better on this score than traditional theories.

I like to think that thinking about arguments this way has actually made me a better arguer, if only because I now think about what it means to be a good arguer in these broader perspectives. It seems to have had the effect, at least in the short-term, of making me better at “losing” arguments, but it also means that I’m generally more satisfied at the end of an argument regardless of the win/lose outcome. I hope, and believe, that the long-term result will be that I’m better at learning.

AA: Can you give some examples of specifically argumentative virtues?

DC: It is relatively easy to identify some argumentative virtues—objectivity, civility, curiosity, open-mindedness, sincerity, fairness, and being knowledgeable all qualify—it is quite difficult to identify *specifically* argumentative virtues. Curiosity also counts as an epistemic virtue, fairness is also an ethical virtue, and open-mindedness is arguably argumentative, epistemic, and ethical. There are different kinds of arguments, different ways to argue, and different means and ends to argumentation. If the goal is rational persuasion, virtues pertinent to interpersonal relations move to the fore; others are more important in resolution-of-difference negotiations; the more epistemic ones are more relevant to problem-solving deliberations. This does not even take into account the different roles arguers might occupy in the course of an argument: proponent, critic, judge, spectator, or even kibitzer.

Let me note one additional complication. If argumentative virtues are standing traits of character that are conducive to success in arguments, then we need to specify not only what counts as an argument and what counts as success, but also whether we are talking about single arguments or a lifetime of arguments. A “killer instinct” might serve one very well in all the arguments one has, but if it is so off-putting that no will argue with you a second time, then its contributions to success in (agonistic) arguments in the short-term may, in the long, diminish opportunities for arguing. It might make someone an effective arguer, but not a *good* arguer.

The willingness to engage in argument, the ability to strategize creatively, and the ability to bring out the best in co-arguers are all possible examples of virtues that serve well in argumentation while being largely neutral when it comes to epistemic and ethical valuation. If what you want is an example of a very specifically argumentative virtue at work, you’d have to give me a very specific argument—including a list of all of the participants, along with their past, present, and likely future relationships to one another; each of those participants’ motivations for entering into the argument and the goals they hope to achieve by arguing; as well as the context in which they are arguing.

AA: The range of opportunities that the virtue argumentation programme opens up are what I find so exciting. Of course, that includes frequent opportunities to cultivate the virtue of humility with respect to one’s own argumentation! In that spirit, what do you regard as the principal challenges facing the programme? Or, perhaps equivalently, what should be the priorities for the programme?

DC: Some rather serious external challenges have been raised against VAT, but I think at this stage of development, our research needs to be driven by the programme’s own internal priorities.

For example, [David Godden](#) and [Geoff Goddu](#) have each raised a question about the theoretical grounds for virtue-based approaches. On the one hand, if the virtues are defined either by reference to an antecedent notion of what a good argument is or in terms of other goods resulting from arguing, then the virtues are dispensable; on the other hand, if the virtues are not tethered to an antecedent notion of argumentative goods, then there seems to be no answer as to why some designated set of virtues count as virtues in the first place, or second, what makes them specifically argumentative virtues, or third, why the products of the exercise of those virtues would likely be good arguments. The objection is a serious one, and this brief summary does not do it justice, but given how fruitful the theory has been, I feel comfortable putting this on the back burner or leaving it for others who are more motivated and better able to wrestle with it, in order to see how VAT continues to bloom. There is ample precedent for this: after Newton and Leibniz, the calculus flourished quite nicely throughout the 18th century prior to the foundational work on limits in the 19th century. I am not suggesting that VAT is a comparable theory; I am merely suggesting that the solutions to foundational questions can wait to emerge later in the process, after we have a better idea of what it is we are trying to found. A serious challenge does not automatically become a top priority.

