An Intellectual Entertainment: Thought and Language

P. M. S. HACKER

Abstract

This dialogue on thought and language is a sequel to my dialogue 'Thought and Thinking', but can be read independently of it. The five disputants are the same as in the previous dialogue, namely Socrates; an imaginary neuroscientist from California (whose opinions reflect those of contemporary cognitive neuroscientists); an Oxford don from the 1950s (who employs the linguistic analytic techniques of his times); a Scottish post-doctoral student; and John Locke (who speaks for himself). The discussion takes place in Elysium in the early evening after dinner. They discuss the relationship between what one thinks and what one says, examine the reasons for supposing that there must be a language of thought and show why there cannot be one, investigate the supposition that thought must have a medium – that one must think in something (words, ideas, pre-linguistic concepts) – and demonstrate that it cannot have one. They investigate whether there can be non-linguistic thinking and whether non language-using animals can be said to think, and determine the limits of thought and thinking.

Protagonists:
Socrates: gravelly voice, slight regional accent. Dressed in ancient Greek manner. (It should be noted that Socrates has spent a great deal of time talking with his friend Wittgenstein.)
Frank: a contemporary American neuroscientist in his forties, casually dressed; American accent.
Paul: a middle-aged Oxford don of the 1950s, dressed in well-cut sports jacket, waistcoat and tie. Oxford English accent.
Alan: a Scottish post-doc, tweed jacket and woollen tie. Soft Scots accent.
John Locke: in seventeenth century scholar's garb. A pedantic and slightly reedy voice.

The scene is a garden in Elysium in the late evening. The moon is bright. A rich verdant lawn is surrounded by flower beds and rose bushes in bloom, with tall trees behind. Beyond: a moonlit view of lake and mountains. There are five garden chairs around a low table on which there are some scattered books. There are candles in two large candelabras on the table, and lanterns behind the chairs. The noise of laughter and animated discussion is audible as the participants return from dinner. They take their seats.

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Socrates: I must say, they do one proud at the Ambrosian. That was an excellent dinner. Now, where were we?

Paul: Well, you showed us something none of us really expected, Socrates, namely that thinking is not an activity – just like a physical activity, only mental. I must admit that I had not anticipated that.

Alan: Ay. It goes against one's intuitions.

Socrates: [*chuckles*] Since one's intuitions are just one's ill-informed and unreflective hunches and guesses, that shouldn't worry us.

Alan: Ay, but it's damned painful to have one's ideas pulled up by the roots.

Socrates: Well, my boy, the pain is a small price to pay for getting rid of the weeds. [*He laughs*]

Paul: You showed us that the relation of thinking to time is altogether unlike the relation of a physical activity to time – that in an important sense it is misleading to construe thinking as an activity. And you showed us how misleading is the idea that thinking is something 'inner' and private to the thinker, and how misguided the notion of introspection is when construed as apperception – as 'inner sense'.

Frank: Yeah. And then you got the others to say that it isn't the brain that thinks, that we don't think with our brain, or in our brain, for that matter. I have difficulty with that. It goes against the grain of current cognitive neuroscience, y'know.

Locke: Yet to go against the Grain is often the surest Path to Wisdom. For the Doctors of the Schools, aiming at Glory and Esteem, for their great and universal Knowledge – easier a great deal to be pretended to, than really acquired – found it a good Expedient to cover their Ignorance with a curious and unexplicable Web of perplexed Words, and procure to themselves the admiration of others by the Abuse of Terms, the apter to produce Wonder, because they could not be understood.

Frank: OK. I'm not as convinced as the rest of you guys. But let's move on. You've argued that what goes on in the mind while we're thinking is not the thinking. I still don't follow you. We surely think *in* some language or other. Hell, whatever you say, we *do* talk to ourselves in our imagination, and what we say, even if it

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isn't always what we think, often-times *is*. And when we learn a foreign language, don't we say such things as 'I can speak French, but I can't think in French' or 'My French is now getting better: I can even think in French'?

Paul: Your first worry is easy to resolve, Frank. Of course you can say to yourself what you think, just as you can say out loud what you think. But what makes it what you think is not that you say it to yourself, since you can say lots of things to yourself that you don't think, just as you can say lots of things aloud that you don't think.

Frank: So what makes something I say to myself an expression – an inner expression, I guess – of what I think?

Paul: Exactly what makes what you say out loud an expression of what you think. If what you say to yourself is your firm opinion or unwavering belief, then what makes it what you *opine* or *believe* is your commitment to it, your drawing inferences from it and acting on them, and so on. On the other hand, if it is a qualified judgment that you, as it were, express to yourself, then it is your recognition that you are not in a position to exclude all doubts, that your grounds are inconclusive, but sufficient, other things being equal, to provide an adequate reason for thought or action. So it's what you *think* to be so, not what you know to be so.

