Michigan Philosophy News

Fall 2011

for friends, alumni, alumnae of the Department of Philosophy, University of Michigan, Ann Arbor

INSIDE THIS ISSUE

Dear Friends of Michigan Philosophy,

LOUIS LOEB handed me the keys to the chair's office in early July. As interim chair, Louis was no mere caretaker. Indeed, so indefatigably did he discharge his duties that the volume of news to report leaves only room enough to offer him, on behalf of the department, the briefest (but most earnest!) thanks for his service.

Faculty News

This academic year, three scholars join our faculty, and one retires. The arrivals are Matt Evans, Ishani Maitra, and Brian Weatherson. The departure is Kendall L. Walton.

Associate Professor MATT EVANS joins us this fall from New York University, where he has taught since earning his PhD from the University of Texas in 2004. A specialist in ancient philosophy, Matt engages the ancient Greeks as vibrant thinkers with much to contribute to contemporary debates – debates concerning for instance the moral status of pleasure and pain, or the possibility of mental causation. His recent papers include "Plato on the Norms of Thought and Speech" (*Phronesis*), "Plato on the Possibility of Hedonic Mistakes" (*Oxford Studies in Ancient Philosophy*), "Plato's Rejection of Thoughtless and Pleasureless Lives" (*Phronesis*), and "Can Epicureans be Friends?" (*Ancient Philosophy*). Our department shares the second floor of Angell Hall with a top-notch classics department. Matt's arrival makes Michigan an even more attractive destination for those seeking a broad-gauged approach to ancient philosophy. See the "Graduate" section of our website for details.

This coming winter, Associate Professor ISHANI MAITRA will join us from Rutgers, where she has appointments in both Philosophy and Women's & Gender Studies. Ishani's publications range over the philosophy of language, feminist philosophy, and philosophy of law. She has done groundbreaking work at the intersection of those fields, in particular on the phenomenon of "silencing" (which occurs when features of the context of communication, such as entrenched expectations about gender roles, undermine a speaker's communicative aims) and its repercussions for free speech law. Ishani's presence will not only consolidate existing departmental strengths in her areas of expertise, but also deepen connections between philosophy and other units at the university, including the Law School and Women's Studies. Ishani completed her PhD at MIT in 2002, and taught at Syracuse before moving to Rutgers.

Also in January and also from Rutgers, BRIAN WEATHERSON will join us as the inaugural Marshall M. Weinberg Professor of Philosophy. Brian's areas of specialization comprehend contemporary "core" philosophy more or less in its entirety: epistemology, philosophy of language, philosophy of probability, logic, metaphysics, philosophy of mind. His dozens of articles also include pieces on (among other topics) aesthetics and land disputes. He has a book manuscript exploring normative externalism in progress. Since earning his PhD from Monash University in 1998, Brian has given over 80 talks throughout North America, Australia, and Europe. He also finds time to edit Philosophy *Compass*, an on-line journal devoted to state-of-the-art survey articles covering all areas of philosophy. A dedicated advisor and gregarious colleague, Brian will be a tremendous resource for the department's graduate students and faculty alike. This past year, Marshall M. Weinberg (B.A., '50) helped to create the opportunity to make this appointment by endowing the Professorship Brian will occupy.

KENDALL L. WALTON, Charles L. Stevenson Collegiate Professor of Philosophy and department member since 1965, will retire at the end of this calendar year. A scholar of truly international reputation and staggering activity, Ken manages nevertheless to maintain a stalwart presence in Angell Hall, where he is a valued and generous teacher, colleague, and advisor. I expect Ken's intellectual activity to accelerate under the force of retirement. His *In Other Shoes: Music, Metaphor, Empathy, Existence* (Oxford) is forthcoming; an overview volume entitled *Aesthetics* (Princeton) is in progress; 2011 sees Ken giving keynote addresses and featured talks in Abu Dhabi, London, Cambridge, Turin, Bonn, Geneva, Barcelona, and Chapel Hill. (Lund has to wait for 2012.) Despite the insatiable world-wide demand for Ken, he intends to continue to enrich departmental life, by advising students, participating in reading groups, and maintaining a base of operations in Angell Hall. DANIEL JACOBSON, Ken's present colleague and former student, is organizing a conference in Ken's honor. Watch the "Events" section of our website for details.

Ken Walton

Our ongoing faculty continues their formidable record of achievement. Here is just a sample: The John Templeton Foundation has awarded an $850,000 grant to Dan Jacobson, who will lead a three-year research project on The Science of Ethics. The project aims to examine the burgeoning movement in empirical ethics, which appeals to recent work in neuroscience, evolutionary biology, experimental economics, social psychology, and cultural anthropology. Dan's team members include UM PhD Justin D'Arms, now at Ohio State, and CHANDRA SRIPADA (author of the faculty article in last year's newsletter!). The grant is projected to support a pair of books (Dan and Justin's collaborative *Rational Sentimentalism,* and Chandra's *Self and Self-Control),* two summer workshops ("Moral Psychology and Human Agency" (2012) and "Human Nature and Moral Knowledge" (2013)) and ensuing proceedings, a multi-year prize competition, and a website. Another grant winner is DAVID BAKER, whose 2011-2012 National Science Foundation Fellowship funds a collaborative project on symmetry Dave undertakes with Hans Halvorson of Princeton University. ELIZABETH ANDERSON'S recent book *The Imperative of Integration* (Princeton, 2010) was awarded the APA's Joseph B. Gittler Prize for 2011. This prize recognizes exemplary contributions to the philosophy of the social sciences. SARAH MOSS won the 2011 Young Epistemologist Prize, given biennially to outstanding work in epistemology by scholars whose PhDs are not more than 10 years old. Sarah's prize-winning essay, "Updating as Communication," is forthcoming in *Philosophy and Phenomenological Research.*

VICTOR CASTON'S translation of and commentary on Alexander of Aphrodisias' *On the Soul* (Bristol Classical Press) is currently in press, as is DAVID MANLEY'S *The Reference Book* (Oxford), co-authored with John Hawthorne. Due out this fall is *Integrating History and Philosophy of Science: Problems and Prospects* (Springer), a collection of essays TAD SCHMALTZ is co-editing with Seymour Mauskopf. Two members of my household had books appear over the summer: GORDON BELOT'S *Geometic Possibility* (Oxford) weighed in at 14 oz; my *Interpreting quantum theories: the art of the possible* (Oxford) was a strapping 1 lb. 9 oz. We also serve: PETER RAILTON, president of Central Division of the APA, will deliver his presidential address at that Division's meetings in Chicago in February. JIM JOYCE co-edits the Inductive Logic and Decision Theory section of the on-line *Stanford Encyclopedia of Philosophy*. Elizabeth Anderson, SARAH BUSS, and I are associate editors of *Hypatia, Ethics,* and *Philosophy of Science* respectively. Turning to a somewhat different genre of faculty attainment: on August 13, 2011, Sarah Moss and ERIC SWANSON were married, with David Manley (who obtained the necessary credentials for $6.99) officiating.