Conversely, some high priorities might not be serious challenges. One item that deserves prioritization is clarifying just what we mean by the terms *argument* and *argumentation*. The reason this is a priority is because several of the criticisms that have come our way are directed at the wrong targets. Some years ago, Jonathan Adler [criticized](#) the idea that a virtuous arguer is at all relevant to evaluating the strength of an argument because that is entirely a matter of how the premises relate to the conclusion. That, of course, reduces arguments to nothing more than inferences, rather than cognitive and communicative events. Similar clarifications would have deflected some of Tracy Howell and Justine Kingsbury’s [claim](#) that VAT rests entirely on *ad hominem* reasoning. It might not be much of a challenge to get clear on what we mean—although it would be daunting to try to standardize our usage of those terms—but it is important that we do that in order to engage with the rest of the argumentation theory community.

What I regard as both a very serious challenge and the highest priority is the pedagogical implementation of virtue argumentation thinking. The insights of virtues-based theorizing should greatly affect how we go about teaching critical thinking and informal logic. The educational project becomes one of helping our students to become better arguers in the long-term, not simply helping them produce better arguments on specific occasions. I imagine that this is more a matter of nurturing good argumentative habits rather than cultivating specific skills—which may or may not be used once students leave the confines of the classroom.

At times it seems that theory and practice are not even within shouting distance of each other, particularly from the theory side of things, my own stomping grounds. Still, there is good work being done in this area, so some people do manage to straddle the divide (and let me give a shout out to [Sharon Bailin](#) and [Mark Battersby](#) here). The bottom line is that if we

want theorizing to be of more than merely theoretical interest, this has to be a priority. And if the programme is to be more than just a theory, it has to face this challenge.

AA: Thank you very much for what has been a fascinating conversation.

The Inheritance of Defaults in the Case of Exceptional Subclasses

It is plausible to hold that statistical information sometimes licenses the acceptance of so called ‘defaults’, i.e., statements specifying inferences that it would be correct to make, by default. For example, given the statistical information that the vast majority of birds are capable of flight, it is reasonable to accept a default that expresses the fact that one has a *defeasible* justification for inferring, of any given bird, that that bird is capable of flight. Where $B(x)$ represents the property of being a bird, and $F(x)$ represents the property of being capable of flight, we can express the present default as follows: $B(x) \vdash F(x)$.

While statistical information sometimes licenses the acceptance of corresponding defaults, it also appears that a subclass will generally ‘inherit’ defaults that apply to its ‘parent’ class, provided the subclass is ‘unexceptional’. For example, given the default $B(x) \vdash F(x)$, it is reasonable to accept a further default concerning mergansers (a variety of bird), namely $M(x) \vdash F(x)$ (where $M(x)$ represents the property of being a merganser), in the case where one has no background knowledge indicating that mergansers are exceptional birds. To be precise: it is permissible to treat mergansers as unexceptional birds *if and only if* there is no characteristic $\phi(x)$, such that one accepts the default $B(x) \vdash \phi(x)$ and the default $M(x) \vdash \neg\phi(x)$. In considering whether the inheritance of defaults by subclasses is reasonable, it is important to observe that the default $M(x) \vdash F(x)$ does not imply that the frequency of mergansers that fly is high, though it might be reasonable to treat the default as expressing that the *expected* frequency of mergansers that fly is high.

Beyond the inheritance of defaults by unexceptional subclasses, it is controversial whether the inheritance of defaults by *exceptional subclasses* should be admitted, defeasibly (cf. Koons 2013: “Defeasible Reasoning,” *Stanford Encyclopedia of Philosophy*, sec. 5.7). For example, notice that kiwis are *exceptional* birds inasmuch as they lack the capacity of flight. Given the exceptionality of kiwis (and our knowledge of their exceptionality), it is controversial whether it is reasonable to infer that kiwis possess other characteristics typical of birds. For example, assuming one knows that the vast majority of birds are digitigrade (i.e., walk on their toes), and one accepts the default $B(x) \vdash D(x)$ (where $D(x)$ represents the property of being digitigrade), it is controversial whether it is reasonable to infer the default $K(x) \vdash D(x)$ (where $K(x)$ represents the property of being a kiwi).