Alan: That's fine. But what about Frank's second point. It's surely right that if you dinna speak a foreign language very well, then you'll say that y' canna think in that language. And when your mastery of the language is adequate, you'll say that you now even think in French, or German, or whatever.

Socrates: So far, so good, Alan. But what does it mean? [*Silence for a few moments*] Come now my friends, is it not obvious?

Paul: Anything but obvious.

Alan: No, not obvious at all!

Socrates: [*chuckles*] It really is, you know. If someone says 'I can speak Persian, but I can't think in Persian, that means that before he can say anything in Persian, he must first decide what he wants to say (and *be able* to say it in his native tongue), and then to struggle to find the right Persian words to express what he thinks. But it does not follow that one can say *of a native speaker* that he thinks in his mother tongue – unless that just means that

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when he talks to himself in the imagination, he does so in his mother tongue.

Locke: But how are we to give a right view of the Case when a Man declares that he converses in French so proficiently, that he even thinks in French?

Socrates: Gentlemen, you must think! Haha. All it means is that his mastery of the language is so well advanced that he does *not* have to think what he wants to say, and then pause to try to recollect the foreign words in which to say it. Rather, he can give expression to his thoughts in the foreign language without any hesitation.

Alan: That's good. But what about the case when someone says 'That's exactly what I was thinking, only I couldna find the right words t'say it'? Is that not a case of thinking without words and then finding *from another fellow* what words express one's thought?

Paul: Yes, that is an interesting case, Socrates.

Socrates: My friends, don't let yourselves be so readily deceived by words. They are wonderful tools, but you must grasp them by the handle if you want to use them. In such cases, it is not that the other person finds the right words to translate your wordless thought. It is rather that he finds the right words to match the phenomenon you too were trying to describe but could not readily do so, and he describes it in a way that you find appropriate. *That's* why you say 'That's what I was thinking' or 'That's what I was trying to say, only I couldn't find the right words'.

Frank: Yeah. I see. OK, I accept that. But that's just idiom. The fact is that everyone agrees that we think *in* something.

Paul: Who's everyone?

Frank: Well, only such guys as Francis Galton, Albert Einstein, and Roger Penrose.

Alan: That's very interesting, Frank. So what did they say?

Frank: Well, you can find some of it here, in this book by Hadamard. [*He leans forward and picks up one of the books on the table*] He was a French guy, a mathematician, who went around asking great creative thinkers, especially mathematicians, how they thought, what they thought in, and so forth. [*He opens the book at a marked page*] So, when Einstein was asked, he wrote 'The words of language as they are written or spoken, do not seem to play any role in my mechanism of thought. The psychical

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entities which seem to serve as elements of thought are certain signs or less clear images which can be "voluntarily" reproduced and combined.'[1]

Paul: Hmm. Interesting. And what about Penrose?

Frank: [*putting down the book and picking up another one*] Well, he wrote about it in his book *The Emperor's New Mind*. [*He flicks through the pages*] Yeah, I got it. This is what he wrote: 'Almost all my mathematical thinking is done visually and in terms of non-verbal concepts, although the thoughts are quite often accompanied by inane and almost useless verbal commentary. … the difficulty that … thinkers have had with translating their thoughts into words is something that I frequently experience myself. Often the reason is that there are simply not the words available to express the concepts that are required. In fact, I often calculate using specially designed diagrams which constitute a shorthand for certain types of algebraical expression … This is not to say that I do not sometimes think in words, it is just that I find words almost useless for *mathematical* thinking.'[2] Unquote. Now, that seems to me to be definitive.

Alan: So they say that we have to think *in something* but not in words?

Frank: Well, y'know, Francis Galton went even further. What he wrote was, let me find it [*he pages through the book*]… yeah, here it is. What he wrote is 'It is a serious drawback to me in writing, and still more in explaining myself, that I do not think as easily in words as otherwise. It often happens that after being hard at work, and having arrived at results that are perfectly clear and satisfactory to myself, when I try to express them in language I feel that I must begin by putting myself upon quite another intellectual plane, I have to translate my thoughts into language that does not run evenly with them. I therefore have to waste a great deal of time in seeking appropriate words and phrases.'[3] Unquote. Right! Now it seems to me that the testimony of these guys makes a pretty good case for the idea that we have to think in

[1] J. Hadamard, *The Mathematician's Mind: the Psychology of Invention in the Mathematical Field* [1945] (Princeton University Press, Princeton, 1996), 142.