Undergraduate News and Curriculum

In cooperation with the political science and economics departments, we are on the verge of instituting an undergraduate concentration in Philosophy, Politics, and Economics. (This is subject to LSA Curriculum Committee approval, which we hope to secure early this year.) Most undergraduate PPE programs – including Oxford's, the mother of them all – treat philosophy, political science, and economics as intellectually distinct enterprises, with no attempt to integrate questions, methods, or subject matter across courses taken in the three areas. PPE at Michigan will be a truly interdisciplinary program, one that musters philosophy, political science, and economics (as core, but not the only disciplines) to investigate questions of political economy. Political economy is the integrated study of the relationships of government, political processes, property, production, markets, trade, and distribution from the standpoint of assessing these arrangements with respect to the interests and progress of humanity. Elizabeth Anderson, who spearheaded this major academic initiative, will be the PPE concentration's first director. She is teaching a pilot version of the PPE gateway course, Political Economy, this winter. Also this winter, Liz will run an initial round of admissions, aiming for a class of 20. Resources permitting, the long-term goal is to maintain a highly selective program for 60-80 concentrators.

There are also innovations *within* the undergraduate philosophy curriculum to report: this winter, MARIA LASONEN AARNIO introduces a lecture-format course on Environmental Ethics, sure to be of interest to not only our own concentrators but also students in the very popular Program in the Environment. Another PitE-worthy topic is the focus of Matt Evans' first year seminar: ethical issues surrounding the production and consumption of food. And Ishani Maitra is offering a new senior seminar, one I hope will *not* include a laboratory component, on lying.

Our undergraduates themselves have been up to many great things. With apologies to those whose accomplishments space constrains me to omit, here's a taste: DYLAN VOLLANS, who begins a PhD program in philosophy at Yale this fall, received the 2011 William K. Frankena Prize for excellence in the concentration. Under the direction of Chandra Sripada, Dylan wrote a senior thesis entitled *A Revisionist Defense of Metaethical Contextualism*. Also writing senior theses were BENJAMIN BLOCK (*Persons, Minds, and Bodies*, with David Manley advising), ABRAHAM MORRISON (*Preserving*

Intuitions in Theories of Knowledge, with David Baker advising), and EDMUND ZAGORIN (*invisible machines: collective action through digital space*, which I co-advised with Thomas Chivens of the Anthropology Department). And also receiving departmental prizes were ALEXANDER FARR and NICOLE RAMANATHAN, each of whom won an Elsa L. Haller Term Prize for outstanding undergraduate work in a 400-level course. BRIAN HOOVEN, JEFFREY L. MCMAHAN, and SHAI MADJAR, each won Elsa L. Haller Paper Prizes for outstanding undergraduate essays.

Undergraduate achievement burst the confines of Ann Arbor: Shai Madjar, ANGELINA SEMENTSOVA, and DOMINIC SPADACENE presented papers at undergraduate philosophy conferences at Pacific University, Eastern Michigan University (both Shai), The College of New Jersey (Angelina), and the University of Windsor (Dominic). Their topics included consciousness, felon disenfranchisement, and Hare's utilitarianism. Over the summer, Shai took part in the Wittgenstein Summer School in Vienna, Austria, while Dominic attended the Carnegie Mellon University Summer School in Logic & Formal Epistemology.

Graduate News

Despite the genuinely grim present state of the philosophy job market, our recent PhDs are doing remarkably well. See the Recent Graduates section of the newsletter for details.

As for our ongoing graduate students, they are racking up awards and honors at a dizzying pace. With apologies once more to those whose accomplishments I omit, here are some examples: NATE CHARLOW, SVEN NYHOLM, and DAVID WIENS all vied successfully, against University-wide competition, for 2011-2012 Rackham Pre-doctoral Fellowships. CHIP SEBENS enjoyed his first year of a three year National Science Foundation Fellowship. Summer Fellowship recipients include Chip Sebens, ROHAN SUD, NILS-HENNES STEAR, and ROBIN ZHENG (all Weinberg Summer Fellows), BILLY DUNAWAY (Haller), BRYAN PARKHURST (Feldman), STEVE CAMPBELL and JASON KONEK (both Weinberg Dissertation Fellows), Nils-Hennes Stear (Rackham International). NATHANIEL COLEMAN received the Wirt and Mary Cornwell Prize for general excellence, Winter 2011. ALEX SILK was awarded the Charles L. Stevenson Prize for excellence in a candidate dossier. The Department's John Dewey Prize for exemplary teaching went to DAN PETERSON, while Steve Campbell received the Rackham Graduate School Outstanding Graduate Instructor Award. Joint JD/PhD student WILL THOMAS was selected as the Executive Article Editor for the Michigan Law Review, one of the top publications of legal scholarship in the country.

The Philosopher's Annual seeks to identify the ten best articles published in philosophy each year. This task falls to the Annual's editorial staff: founding editor Patrick Grim and three UM graduate students, who invariably find the experience both deeply challenging and deeply rewarding. Billy Dunaway, DMITRI GALLOW, and Alex Silk were 2011 co-editors. Thanks are owed to the benefactors who have enabled our partnership with the Annual to continue. Marshall Weinberg kindly provided summer support for the 2011 graduate student editors. And beginning in 2012, the fifth year of the partnership between Michigan and the Annual, funding for graduate student editors will be provided through the generosity of the Philosopher's Information Center, publisher since 1967 of the Philosopher's Index.

Our graduate students are also diligently laying the groundwork for professional success. Their publications, conference and summer school participation, and research endeavors are too numerous to mention individually. Here are some summary data. In the past year, our graduate students have been responsible for nearly twenty publications in journals including but not limited to *Hume Studies*, *Res Publica, Ethical Perspectives, Journal of Interdisciplinary Humanities, Synthese, Review of Symbolic Logic*, and *Journal of Political Philosophy*. They have given over two dozen presentations at graduate student conferences and professional meetings including but not limited to the Eastern APA, the Bioethics Research Colloquium, the Society for Women in Philosophy, the joint UK Kant Society/Hegel Society of Great Britain, and the Canadian Political Science Association. They – specifically Dmitri Gallow and Dan Peterson – *organized* a successful conference, the 2011 Spring Colloquium on Causation and Counterfactuals, which featured speakers Ned Hall (Harvard), Marc Lange (University of North Carolina), and Tim Maudlin (Rutgers). Dmitri, Dan, and JONATHAN SHAHEEN acted as commentators.

Finally, on their own time and in their capacity as private citizens, many of our graduate students contributed to an effort to support the Philosophy in an Inclusive Key Summer Institute (PIKSI) at Penn State University, which seeks to draw undergraduates from otherwise underrepresented groups into philosophy. A group of students organized and amalgamated donations to PIKSI from individual philosophers, both graduate students and faculty, based in Ann Arbor. Nathaniel Coleman partcipated in the 2011 institute as a PIKSI Graduate Assistant.