I here introduce some considerations suggesting that the *mere* exceptionality of a subclass, and awareness of this fact, does not yield the defeat of otherwise acceptable inheritance inferences. In other words, if the inheritance of a default for a given subclass is reasonable, then *merely* learning that the subclass is exceptional will not defeat the inference. My reason for endorsing the preceding claim is best understood by considering a range of typical inheritance inferences, where one knows

that the relevant subclass represents a very small proportion of the respective parent class.

Returning to the example from the first paragraph, suppose one accepts the default $B(x) \vdash F(x)$, and one would like to infer the corresponding default concerning mergansers, namely: $M(x) \vdash F(x)$. Assume that we possess no relevant information regarding mergansers, save that they correspond to a *very small* subclass of birds. In that case, we are already in a position to conclude that mergansers are exceptional birds, since we are in a position to accept that the vast majority of birds are not mergansers (along with the default $B(x) \vdash \neg M(x)$), and we are in a position to accept that the vast majority of mergansers are mergansers (along with the default $M(x) \vdash M(x)$). The exceptionality of mergansers with respect to birds, in this case, would block inference to the default $M(x) \vdash F(x)$, assuming default inheritance in the case of exceptional subclasses was prohibited. And, unfortunately, inheritance of the default $M(x) \vdash F(x)$ from the default $B(x) \vdash F(x)$ is blocked in standard systems of default reasoning, such as Pearl’s System Z, in the case where the default $B(x) \vdash \neg M(x)$ is given (Pearl 1990: “System Z: A natural ordering of defaults with tractable applications to nonmonotonic reasoning,” *Proceedings of the 3rd conference on theoretical aspects of reasoning about knowledge*, pp. 121–135). But it is clear that the proposed inference should be permitted (assuming the inference would have been reasonable had we not known that the vast majority of birds are not mergansers). Indeed, the proposed inference is no less reasonable than the most reasonable instances of default inheritance. Moreover, the fact that mergansers correspond to a very small, and thus exceptional, subclass of birds does not speak against the inference.

The example of the preceding paragraph illustrates that the range of possible inheritance inferences involving exceptional subclasses is very broad—broader than generally recognized—and encompasses many inferences that are generally, and correctly, regarded as reasonable. Nevertheless, it is clear that some kinds of exceptionality do imply the defeat of respective inheritance inferences. For example, knowing that a particular type of bird, O , is exceptional in virtue of having some characteristic that is highly negatively correlated with the capacity to fly (such as having a high body mass) will presumably block inference to the default $O(x) \vdash F(x)$, from the default $B(x) \vdash F(x)$. The point advanced here is simply that not all forms of exceptionality are alike, and that the mere exceptionality of a subclass does not imply the defeat of a respective inheritance inference. Specifying the precise sorts of exceptionality that do block default inheritance is an important topic of continuing research.

PAUL D. THORN

Duesseldorf Center for Logic and Philosophy of Science

NEWS

Probabilities, Chances, and Statistics, 12 June

This was the second and final workshop in a two-year research project at the School of Advanced Study funded by the European commission under a Marie Curie research personal grant. The project was devoted to the analysis of the connections between formal probabilities, experimental statistics, and propensities (understood as dispositional properties with probabilistic

manifestations). It looked in particular into whether these notions are connected by conditionals. (See [here](#) for details).

The workshop—which received additional funding from the Mind Association and the British Society for the Philosophy of Science—included six talks and plenty of time for discussion. The morning session was chaired by Philip Dawid (Cambridge) and included talks by Darrell Rowbottom (Lingnan) and Mauricio Suárez (London, Madrid). Rowbottom argued that we should remain neutral between long run and single case propensity views, on account of the existence of deterministic and indeterministic accounts for quantum mechanics. The talk was delivered in a lively and humorous style that set an agreeable tone for the day and, even though Rowbottom did not review in full detail his arguments against the principle of indifference, the institution joined in the festive mood with a resounding alarm test that certainly did not leave anyone indifferent. We all proceeded outdoors for a lovely chat in the sun for about 20 minutes, and went back in to listen to Suárez on physical chances. He presented some of the conclusions of the research project, and in particular argued against conditional accounts of the relation between propensities and chances and in favour of an indexical account instead. The relief was evident as we broke up for an unconditional lunch.