[2] R. Penrose, *The Emperor's New Mind*, rev. ed. (Oxford University Press, 1999), 548f.

[3] F. Galton, quoted by Penrose, *op. cit.*, 548.

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something. And there seems to be a fair amount of agreement that we don't think in words but in images or non-linguistic concepts.

Locke: This, methinks, doth confirm what I wrote in my *Essay*.[4] The Thoughts of Man, being composed of Ideas received from Experience, are all within his own Breast, invisible and hidden from others. Nor can they, of themselves, be made to appear. But the Comfort and Advantage of Society is not to be had without Communication of Thoughts. Hence it was necessary, that Man should find out some sensible Signs, whereby those invisible Ideas, which his Thoughts are made up of, might be made known to others. For this purpose, nothing was so fit, either for Plenty or Quickness, as those articulate Sounds, which with so much Ease and Variety, he found himself able to make. Thus Words come to be made use of by Men, as the Signs of their Ideas.

Socrates: So, you seem to agree that we must think in something. [*He pauses for any sign of dissent. There is none, so he continues*]

So, if you want to exclude 'thinking in words', the candidates for what we are conceived to think in seem to be *ideas*, as Master Locke suggests, or *non-linguistic concepts*.

Frank: Yeah, that's right. And many cognitive neuroscientists agree. Antonio Damasio seems to agree with Mr Locke. Damasio wrote that language is a translation of something else, a conversion from non-linguistic *images* which stand for entities, events, relationships and inferences. In his view, language operates by symbolizing in words and sentences what exists first in non-verbal form.[5] By contrast, Edelman – a Nobel laureate – holds that *concepts* precede language. On his view, concepts are constructs the brain develops by mapping its responses prior to language. Language then develops by epigenetic means to further enhance our conceptual and emotional exchanges.[6] Now that fits what I said before dinner: concepts are stored in the brain in a concept module, and words, which are stored in the mental lexicon that is realized in the brain, are names of concepts. But you guys didn't like that.

Paul: No, we didn't. And for jolly good reasons too.

[4] J. Locke, *An Essay Concerning Human Understanding* [1690], III-ii-1.

[5] A. Damasio, *The Feeling of What Happens* (Heineman, London, 1999), 107.

[6] G. M. Edelman and G. Tononi, *Consciousness: How Matter Becomes Imagination* (Allen Lane, The Penguin Press, London, 2000), 215f.

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Socrates: Come now, let's not retrace our steps over ground that we have already covered. When Einstein said that words of language, as they are written or spoken, don't play any role in his mechanism of thinking, does that mean anything other than the fact that, on the whole, when he is thinking hard, he does *not* talk to himself in the imagination?

Alan: No, I dinna see how it could mean anything more than that.

Socrates: And when he said that the psychical entities, as he put it, which seem to serve as elements of thought, are certain signs or less clear images, can that mean anything other that the fact that when he is thinking, some signs and vague images cross his mind?

Alan: No – and we've already argued that that isn't his thinking, and 't isn't what he is thinking either.

Socrates: So when Penrose says that when he is working on mathematical problems, he does not think in words because there are not words to express the concepts he needs, does that mean more than that he does not, when thinking about mathematics, translate complex algebraical formulae into English.

Alan: That's right. Although it seems that he finds it useful, while thinking, to visualize formulae or diagrams.

Socrates: Yes, but that does not mean that he thinks *in* mathematical formulae in the sense in which he speaks in English. It merely means that it is a valuable heuristic to visualize them. But now, he said something much more interesting than such a commonplace. He spoke – correct me if I am wrong, Frank – he spoke of translating thoughts into words. Now, how would one go about *translating* an unexpressed thought into words?

[*A brief silence*]

Paul: Yes, I see what you mean. He is confusing *expressing a thought* with *translating a thought*. One can't *translate* unexpressed thoughts, since there is nothing *to* translate – only an unfulfilled *possibility* of expression.

Frank: But what about Galton? He said that he arrives at results that are perfectly clear, which he then has to translate into language.

Paul: But is that not like knowing what one wants to say before saying it? That often happens to all of us, but that doesn't mean we are translating thoughts into words.

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Socrates: Bravo – well said. It is obvious enough that the difficulty to which he alludes is not that of translating, but of expressing.

Frank: But Edelman claimed that we think in concepts, that we form our judgments by means of non-linguistic concepts, and then translate the judgment into words. He claims that concepts precede language. Concepts, according to him, are constructs the brain develops by mapping its responses prior to language. So y'can think in concepts and then translate what you think into words.

Locke: This I cannot accept. But it hath greater Plausibility to contend that the Instruments of Thought are Ideas, which are given in Experience, or constructed by the Mind out of Ideas given in Experience.