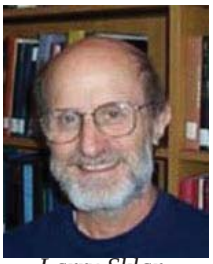
Special Events

2010-2011 was another eventful year in Angell Hall. In September, we welcomed James B. and Grace J. Nelson Philosopher-in-Residence Anil Gupta from the University of Pittsburgh. Anil gave a series of three talks developing and building upon themes from his 2006 book, *Empiricism and Experience*. October's Tanner Lecture on Human Values, "Flourish: Positive Psychology and Positive Interventions," dovetailed nicely with LSA's 2010 theme semester, "What Makes Life Worth Living." Martin Seligman, a University of Pennsylvania psychologist often called "the father of positive psychology," delivered the lecture. The Tanner Symposium the next day featured commentators Valerie Tiberius (Minnesota), Kennon Sheldon (Missouri), and Ruut Veenhoven (Erasmus University, the Netherlands). A full video stream of the Tanner Lecture and Symposium is available on our website. This year's Tanner Lecture, which will be given on March 15 by John Broome of Oxford University, will address the ethics of climate change.

Martin Seligman

Throughout the year we enjoyed a number of talks and colloquia, including classical philosophy speakers Martha Nussbaum (University of Chicago) and David Sedley (Cambridge), who each gave a pair of talks. Departmental colloquium speakers included Michael Glanzberg (UC-Davis), Gabriel Uzquiano (Oxford), Weinberg Distinguished Visiting Professor David Braddon-Mitchell (Sydney), and Kristie Miller (Sydney).

Spring brought a flurry of conferences. The Spring Colloquium mentioned earlier was held in early March, before the solstice. In April, the Department hosted "Intensionality and Reference," a conference attracting philosophers and linguistics from across the country. Early May brought the second Weinberg Symposium, "Changing Minds: Optogenetic Manipulation of the Brain," co-sponsored by the departments of Psychology, Philosophy, and Molecular, Cellular, and Developmental Biology. Karl Deisseroth, a behavorial scientist from Stanford, gave the keynote address; Barry Dickson (Director of the Research Institute of Molecular Pathology in Vienna), Rachel Wong (Neuroscience, University of Washington), and Carl Craver (Philosophy, Washington University in St. Louis) were symposiasts. A notable member of the symposium audience was Marshall Weinberg, who at breakfast the next morning engaged Louis Loeb and me in a lively discussion of the symposium's proceedings and further matters philosophical. Mid-May, and in cooperation with the Michigan Institute for Theoretical Physics, the Department sponsored LARRYFEST!, a conference honoring LARRY SKLAR, department member since 1968. Over 50 of Larry's friends, students, and colleagues gathered for two days of talks and several memorable Chinese banquets. Also in May, the workshop "Efficient Causation: the History of a Concept" brought together contributors to a collection of essays Tad Schmaltz is editing. Day One was devoted to the concept of causation from Aristotle to the late medieval period; Day Two addressed causation from Suárez and DesCartes to the present day.



Larry Sklar

In June, the Board of Trustees of the Tanner Lectures met at the University of Michigan. Among them was Michigan alumna Carolyn Tanner Irish, recently retired Episcopal Bishop of Utah. Carolyn's parents Obert and Grace Tanner endowed not only the Tanner lectures but also the Tanner library. That library is where a group of faculty and graduate students met with Carolyn and her son Steve for coffee, tea, and a wide-ranging discussion of the roles of contingency and choice in shaping lives and institutions.

The foregoing paragraphs should make it clear how positively the institution of Michigan philosophy is shaped by donors. Consider Marshall Weinberg, who first established an endowment in 1991. Over the years, this Weinberg Endowment for the Frankena and Stevenson Prizes has been joined by the Weinberg Fund for Philosophy and the Cognitive Sciences (which makes interdisciplinary initiatives such as the Weinberg Symposium possible), the Weinberg Endowment for Philosophy (an important source of graduate student support), and the Weinberg Chair in Philosophy (which Brian Weatherson will occupy). Endowed in 2011, this Weinberg professorship marks a remarkable two decades of creative commitment to the Department.

Marshall provided short-term help, in the form of fellowships for the 2011 editors, with the *Philosopher's Annual*. Richard and Carolyn Linebeck and the Philosopher's Information Center have kindly underwritten our continued association with the Annual. The generosity of donors also supports our efforts to recruit and retain excellent faculty. Particularly instrumental here are the Malcolm L. Denise Philosophy Endowment, honoring Theodore Denise, and the Nathaniel Marrs Fund. The Denise Endowment primarily supports faculty recruitment efforts; the Marrs Fund promotes faculty retention. We are grateful to *all* our contributors, whom we acknowledge on pp. 14 and 15 of this newsletter. If you would like to join the list, the enclosed card affords you one way to do so.

Yours,

Laura Ruetsche
Professor and Chair

WHAT IF I MIGHT NOT BE EVIDENTIALLY UNIQUE?

David Manley

This paper is about how to reason in some special cases that cause trouble for confirmation theory. In particular, it's about cases where I'm not sure that my total evidence is unique in the world—someone else (or perhaps me at some other time) might have exactly the same evidence that I have right now. How we deal with such cases is central to a number of puzzles in the contemporary literature.[1]

My ambitions in this paper are limited to a comparison of two principles that tell us how we should assign degrees of belief, or *credences*, to various hypotheses in such cases. So there are plenty of things I will not attempt to do here. (i) I will not give any reason for thinking that there is any special way we *must* rationally treat such cases. (ii) I will set aside alternative proposals that I don't have the space to address.[2] (iii) I will avoid some difficult questions about how the problem of old evidence affects the principles I am interested in. These are all issues I address elsewhere.[3]

1. Restricted indifference

1 These include the 'Sleeping Beauty', 'Dr. Evil', and 'Doomsday' puzzles, for more on which see Bartha and Hitchcock 1999; Bostrom 2001, 2002a; Elga 2000, 2004; Leslie 1996. But I will have to omit a discussion of how the principles discussed in this paper apply to such cases.

2 Such as that proposed in Meacham 2008.

3 In Manley, MS, which is a much longer version of this paper.

Suppose we have no evidence about whether our universe has some feature F. Moreover:

> (UNIVERSES) According to cosmological theory T, there are vastly many unconnected universes, only a tiny minority of which have feature F. Moreover, T predicts that although the experiences of subjects in F-universes will be much like the experiences of subjects in non-F universes, the vast majority of subjects in existence inhabit universes that are F.

It seems we should be confident that, if theory T is correct, our own universe has feature F. But what principle, exactly, is at work here?

Here is one proposal. My total evidence is extremely specific and so, presumably, the likelihood of a given subject's having exactly my evidence is pretty low. If we can also assume that it doesn't depend on whether the subject's universe is F, then the probability that my evidence occurs *at least once* in an F-universe is higher than the probability that it occurs at least once in a non-F universe. (How *much* higher will depend on exact values for the likelihood of a given subject's having my evidence, and the expected ratio of subjects in F-universes to subjects in non-F universes.)

But this idea does not explain our reaction to the following variant of the example:

> (UNIVERSES*) In addition, T says that there are so many universes as to guarantee that both F-universes and non-F universes contain subjects with exactly my evidence. However, the vast majority of such subjects inhabit F-universes.

(The idea that there are so many universes may seem like science fiction. But in fact such hypotheses are very much a part of the contemporary scene in cosmology.[4]) Here again many of us are tempted to think that, if T is correct, our universe is probably an F-universe.