The first afternoon session was Chaired by Luke Fenton-Glynn (UCL), and included talks by Rachael Briggs (Australian National University) and Jan-Willem Romeijn (Groningen). Briggs argued that some epistemic theories of objective chance, such as Skyrms' and Lewis', have the counterintuitive consequence that impossible propositions may receive a probability greater than zero. Romeijn argued first that propositions regarding chance are empirical, which explains the use of statistics to ground them. He then argued for the reality of objective chance, on the basis that an epistemic conception of chance suffers from difficulties in dealing with the interplay of chances at different levels. At that point everyone was objectively inclined towards a coffee break. After the break, Sherrie Roush (King's College) graciously chaired talks by Rani Anjum (Norwegian University of Life Sciences) and Christopher Hitchcock (Caltech). Anjum outlined the dispositionalist theory of causation that she has been developing together with Stephen Mumford, and applied it almost everywhere. Chris Hitchcock (Caltech) brought everyone down to earth with a great final talk on how propensities must have causal bases and what sort of causal models may thus describe them. This brought proceedings to a propensity-friendly conclusion, which pleased the organizer, and we all headed for a causally efficacious meal at a nearby restaurant.

MAURICIO SUÁREZ
Complutense University

Decision Making under Severe Uncertainty, 19–20 June

The Workshop on Decision Making under Severe Uncertainty took place on 19-20 June at the London School of Economics' Centre for Philosophy of Natural and Social Science (CPNSS) as a part of the ongoing research project *Managing Severe Uncertainty* (PI: Richard Bradley, LSE), and was co-sponsored by CPNSS and research project DUSUCA (PI: Brian Hill, HEC Paris). The event brought together researchers studying formal approaches to making sound decisions in the face of un-

certainty not only about possible future states of the world, but also about what actions will be available, what their outcomes will be, and the degree to which those outcomes are desirable. These types of uncertainty are salient in climate change mitigation and adaptation decisions, and several of the workshop's presenters dealt directly with applications in climate policy and decision-making. Decision making about climate change is one of the focal points of the Managing Severe Uncertainty project, and the workshop was also an accredited 'Side Event' of the Paris 2015 Our Common Future Under Climate Change conference.

One recurring theme in the research presented at the workshop was how to incorporate into a decision model the possibility of contingencies unforeseen by the decision maker (Oliver Walker; Edi Karni; Ken Binmore). This included the question of how to re-frame a decision when previously unconceived information or possibilities come to light, as well as how a decision in the present can incorporate the abstract awareness that such things may happen in future.

Other research explored ways of making assessment and decision in particular applications more rigorous or systematic. One such application is safety assessments in the nuclear power industry. Nuclear power plays a large role in some climate change mitigation portfolios, but safety is a perennial concern; Philippe Mongin examined why the popular framework of cost-benefit analysis has so far not been applied in nuclear safety assessment. In another application, participants heard research on further systematising the uncertainty quantification framework of the Intergovernmental Panel on Climate Change (IPCC), and how findings formulated in that framework might be used within a normative decision model (Casey Helgeson).

Ambiguity in a decision maker's beliefs was another cross-cutting theme. Simone Cerreia Vioglio presented new theoretical work on ambiguity aversion—a decision maker's preference for bets with known chances rather than greater uncertainty about outcomes—and how it affects which choices are justified for the ambiguity-averse agent. In approaches to climate change adaptation decision making, strategies for dealing with ambiguity or unknown probabilities for important contingencies include satisficing and robustness; Katie Steele compared several members of this family of satisficing decision support strategies, contrasting and evaluating their rationales.

Our speakers were: Simone Cerreia Vioglio (Universit Bocconi), Katie Steele (LSE Philosophy), Philippe Mongin (HEC Paris), Casey Helgeson (LSE Philosophy), Oliver Walker (LSE Grantham Institute), Edi Karni (Warwick Business School; Johns Hopkins), and Ken Binmore (Bristol; UCL). For titles and abstracts, see the *Managing Severe Uncertainty* project [here](#).

CASEY HELGESON
London School of Economics



European Philosophy of Science Association, 23–26 September

The 5th Conference of the European Philosophy of Science Association (EPSA15) took place at the Heinrich Heine University Düsseldorf from 23–26 September. It was hosted by the Düsseldorf Center for Logic and Philosophy of Science (DCLPS). This was the first time one of the EPSA conferences took place in Germany. One of the conference's main aims was to bring together philosophers of science as well as philosophically minded scientists from Europe, but also from overseas. The conference featured contributed papers, symposia, and posters covering all subfields of philosophy of science. EPSA15 had more than 280 participants, which is—as far as we know—the highest number of participants among past EPSA conferences. These participants came from 18 European and 6 non-European countries. There were 3 plenary lectures, 108 contributed papers (50% of the all in all 26 sessions were on General Philosophy of Science and Philosophy of the Natural Sciences), 18 contributed symposia (with 78 symposia talks), and—for the first time—a poster session with 16 poster presentations. In addition, there were 3 pre-events (with 10 talks) organized by the European Network for the Philosophy of the Social Sciences (ENPOSS), the Philosophy of Social Science Roundtable, and the Philosophy of Mathematics Association (PMA). All in all, EPSA15 featured 199 talks. Moreover, the conference hosted a very well-attended Women's Caucus and a Graduate Student Gathering. EPSA—also for the first time—donated an essay prize (value: 500 EUR) for PhD candidates. Rune Nyrop (Durham University, UK) received the prize for his paper 'Empirical Problems for Explanationism'.

The 3 plenary lectures were given by Cristina Bicchieri (University of Pennsylvania, USA), Igor Douven (Université Paris Sorbonne, France), and Marcel Weber (University of Geneva, Switzerland). Cristina Bicchieri's talk "Trendsetters and Social Change" investigated the interplay between trendsetters' actions and individual thresholds for breaking a social norm, which is required to achieve an understanding of the dynamics of social change. Whether social innovations develop and how fast this procedure obtains depends on the distribution of thresholds for breaking such norms among the individuals of the social group. Igor Douven's talk was entitled "Measuring Graded Membership: The Case of Colour". He first introduced the framework of conceptual spaces and then reported the results of a number of experiments which allowed for the definition of different colour regions. By this the accuracy of certain predictions on degrees of membership for colours could be evaluated. Marcel Weber investigated in his talk "Causality in Dynamical Biological Mechanisms" in how far causal models based on interventionist criteria can provide adequate representations of complex dynamical systems. He showed on the example of a biological clock mechanism that there are some systems which can only be approximately captured by causal models.

EPSA15 was supported by the Heinrich Heine University of Düsseldorf, the City of Düsseldorf, Springer, De Gruyter, Mentis, MIT Press, Cambridge University Press, and University of Harvard Press. We thank all of them. The co-chairs of the Program Committee were Michela Massimi (University of Edinburgh, UK) and Jan-Willem Romeijn (University of Groningen, The Netherlands). The Local Organization Committee consisted of Gerhard Schurz (chair), Alexander Christian, Chris-

tian J. Feldbacher, Alexander Gebharter, Nina Retzlaff, and Ioannis Votsis.

All in all, EPSA15 was a full success and we are looking forward to the next conference of the European Philosophy of Science Association, which will be held at the University of Exeter, UK, in 2017.