Adam Elga has recommended a principle for how to assign credences that yields this result. We'll need a bit of jargon to state it. First, consider the complete state of my experience, including all of my sensory data and memories—call that my *qualitative evidential state* or 'QES'. Next, let's call a complete specification of how things are, from a third-person standpoint, a *world-theory*. (The way I am using 'world', the world contains absolutely everything, even if there are unconnected universes in it.) A world-theory gives me a global picture of everything that exists, but it does not specify my place in the world. Given a world-theory, I can usually *deduce* where I am, since it tells me which subjects are having which experiences—but in some cases there may be more than one subject that has my QES. In such cases I might still be missing some information—namely, *self-locating* information.

Self-locating information can be more or less specific. Suppose I'm in a room full of people and I don't know where in the room I am located. Someone says "You are in the north half of the room." This provides some self-locating information, but it does not single me out entirely, because plenty of people are in the north half of the room. A more specific hypothesis would be that I am the closest person to the north exit. Let's call a hypothesis *uniquely self-locating* when it is true of only one subject in every world-theory.[5]

In the example just given, what I want to know is my location in space. But in some cases I want to know my own location in *time*. Maybe I wake up and I can't remember what day of the week it is. The world—including all of space and time—contains me waking up on various days, and I am trying to figure out which of those situations is the one I'm currently in. A uniquely self-locating hypothesis should tell me the answer: for example, it's the morning of Sept 15, 2011. Of course, that hypothesis is only true of me in a specific temporal situation. So to be careful, we should say that fully self-locating hypotheses are true of subjects-at-times, or *predicaments*.[6] Let's say that a predicament *exemplifies* (or is an *exemplar* of) a hypothesis just in case: the hypothesis is true of the subject in that predicament at the time of that predicament. (If the hypothesis is not self-locating, this will just mean that the hypothesis is true of the world that the predicament is in.)

We can now state Elga's principle. Roughly, the idea is that if a world-theory says there are two predicaments involving exactly my QES, I should treat myself as equally likely to be in either predicament, given the truth of that world-theory. We can put the principle more generally and carefully (following Brian Weatherson)[7] as follows:

> (INDIFFERENCE) Two uniquely self-locating hypotheses deserve equal credences if: whenever one of them has an exemplar with some QES in a world-theory, the other one also has an exemplar with that QES in that world-theory.[8]

Note that self-locating hypotheses rule out world-theories where they have no exemplars, so they always entail some third-personal facts. And if two self-locating hypotheses have exemplars at all the same world-theories, they also entail all the same third-personal facts. So in effect, INDIFFERENCE tells us that, holding fixed all the third-personal facts, one should treat one's location as a random sample from the predicaments involving one's QES.

How does this apply to UNIVERSES? One of the relevant propositions—that my universe is F—is not uniquely self-locating because it is true of anyone whose universe is F. But take any world-theory compatible with T—some fully specific way for theory T to be true. It will involve more predicaments with my QES in F-universes than in non-F universes. And INDIFFERENCE tells me that my being in any one of those predicaments is just as probable as my being in any other. So adding up all these credences about specific predicaments will leave me thinking that, if that world-theory is

4 For an overview, see Vilenkin 2006.

5 Self-locating hypotheses are not exactly propositions. After all, the proposition that I am in the north half of the room is a proposition about *me* and so is not true of anyone else. But it useful to have a conception on which a given self-locating hypothesis holds of more than one subject. So we can think of self-locating hypotheses as function from subjects to propositions about the location of those subjects. And we can count such a function as exemplified by a subject when, taking that subject as the argument of the function, it yields a true proposition.

6 This is Elga's helpful term.

7 See Weatherson 2005.

8 If two such hypotheses each have exactly one exemplar in a world-theory, they have the same exemplar.

true, my universe is F.

Many issues could be raised about INDIFFERENCE. One issue concerns how it interacts with rules about belief changes over time—there are possible cases where at some time t1 I know that there are no other subjects in the world with my QES, but at time t2 I know that there are. Another issue concerns the application of INDIFFERENCE to cases where I am considering the possibility of infinitely many subjects with my QES.[9] But a number of philosophers find something like INDIFFERENCE highly plausible, and I will not be questioning it here.

What I want to do here is examine two ways of *expanding* the reach of INDIFFERENCE. As it stands, INDIFFERENCE only recommends preferences among *self-locating* hypotheses based on how many exemplars with my QES each self-locating hypothesis has. But the two more general principles I am interested in would also recommend preferences among *third-personal* hypotheses based on how many exemplars with my QES they have, or what proportion of their exemplars have my QES. Elsewhere, I argue that we *should* generalize on INDIFFERENCE—but here I will simply examine two conflicting ways to do so.

2. General indifference

INDIFFERENCE tells me, in effect, that when I hold fixed my beliefs about how the world is from a third-personal point of view, I should prefer self-locating hypotheses to the degree that they are exemplified by more predicaments in which the subject has my QES. (I will sometimes call these 'predicaments like mine'—I mean *just* like mine).

But what happens when I do not hold fixed my non-self-locating beliefs? This is what happens in a number of puzzling cases that confirmation theorists have taken interest in of late. But it will be easiest to focus on some very pure cases—here are two adapted from Nick Bostrom.[10] Each involves finding oneself in an incubator and learning that one was the result of a special process:

> (TOSS) A coin was tossed. If *heads* came up, the incubator produced one subject; if *tails* came up, the incubator produced two subjects. Everyone will have the same QES.
>
> (LIGHTS) As in TOSS, except that if *heads*, the lights are on for the subject that was produced. If *tails*, the lights are on for only one of the two subjects. I wake up and immediately see that the lights are on.

Suppose I am told that I am a result of one of these procedures, and I am trying to decide what credence to assign to the hypothesis that tails came up and two subjects were created. In the first case, the two outcomes of the toss differ with respect to the *number* predicaments like mine. In the second case, there is exactly one predicament like mine regardless of the outcome of the toss, but the outcomes differ with respect to the *proportion* of predicaments like mine (out of all the predicaments). But in both cases, INDIFFERENCE is silent about what my credences should be in *heads* and *tails*.

There are a number of ways that INDIFFERENCE could be generalized so that it applies to these cases. But some are absurd. For example, Elga is quick to insist that his principle is importantly distinct from:

> (ABSURD) *Any* two uniquely self-locating hypotheses that specify predicaments like mine deserve equal credence[11]

This tells me that in a case like TOSS I should think (with a credence of 2/3) the incubator produced two subjects, *regardless* of the chances involved. If instead of a coin toss, the procedure involved a 99.9% chance of producing just one subject, and a 0.1% chance of producing two subjects, I should still think that two subjects were produced. And that result clearly is absurd.

Luckily, this is not the only way one might generalize on INDIFFERENCE. We need a way to take into account what our credences in the non-self-locating hypotheses would otherwise be. For example, if I know there was only a 1% chance that two subjects were created, that should somehow affect the credence I end up with. The defect of ABSURD is that it treats all possible predicaments like mine on a par, rather than taking into account the initial chance that they would come into existence. We can now turn to two generalizations on INDIFFERENCE that are designed to do exactly that.

3. Frequency vs. proportion

Consider a world-theory W and two self-locating hypotheses X and Y. Suppose that in W, X has *n* times as many exemplars like mine as Y has. (The UNIVERSES* case is like this.) In that case, INDIFFERENCE tells me that, conditional on W, X deserves *n* times as much credence as Y. But why is this?

> (1) Because the *number* of predicaments like mine that exemplify X is *n* times as great as the number of predicaments like mine that exemplify Y.
>
> (2) The *proportion* of predicaments like mine that exemplify X, out of all predicaments, is *n* times as great as the proportion of predicaments like mine that exemplify Y, out of all predicaments.

These are both true, conditional on W. In fact, since W holds fixed the number of predicaments like mine as well as the total number of predicaments, they amount to the same thing.

But there are cases where (1) and (2) come apart, so it matters a great deal which one we use to generalize INDIFFERENCE. For example, recall LIGHTS. However the coin comes up, only one subject sees lights, so the number of subjects that see lights is the same. But the proportions differ: if heads, every subject sees lights: if tails, only half of them do. So if I adopt (1) as my model and assign credences based on the number of predicaments like mine, I will end up with equal credences for *heads* and *tails*. But if I adopt (2) and assign credences based on the proportion of predicaments like mine (out of all predicaments), I will end up preferring *tails*. And the opposite is true for TOSS: if I adopt (1) I will prefer *tails* because it involves a greater number of predicaments like mine; but if I adopt (2) I will prefer neither outcome.

9 This and other worries are discussed in Weatherson 2005, §5 and §6.

10 See his 2001; 2002a, chapters 4 and 6; and 2002b, sec. 6.

11 Elga 2004, p. 387.

Let's look at these approaches more carefully.

(i) *Weighted frequency*. Suppose we want to generalize on (1). At a first pass, the idea is this:

> Other things equal, a hypothesis deserves higher credence the more predicaments like mine would exemplify that hypothesis if it were true.[12]

What sets this apart from ABSURD is the 'other things equal' clause. Take two hypotheses each of which would, if true, be exemplified by *n* predicaments like mine. If I know that one has a greater objective chance of being true, then other things are not equal and the two hypotheses don't deserve equal credence. The number of predicaments like mine that would exemplify a hypothesis if it were true must be balanced by any independent evidence about how likely that hypothesis is to be true in the first place.

So we want to *weight* the value of each potential exemplar of a hypothesis H with any independent evidence concerning the probability that it actually exists and exemplifies H. How might we do this in the TOSS and LIGHTS cases? It is natural to treat the objective chances in those cases as 'prior' credences in the outcomes of the toss. Here 'prior' is in scare quotes because I cannot literally fall back on my credences from before the coin toss—I didn't exist then. But it seems that in many cases we treat a piece of evidence we've always had as though we've just come across it and can still evaluate how likely it is given different hypotheses.[13] (I discuss this particular variety of 'old evidence' further elsewhere—for our present purposes I will just assume that we can use 'hypothetical priors' in such cases.)

A simple equation can state exactly how this weighting occurs. (Those with an aversion to equations can skip this paragraph.) Suppose I am considering some hypothesis *h*. The problem with ABSURD is that it the number of predicaments like mine that would exemplify *h* if it were true, and contrasts that with the number that would exemplify not-*h* if that were true. But that completely ignores how likely it is that anyone exemplies *h* to begin with. Better to look at how many predicaments like mine I initially *expect* to exemplify *h*, a value that takes into account the prior probability of the world being consistent with *h*. I can then contrast this with how many predicaments like mine I initially expect there to be, all things considered. Let's use *N(e&h)* to refer to the expected number of predicaments like mine that exemplify *h*. This in turn is divided by the baseline prior expected number of predicaments like mine—call this *N(e)*. And the result is my new credence in *h,* P*(*h*).[14]

FREQUENCY:[15]

$$P^*(h) = \frac{N(e \,\&\, h)}{N(e)}$$

The hypotheses here can be self-locating or not. For example, in TOSS and LIGHTS the two hypotheses at issue are *heads* and *tails*- these are third-personal hypotheses. From a hypothetical standpoint prior to each coin toss, I use the chance of each outcome to set its prior probability. In the case of LIGHTS, FREQUENCY will yield equal credences for *heads* and *tails*, because each hypothesis also predicts the same number of predicaments like mine. And in the case of TOSS, FREQUENCY will yield a credence of 2/3 to *tails*, because it contains twice as many predicaments like mine.

Some will find the result in TOSS a bit counterintuitive. But things are not nearly as bad as they were for ABSURD. In the case where the chance that two subjects would be produced was .001, the expected number of predicaments like mine that exemplify that hypothesis would be .002. And the prior probability that one subject was produced would be nearly 1, so the baseline expected number of predicaments like mine will be just over 1. The result is near certainty that only one subject was produced.

(ii) *Weighted proportion*. This approach generalizes on explanation (2). And it is the approach favored by Nick Bostrom, who summarizes it like this:

> (SSA) One should reason as if one were a random sample from the set of all subjects in one's reference class.[16]

Here Bostrom does not just mean that, holding fixed the third-personal facts, I should prefer self-locating hypotheses according to which my predicament is a more representative sample of all predicaments. (That would just be a way of stating INDIFFERENCE.) He also means that, other things equal, I should prefer world-theories in which my predicament is a more representative sample of all the predicaments. More generally, applied to hypotheses that are self-locating as well as those that are not:

> Other things equal, a hypothesis deserves higher credence the greater the expected proportion of predicaments (out of *all* predicaments) are like mine and exemplify that hypothesis.

Again, we need to explicate the 'other things equal' clause. This time we need for our denominator a baseline prior expected *proportion* of predicaments with *e*, out of all predicaments.[17] Let

12 Bostrom calls this (or something very much like it) the 'Self-Indication Assumption'.

13 To take a case similar to those at hand, suppose I've always known that my parents tossed a coin about whether to use birth control on the date of my conception. If heads came up, they would use it. Based on my estimate of the chances of conceiving while using birth control, I can work out a reasonable credence about how the coin landed. But doing so appears to involve pretending that I knew about the coin toss before I knew that someone was conceived.

14 An important caveat: in this form, FREQUENCY is intended to apply only when *e* represents one's *total* information, including any memories and so on. This is natural in cases like toss, where one has just popped into existence. But as time passes we usually only update on *new* evidence. In such cases we can't use this equation and simply treat 'e' as representing our new evidence. There is a—rather complex—version of FREQUENCY that does allow one to update only using new evidence, but I will omit it here. Instead I will pretend that rational agents always update on their original or 'ur'-priors using their total evidence.

15 Many thanks to Jacob Ross for suggesting this formulation the principle, as well as the analogous formulation below for PROPORTION.

16 See his (2001; 2002a, 57).

17 Setting aside infinite cases, this is the prior probability-weighted sum of all such proportions according to every world-theory. That is, for every world-theory, take the proportion of predicaments like mine, out of all the predicaments, weight the result by the prior probability of that world-theory, and sum all the results.

call this *F(e),* using *F* for 'fraction'. We will then compare this to the prior expected proportion of predicaments that both have *e* and exemplify *h*, out of all predicaments—call this *F(e&h)*. (Note that this value takes into account even worlds where the relevant proportion is zero.)