ALEXANDER CHRISTIAN
CHRISTIAN J. FELDBACHER
ALEXANDER GEBHARTER
NINA RETZLAFF

Düsseldorf Center for Logic and Philosophy of Science

Non-classical Logic: Theory and Applications, 24–26 September

This year's edition of Non-classical Logic conference was organized by Department of Logic (Faculty of Humanities) of Nicolaus Copernicus University in Toruń. Twenty seven talks were presented by scholars representing twelve countries and three continents. The topics covered included: proof-theoretic semantics and compositionality (H. Wansing), proof-theoretic analysis of modal logics (N. Gratzl and E. Orlandelli), cut-elimination theorem for hybrid logics (A. Indrzejczak), tableaux systems for non-classical and modal logics (D. Leszczyńska-Jasion and A. Kupś), logic with related formulas (T. Jarmużek); logic of causality (S. Kovač), temporal logic (A.M. Karczewska), epistemic logic (E. Kubyshkina and D. Zaitsev); paraconsistent logics, their hierarchy (J. Ciuciura) and applications in foundations of mathematics (proofs of classical theorems in paraconsistent setting) (A. Nugraha); meta-theory of three-valued logics (A. Karpenko and N. Tomova), default classicality and Kleene logics (R. Ciuni and M. Carrara), construction of three-valued doxastic logic (J. Wesserling), graded doxastic logic (B. Legastelois), logic of informal provability (P. Pawłowski and R. Urbaniak); applications of Boolean valued models to judgement aggregation (D. Eckert); conservative extension of intuitionistic logic (T. Połacik), involutive and constructive negations (M. Petrolo and P. Pistone); automation and higher order-logic (Alexander Steen and Christoph Benzmiller); applications of logic to theoretical aspects of security and engineering (the so-called distributed relation logic) (G. Allwein, W.L. Harrison, T. Reynolds) and to reasoning about the spread of a disease among a population and possible prevention against it (S. Frankowski and M. Zawadzki); applications of logic to classical problems with philosophical flavour including the sorites paradox (M. Nowak); Diodorean implication (H. Bilgili); philosophical reflections on logic-related issues like dialetheism (B. Martin); non-classical logic of quasiary predicates (M. Nikitchenko and S. Shkiliak) and finally discriminator varieties (M. Campercholi, M. Stronkowski and D. Vagione).

The next, 8th edition of NCL will be organized by Department of Logic and Methodology of Sciences at University of Łódź, Poland.

RAFAŁ GRUSZCZYŃSKI
Nicolaus Copernicus University

Calls for Papers

UNCERTAIN REASONING: special issue of *International Journal of Approximate Reasoning*, deadline 16 November.

BAYESIAN NONPARAMETRICS: special issue of *International Journal of Approximate Reasoning*, deadline 1 December.

AGENT-DIRECTED SIMULATION: special issue of *International Journal of Modeling, Simulation, and Scientific Computing*, deadline 1 January.

WEIGHTED LOGICS FOR ARTIFICIAL INTELLIGENCE: special issue of *International Journal of Approximate Reasoning*, deadline 22 February.

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

I mentioned in previous columns (see, for instance the [November 2011](#) issue of *The Reasoner*) that one of the fascinating aspects of Uncertain Reasoning lies in its unique combination of “pure” and “applied” methods. As its history clearly testifies, great mathematical advances have often been triggered by practical, social and even mundane problems. This, in turn, made it possible to tackle increasingly more complex problems, giving rise to correspondingly more sophisticated theoretical advances.



This virtuous circle is clearly still ongoing. Today's pressing problems concern climate change, financial instability, and global health, just to mention a few well-known tags. Pretty much everyone agrees that for problems of this kind the probabilistic quantification of uncertainty is not enough. Indeed it is common to refer to those problems for which probability is of little or no use at all, as problems of reasoning and decision-making under “Knightian”, “Severe” or “Deep” uncertainty. Each label points to somewhat different takes on the main theme. Academics tend to use the first two labels, with economists often insisting on the eponymous choice. Professionals, on the other hand, often prefer the last terminology. And it is indeed a group of professionals who started the [Society for Decision Making Under Deep Uncertainty](#).

The website provides background information on the activities of the Society, along with an interesting Publications section devoted to making available recent published papers. At the time of writing, most of the available papers focus on climate change, but as the newly launched website becomes more popular it will certainly host papers on the many topics related to the Society's mission.

Further details on how to join in and submit papers are available on the website.

(Hat Tip to Casey Helgeson.)

HYKEL HOSNI

Department of Philosophy, University of Milan



At last, chemistry sets are perfectly safe.

Evidence-Based Medicine

The next issue of [Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences](#) is currently in progress, but some articles from the forthcoming issue have recently been made available [online first](#). One article is by Alexander R. Fiorentino (Public Health and Community Medicine, Tufts) and Olaf Dammann (Public Health and Community Medicine, Tufts & Gynecology and Obstetrics, Hannover Medical School) and is on the topic of the Russo-Williamson thesis.

Federica Russo (Philosophy, Amsterdam) and Jon Williamson (Philosophy, Kent) have argued that, at least in the health sciences, establishing a causal claim typically requires both evidence that there exists an appropriate difference-making relationship and evidence that there exists an appropriate mechanism to explain this difference-making relationship, where this difference-making relationship may be a statistical association between the putative cause and effect (2007: *Interpreting causality in the health sciences, International Studies in the Philosophy of Science*, 21(2), pp. 157–170). This claim that establishing a causal claim in the health science typically requires these two types of evidence has become known as the Russo-Williamson thesis.

In their paper, Fiorentino and Dammann aim ‘to clarify the Russo-Williamson Thesis by interpreting its evidence types through the pragmatic lens of epidemiology’. They clarify the thesis by defining difference-making evidence as exposure–outcome evidence, and by distinguishing three sub-types of mechanistic evidence in the health sciences, viz., entity-based, association-based, and activity-based mechanistic evidence. They conclude as follows:

From this perspective, we find that both mechanistic evidence and exposure–outcome evidence are largely comprised of observed associations between variables, and this leads to further clarifications about

the meanings of these evidence types and how each should be evaluated.

The clarifications then allow them to propose some specific recommendations for the consideration of all this evidence in medical decision-making. Along the way, they also argue that their clarifications help to debunk a number of tempting assumptions about difference-making and mechanistic evidence. For instance, it is often assumed that difference-making evidence comes from epidemiological research and mechanistic evidence comes from laboratory research. But Fiorentino and Dammann suggest that this assumption can be seen to be false, once it is accepted that both evidence types are largely comprised of observed associations. They say: ‘If any given association can constitute either exposure–outcome evidence or mechanistic evidence, it follows that epidemiologic research and laboratory research are both capable of generating either evidence type, albeit for different causal claims’. For more of the details, check out their [full paper](#).

MICHAEL WILDE
Philosophy, Kent

EVENTS

NOVEMBER

C&L: Workshop with Helen Beebe: Causality and Laws, University of Konstanz, Germany, 4–5 November.

SI&SR: Special Interests and Scientific Research, University of Notre Dame, 5–6 November.

EN: Epistemic Norms Conference, KU Leuven, 9–11 November.

PoK: Workshop Puzzles of Knowledge, University of Lisbon, 12–13 November.

SB: Subjective Bayesian, Newcastle University, 13 November.

SSE: 50 Shapes of Scientific Explanation, Ghent University, 13–14 November.

AMBN: Advanced Methodologies for Bayesian Networks, Yokohama, Japan, 16–18 November.

WoK: Ways of Knowing: Feminist Philosophy of Science and Epistemology, Dublin, Ireland, 27–28 November.

DECEMBER

MEGF: The Metaphysics and Epistemology of Grounding and Fundamentality, New York, New York, 10–11 December.

MBJ: Mathematical Aims Beyond Justification, Brussels, Belgium, 10–11 December.