PROPORTION: $$P^*(h) = \frac{F(e \,\&\, h)}{F(e)}$$

So if two world-theories have the same 'prior' probability, but one contains a greater proportion of predicaments like mine, then it deserves a higher credence. For example, in LIGHTS, my QES involves seeing lights. And given *heads*, there is only one subject in the world,[18] and that subject sees lights. So all the predicaments are like mine. But given *tails*, only one of the two subjects sees lights, so the proportion of predicaments like mine is only 1/2. Factoring in the equal 'prior' weights to the two coin outcomes, I end up with a 2/3 credence in *heads*. And this is quite different from the result delivered by FREQUENCY, which recommended equal credences in the two outcomes. Meanwhile, in TOSS, all the predicaments are like mine regardless of the outcome, so PROPORTION recommends equal credences about them, even though FREQUENCY recommends a preference for *tails*. But despite these differences, the two principles collapse into INDIFFERENCE whenever we are comparing hypotheses on which the number and proportion of predicaments like mine remain fixed.

Are there any compelling reasons for preferring one of these principles over the other?

4. Selecting analogies

Consider the following case:

> (MARBLES1) A coin is tossed. If *heads*, the urn contains one marble. If *tails*, the urn contains two marbles. Regardless of the toss, every marble will be marked 'X'.

Knowing the setup, I randomly select a marble from the urn, and it's marked 'X'. This provides me with no relevant evidence, and I should continue to assign equal credences to *heads* and *tails.*

But isn't this case exactly analogous to TOSS? How could one possible treat an encounter with one of the two marbles as lending greater credence to *tails?* This seems like a very natural heuristic to offer in favor of PROPORTION over FREQUENCY. But I think it involves adherence to a certain model of the way in which we should treat our predicaments as having been selected. The setup in MARBLES1 may be a fine analogy for TOSS, but there is another way to imagine selecting the marble—one that provides an equally compelling analogy for FREQUENCY. Sometimes the best way to respond to a picture is to sketch an alternative one.

I earlier imagined myself as a bystander who picks a marble at random from the urn and sees that it is marked 'X'. Call that selecting a marble from the outside. But a marble can also be selected from the inside. Suppose that *I am a marble* and find myself in the urn after an uneventful marbley life. I know the setup—if *heads* there is one marble in the urn; if *tails* there are two. But marbles have to get into the urn in the first place. So I proceed as though that process involved a random selection among some pool of candidate marbles.[19] As a result, I take myself to be twice as likely to have found myself in the urn to begin with given *tails*. And because either way I expect to find myself marked 'X' conditional on being in the urn, I assign 2/3 to tails. And of course, this is exactly how the frequentist wants to treat TOSS.

Exactly the same contrast can be illustrated with a natural analogy for LIGHTS:

> (MARBLES2) As in MARBLES except that if *tails*, only one of the two marbles, at random, is marked with an X.

Again, I can get evidence about a particular marble in two different ways. I might be a bystander who randomly selects a marble from the urn. Suppose I find that it is marked 'X'. Knowing the setup, I should then assign 2/3 to *heads*. And this is exactly what PROPORTION would have me do in the case of LIGHTS. According to the proportionalist, waking up and seeing lights in that case is very much like picking a marble from the urn and seeing that it is marked 'X'.

But while the frequentist will agree that this setup is perfectly apt, she will urge that a proper analogy to LIGHTS would involve selecting the marble from the inside. From that perspective, I find myself in an urn and see that I am marked with 'X'. Knowing the setup, I reason as follows. Given *tails*, I was twice as likely to get into the urn to begin with, but only half as likely to be marked with an 'X' given that I get into the urn. Thus, I am equally likely to be *both* in the urn and marked with an X on either outcome. So they are equally probable.

So: which way of thinking about marble selection is more analogous to my situation in TOSS and LIGHTS? Is finding myself in those situations like selecting from a set of predicaments, taking for granted that I will get to select one of them? Or is it more like discovering that one has *been selected* to be in some predicament, with no guarantee of being assigned any predicament at all? In effect, the proportionalist proceeds as though she was guaranteed to be produced by the incubator regardless of the outcome of the coin toss—the way a bystander is guaranteed to select some marble or other. In contrast, the frequentist proceeds as though the production of *two* subjects just like her would have made it more likely that *she* get produced in the first place. The first approach would seem right if I were some kind of a soul or haecceity that was guaranteed to be embodied regardless of how many subjects the incubator produced. The second would seem right if I were a soul or hacceity that was twice as likely to be embodied if the incubator were to produce two subjects.

Of course, this is just another metaphor, since neither PROPORTION nor FREQUENCY actually requires me to have even hypothetical credences about the likelihood of *my* existence given various outcomes. I am therefore inclined to be cautious with intuitions

18 It does matter to PROPORTION (but not FREQUENCY) whether there are other subjects in the world unrelated to the incubator's procedure. While I will continue to prefer *heads* as long as the expected number of subjects is finite, the more of them there are (assuming none of them are expected to have my QES), the less dramatic my preference for *heads* will be.

19 Things are easiest, of course, if there are finitely many.

here. My point is just that the metaphors that fit with PROPORTION are (at best) no more compelling than those that fit with FREQUENCY. Luckily there are other considerations that may help us decide between the two principles.

5. 'Presumption' either way

Bostrom's main objection to FREQUENCY is that it yields a counterintuitive result in cases like the following:

> PRESUMPTION. 'It is the year 2100 and physicists have narrowed down the search for a theory of everything to only two remaining plausible candidate theories, T_1 and T_2… According to T_1 the world is very, very big but finite, and there are a total of a trillion trillion subjects in the cosmos. According to T_2, the world is very, very, *very* big but finite, and there are a trillion trillion trillion subjects. The super-duper symmetry considerations are indifferent between these two theories. Physicists are preparing a simple experiment that will falsify one of the theories. Enter the presumptuous philosopher: "Hey guys, it is completely unnecessary for you to do the experiment, because I can already show to you that T_2 is about a trillion times more likely to be true than T1!" '.

Some additional background considerations can make this case very much like an exaggerated version of TOSS. (For instance, it helps to assume that the expected number of predicaments like mine increases with the total expected number of subjects, and perhaps that the truth of T1 or T2 hinges on some random occurrence early in the Big Bang that had an objective chance of .5.)[20]

This does seem counterintuitive. But is it a reason to prefer PROPORTION over FREQUENCY? If I am a frequentist, I will (other things equal) prefer theories where there are *more* predicaments like mine. And if I am a proportionalist, I will (other things equal) prefer theories where there are *fewer* predicaments *unlike* mine. Both results can be made to seem extreme when we are considering very large numbers. After all, consider:

> (PRESUMPTION3) As in PRESUMPTION except the relevant theories are T_3, which says there are a trillion non-green subjects in the universe and a trillion trillion green subjects; and T_4, which says there are a trillion of each.

The proportionalist, having noticed that she's non-green, will declare it completely unnecessary to test these theories empirically, because T_4 is a trillion times more likely than T_3. This seems pretty presumptuous as well.

It is worth mentioning a few possible sources of this kind of intuition that have nothing to do with these principles in particular.

(i) In a realistic case the background elements of the story—that there are a trillion times more subjects in B, and so on—would not be known with anything like certainty, because they would be based on a physical theory that would be at least somewhat tenuously held. But lack of certainty in the background facts makes it more difficult to rule out A.