R&R: Rationality and its Rivals, University of Macau, 10–12 December.

ABC: Approximate Bayesian Computation, Montréal, Canada, 11 December.

PI: Workshop on Probabilistic Integration, Montréal, Canada, 11 December.

OML: Workshop on Optimization for Machine Learning, Montréal, Canada, 11 December.

BNNG: Bayesian Nonparametrics: The Next Generation, Montréal, Canada, 12 December.

LI&CMAS: Workshop on Learning, Inference and Control of Multi-Agent Systems, Montréal, Canada, 12 December.

NTMW: New Trends in Metaphysics of Science, Paris, France, 16–18 December.

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.

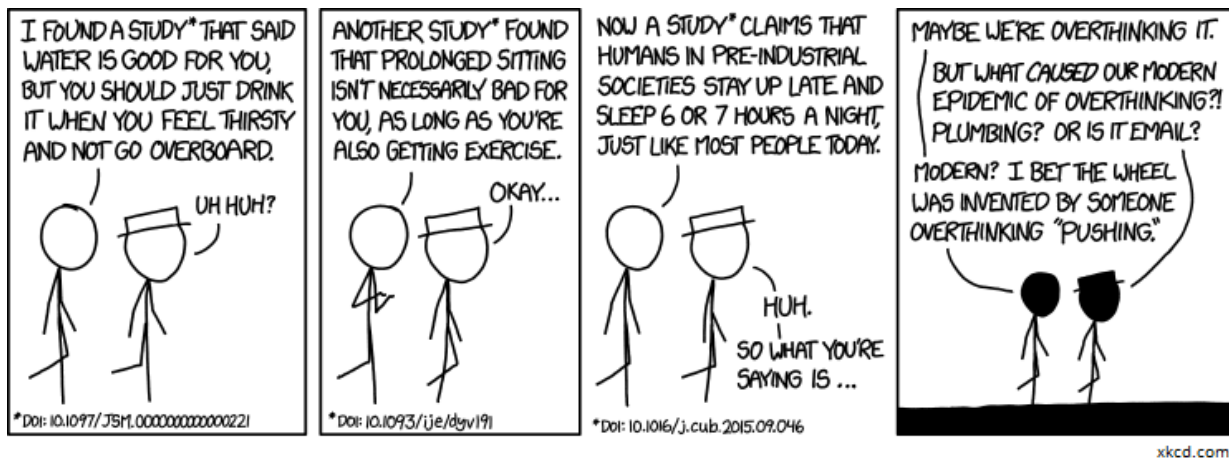
MSc IN ARTIFICIAL INTELLIGENCE: Faculty of Engineering, University of Leeds.

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.



xkcd.com

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.

PHD POSITION: in Philosophy of Science, University of Vienna, deadline 13 November.

PHD POSITION: in Epistemology of Scientific Research, Universities of Hannover and Bielefeld, deadline 15 November.

PHD POSITION: in Statistics, University of Iceland, deadline 30 November.

PHD POSITION: in History and Philosophy of Science, University of Cambridge, deadline 2 December.

JOBS AND STUDENTSHIPS

Jobs

RESEARCH ASSISTANT: in Perspectival Realism, University of Edinburgh, deadline 9 November.

RESEARCH ASSOCIATE: in Statistical Modelling, Newcastle University, deadline 13 November.

LECTURER: in Statistics, University of Melbourne, deadline 15 November.

POST-DOC: in Epistemology of Disagreement, University of Copenhagen, deadline 16 November.

LECTURER: in Computational Modelling, University of Sheffield, deadline 24 November.

POST-DOC: in Scientific Inferences, Tilburg University, deadline 1 December.

ASSISTANT PROFESSOR: in Philosophy of Science, University of Hannover, deadline 1 December.

LECTURER: in Probability and its Applications, University of Cambridge, deadline 15 December.

Studentships

PHD POSITION: in Justifying Intuitive Judgments, Aarhus University, deadline 1 November.