(ii) The philosopher in the story assumes that an experiment is only worthwhile if it has a fighting chance of *changing* our credences in some significant way. But empirical data can be evidentially significant in other ways; most importantly, by increasing the *resilience* of our credences with respect to various kinds of additional data that we might encounter.[21]

(iii) When a non-ideal subject *as a matter of fact* succeeds in reasoning in an ideal way to some conclusion, we may expect that subject to have uncertainty about the perfect rationality of their reasoning. But the effect of this second-order doubt will often be to temper the results of their first-order deliberations. In particular, an ordinary proponent of INDIFFERENCE should arguably not be *certain* that INDIFFERENCE is the best way to reason. And this by itself may preclude using INDIFFERENCE to reach near-certainty that we are in region B. (Of course, if we hedge our bets in this way, we should by our own lights suspect that we are not assigning exactly the correct credence to being in region B.)[22] The fact that we forgive—even expect—this kind of second-order humility in non-ideal subjects should not cause us to give up the view that the relevant inferences are in some sense ideal. This suggests there might be a kind of over-arching sense of rationality according to which a proponent of INDIFFERENCE who is not entirely secure in that principle ought not to entirely dismiss the value of undertaking the experiment. (After all, the experiment might very well make her more certain of the correctness of INDIFFERENCE!) There are tricky issues in the neighborhood about the possibility of conflicting types of epistemic normativity, but the issue is worth flagging.

Even setting these considerations aside, however, there may remain a residual intuition that the philosopher in each case is presumptuous. But is one philosopher's presumption worse than the other's? I seem to be able to get into two frames of mind, each one governed by one of the two models for treating one's evidence as a random sample and illustrated by one of the two marble metaphors discussed in the previous section. Others might find the frequentist's presumption more egregious—and for them, this ought to count against FREQUENCY. Fortunately, however, FREQUENCY has other things going for it.

6. The problem of the criterion

PROPORTION requires me to compare the set of predicaments like mine with a larger set—what Bostrom calls 'the reference class' of subjects in various evidential predicaments. But what must something be like to count as a subject? For example, do apes count? Dogs? How about turtles?

This issue does not arise for FREQUENCY, because it concerns only the number of predicaments *with my QES*. For that reason, we

20 In addition, it may help to control for any prior bias in favor of hypotheses that are more ontologically parsimonious, which might balance out the effect of frequency. To this end, the example could treat T_2 as a hypothesis on which the universe is the same size but the *density* of subjects is greater. See Bostrom and Ćirković 2003.

21 See Skyrms 1980, Joyce 2005.

22 Consider, by way of analogy, a subject who reasons deductively to a conclusion from a set of premises in which she is certain, perfectly using rational inference rules through a sequence of logical transformations. Nevertheless, she may harbor doubts either about the rationality of the inference rules, or about her own success in applying them.

don't need to decide whether anything counts as a subject—all that matters is whether it has my QES. To illustrate this point, consider the following case:

> (DOG) If *heads*, the incubator produces a creature with my QES; if tails, it produces a creature with my QES and a dog with a doggy QES.

For the frequentist, this is easy. The outcomes deserve equal credences. There is no need to decide whether dogs count as subjects, and it doesn't matter what the creature with my QES is like 'from the outside'. The proportionalist, on the other hand, needs to decide whether dogs are sufficiently subject-like. If she includes the dog in her reference class, she will prefer *heads*; if not, she will assign equal credences to the two hypotheses.

Is there any non-arbitrary way for her to decide? Presumably things like awareness and intelligence matter. But which traits matter, exactly, and to what degree? It would be somewhat surprising if there were a single correct answer to these questions that must be implemented if one is to reason correctly about one's evidence in such cases. Consider a series of millions of cases like (DOG), except that in each case the dog is replaced by some other kind of creature. In the first case, the creature has the same degree of awareness and intelligence that I have, but it has a different QES. In the second case, the creature is very slightly less aware and intelligent. The cases go on like this—perhaps tracing our evolutionary history back to early vertebrates—until we reach a creature that clearly should not be a member of the reference class. At some point, I must stop having a credence of 2/3 in *heads* and start having a credence of 1/2, because PROPORTION does not allow for intermediate credences. But it does not tell me when to make the switch. Of course, we could build a cut-off point into PROPORTION, but the result would seem too arbitrary to have a very good claim to constraining rational credences. In other words, it seems crazy to think that there is a correct cut-off point, and we'd be reasoning improperly if we used a slightly different one.

The proportionalist might complain that this objection is unfair because it trades on the phenomenon of vagueness. After all, confirmation theory typically operates in an idealized setting where one's hypotheses and credences are fully precise. And in that setting, for example, questions like 'what credence should we give to the claim that x is bald when x is a borderline case of 'bald'?' simply do not arise. However, there is an important asymmetry here. The problem of the criterion for PROPORTION does *not* go away even if I imagine formulating hypotheses with a great many precise predicates instead of 'subject'. Even in such a setting I would still have to decide which predicate to use to specify my reference class. The problem is as pressing as ever.

Bostrom's preferred response is to deny that there is a correct set of criteria: there is 'a subjective factor in the choice of reference class'. After all, our constraints on what can be reasonably believed need not single out a 'uniquely correct credence function' (2002a: 182). In short, the rule simply leaves it up to me how I choose a cutoff point for counting as a subject—but I must do so. But even this doesn't avoid the problem. Presumably it would not be rationally acceptable, for example, to include plankton or tomato plants. So the question still arises; what are the boundaries on acceptable choices for a reference class? (Here again one might appeal to vagueness, but with the same unsatisfactory result as before.)[23]

I don't consider this a conclusive objection to PROPORTION. Perhaps, as Bostrom suggests, this is an enigma that will yet be made clear by further reflection or argument (2002a: 205). But it is surely a *prima facie* benefit of FREQUENCY that it avoids this thorny issue altogether.

7. The problem of future subjects

Setting aside the question of what counts as a subject, PROPORTION also faces a dilemma about whether *future* subjects should be treated as members of the reference class. Consider this case, based on one due to Bostrom (2001: 367)

> (DESCENDANTS) Adam and Eve are the only subjects in the universe, and know that if they have children, the world will fill up with their descendants; and if not, there will be no other subjects. They toss a coin and take an unbreakable vow to have children only if it comes up *tails*.

We can suppose that none of Adam and Eve's descendants will have exactly their experiences. If they include any future descendants in their reference class when considering the outcomes of the coin toss, PROPORTION will cause them to be very confident that *heads* will come up! After all, each should reason that the proportion of subjects with his or her QES will be *much* higher if they have no descendants. As a result, their credences will hugely diverge from what they know to be the objective chance of the outcome. Moreover, as Bostrom himself points out, they would be able to rationally predict nearly any event by tying it to a firm intention about whether or not to have children—for example, if they are tired of hunting, they could agree to have children only if a wounded deer limps by their cave. They would then be nearly certain of an easy dinner—a crazy result. And here again, the frequentist faces no analogous problem.[24]

While Bostrom does not appear to think this is a fatal problem for including future subjects in one's reference class, he points out that the proportionalist can avoid it by excluding future subjects from the reference class.[25]

Difficult questions arise about how exactly to implement this idea.[26] For example, what should I do when a future subject *comes*

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23 Neither does it help to say that creatures can count as *fractions* of subjects, so that the less aware and intelligent it is, for example, the smaller a fraction it deserves. For now we must decide at what point to start decreasing, at what rate to proceed and using what criteria, and where to stop.

24 This is not to say that FREQUENCY cannot be exploited to make Adam favor one outcome from a future coin toss. But the trick is that this could only be done in such a way that Adam is no longer certain that the coin toss is in the future. Frequency will not cause him to diverge from what he *takes* to be the current objective chance of a given outcome. I discuss this issue further in Manley, MS.

25 See Bostrom 2001, pg. 381; 2002a, chs. 9 and 10.

26 There are different ways this proposal might be implemented. But

into existence? Should I start treating him or her as a member of the reference class? That would lead to bizarre changes in my credence that seem unrelated to evidence. For example, suppose I know that in ten minutes, the incubator will toss a coin. If *heads*, it will do nothing. If *tails*, it will create a subject unlike me. Either way, I will get no qualitative evidence about the outcome. Now, before the appointed time, I have equal credences in *heads* and *tails*. But as soon as ten minutes passes, and despite lacking any additional information, I suddenly start to think that *heads* probably occurred. In fact, I could *predict* that I would shift my credences about the coin toss before it occurs.[27] More generally, in any ordinary case, whatever I think the objective chance are about someone successfully having a child, in the absence of evidence about their success I should revise my expectations downward around the time that the child is supposed to come into existence.[28] The result seems unacceptable.

Alternatively, I could choose to continue excluding any new subjects forever. On this approach I would exclude anyone who came into existence at any point after I did. But this has its own additional problems. Suppose that at t1 I am alone in the world, but at t2 a new subject unlike me comes into existence. We meet and talk. Both of us know that the incubator tossed a coin about whether to produce 100 additional subjects (unlike either of us) at t2, and that either way there would be no qualitative evidence about the outcome of that toss. The present version of PROPORTION now requires us to diverge intractably concerning the outcome of the coin toss. My friend will be quite certain that the 100 subjects were not created, whereas I will assign equal credences to both outcomes. Of course, had my friend come into existence an hour earlier, he and I would have had exactly the same credences about the outcomes.

In short, including future subjects in the reference class leads to predictions that diverge from the known chances, while excluding future subjects leads to plenty of trouble of its own. And it would hardly help to simply allow the reasoner a choice between these two bad options.[29] Meanwhile, since FREQUENCY makes no use of a reference class, it faces neither of these problems.

8. Conclusion

We have examined two general principles aimed at guiding our credences in cases where our evidential state may not be unique. Both principles lead to some counterintuitive results in the 'presumption' cases, and perhaps PROPORTION fares somewhat better in this respect. But on balance, FREQUENCY is the more attractive principle. Unlike PROPORTION, it avoids having to decide what counts as a subject, and whether to include future subjects in the 'reference class'. As a result, it does not recommend that one's predictions for events should fail to match the known chances for those events. Nor does it recommend that one should predictably change one's credences in the absence of any relevant evidence, or diverge intractably in one's credences from subjects who come into existence during one's life. Between these two generalizations of INDIFFERENCE, then, FREQUENCY is the better bet. There are, of course, other alternatives for how we should respond to cases like LIGHTS and TOSS—but I will leave them to another occasion.

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one thing is clear—there are cases were we cannot simply exclude an individual from the reference class: exclusion must take place *relative to hypotheses*. The question then arises whether one ever excludes a subject relative to one self-locating hypothesis but not another, holding fixed the third-personal facts. This is a decision-point for the proportionalist that I won't explore here.

27 This is a particularly egregious violation of van Fraassen's Reflection Principle: I know exactly what my future credence in *heads* will be, I am not worried about memory loss or losing track of time in the interim, but I do not adopt it. (The principle requires that "the agent's present subjective probability for proposition A, on the supposition that his subjective probability for this proposition will equal *r* at some later time, must equal this same number *r*"; van Fraassen 1984, pg 16.)

28 Or rather, around the time that I would start to count the new being as a subject.

29 Bostrom writes: 'My suspicion is that at the end of the day there will remain a subjective factor in the choice of reference class': 2002a p. 182.

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LINA JANSSON defended her dissertation – *Explanation and Dependence* – under the guidance of Larry Sklar (chair), Laura Ruetsche, Gordon Belot, and Finn Larsen (physics). The dissertation argues that central cases of explanation within the sciences, such as explanations of motion under gravity, provide examples where a more complicated attitude than the standard account of explanation can easily allow for is warranted. The central project consists of constructing an account of scientific explanation that can meet this challenge by according non-derivative explanatory power to both laws and causal relationships. Lina is now an assistant professor at Nanyang Technological University in Singapore.

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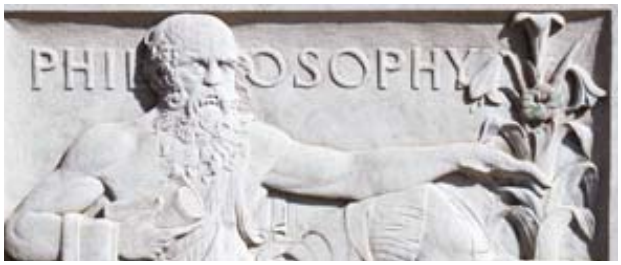
IAN McCREADY-FLORA defended his dissertation – *Belief and Rational Cognition in Aristotle* – under the supervision of Victor Caston (chair), Edwin Curley, Kendall Walton, Bruce Frier (classics), and Matt Evans. After finishing his Ph.D. in early July, he moved to Manhattan to take up a three-year postdoctoral appointment in the Columbia University Society of Fellows in the Humanities. His wife Rachel and he are expecting a daughter in late November.

ALEX PLAKIAS defended her dissertation – *The Good and the Gross: Essays in Metaethics and Moral Psychology*– under the supervision of Elizabeth Anderson (chair), Allan Gibbard, Peter Railton, and Chandra Sripada. She has accepted a lecturer position at Rutgers University.

DUSTIN TUCKER defended his dissertation – *Propositions and Paradoxes*– under the direction of Rich Thomason (chair), Eric Swanson, Jamie Tappenden, and Andreas Blass (mathematics). There is a mostly-neglected family of paradoxes involving propositions that are related to but importantly different from the familiar semantical and set-theoretical paradoxes. Dustin argues that these paradoxes highlight tensions between the different roles propositions play and pursues four distinct resolutions to explore how those tensions might be relieved. Dustin began a visiting position at Texas Tech University this fall.

DAVID WIENS defended his dissertation – *Engineering Global Justice: Achieving Success Through Failure Analysis* – under the direction of Elizabeth Anderson (chair), Peter Railton, Mika LaVaque-Manty, and Bill Clark (political science). The dissertation develops a novel methodology for analyzing political institutions and uses it to devise an institutional solution to a class of development failures known as the "resource curse." A chapter of this work was accepted for publication in *The Journal of Political Philosophy* under the title "Prescribing Institutions Without Ideal Theory." David was awarded a Rackham Predoctoral Fellowship, but declined it to take up a Postdoctoral Research Fellowship at the Australian National University. David began at the ANU in July 2011.



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