Paul: I don't think that it makes sense to speak of pre-linguistic concepts. Concepts are no more than abstractions from uses of words. To possess a concept is to have mastered the use of a word. There is no such thing as the brain possessing, let alone constructing, concepts, since there is no such thing as the brain mastering the uses of words. And heaven only knows how anyone, let alone the brain, might develop concepts by mapping brain responses prior to language. It is human beings, not brains, who master the use of words in the course of their acculturation into a linguistic community. To master the uses of words is not to learn a list of names, least of all names of concepts. Concepts don't *have* names anyway. To acquire concepts, to master the use of words expressing concepts, is to learn how to *do* something, namely to engage in the language-games of a linguistic community.

Alan: But that doesna show that concepts are not independent of, and in some sense prior to, language.

Paul: Surely that Platonist notion is incoherent, Alan. One could say – although it might be a little misleading – that concepts are techniques of using words, or ways of using words. It is surely obvious that it makes no sense to speak of techniques of using words existing independently of words! That would be like saying that the use of a tool exists independently of the tool – as if the use of a screwdriver might exist antecedently to screwdrivers. [*Socrates chuckles*] We find it useful to talk about concepts, over and above talking about the meanings of words, when we wish to abstract from parochial, language specific features and to speak of

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distinctions that transcend local linguistic differences. But the suggestion that concepts exist independently of words and phrases and their uses is patently absurd. What on earth is it supposed to mean?

Socrates: And what of ideas, Paul?

Paul: Well, we discussed that before dinner. In so far as ideas are supposed to be sense-impressions, then thinking is not an operation with or on ideas. Thoughts are not composed of ideas, nor indeed of concepts for that matter. They are not composed of anything. To be sure, one must have mastered many concepts, learnt the use of many words, to be able to think anything but the most rudimentary thoughts. And equally, one must have, and have had, a multitude of perceptual experiences or 'ideas' in order for one to be able to think. But ideas are not the medium of thought.

Locke: If Thoughts be not composed of Ideas, and if we do not translate Thoughts into Words, then it is a Matter of great Obscurity whence they derive. If expressing a Thought be not translating a Thought into Words, how then doth a Man think antecedently to expressing his Thought?

Socrates: Master Locke, you must surely admit that if you perceive things to be so, you can say so.

Locke: This I must concede.

Socrates: But if you can *say* how things are, you can also *think* how things are without saying that they are so. You can think a thought, that is, it makes sense to say of someone that he has a certain thought, only if he *can* express it – no matter whether he does so or not.

Frank: I don't get it. What then is the medium of thought?

Socrates: Why should thought *have* a medium?

Frank: I don't follow.

Socrates: Well, perhaps we should approach this one in a roundabout way. We need to reflect more upon the relationship between thought and language.

Frank: OK. Y'can think without speaking.

Alan: [*with a chuckle*] As well as speak without thinking.

Socrates: Of course, my dear boy. But what *is* speaking without thinking?

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Frank: Well, if you weren't here, I'd have said that it is producing sentences without any inner process or activity of thinking going on. But you showed us, before dinner, that thinking is not an accompaniment of thoughtful speech. So speaking without thinking can't be speaking without an inner accompaniment.

Paul: No. It's now clear that speaking without thinking can be different things. It may be speaking without taking some relevant factor into account. It may be making various kinds of trivial mistake, such as giving someone directions how to get somewhere from one's own house instead of from theirs – so that what one says is irrelevant. It may be saying something mechanically, such as repeating a message or dictating something from a text. It may be giving a routine talk while thinking of something else. All these, and I'm sure much more, count as speaking thoughtlessly or without thinking. Come to think of it, speaking thoughtlessly and speaking without thinking are not the same.

Frank: Why not?

Paul: Speaking thoughtlessly is commonly speaking without adverting to the circumstances of the utterance or to the person whom one is addressing, and so unintentionally making an offensive or insensitive remark.

Socrates: Good. Now that you have got those niceties out of your system, Paul, let's get back to the issue we need to look at. Does the *ability to think* presuppose mastery of a language, or is thought prior to speech?

Frank: You mean: does one have to be able speak before one can think? So that babies and animals can't think? Well, I've already told you what most neuroscientists say. For the most part they think that language presupposes thought.

Locke: That is a Notion like to those of the Master-philosophers of my Times. 'Twas not only I who advanced the Idea that Thought be prior to Speech. I have already recounted to you the opinion of Master Hobbes, as well as that of Monsieur Arnauld. They held that the general use of speech is to transfer our mental discourse into verbal.

Paul: Indeed, it is most interesting that something akin to this conception is embraced not only by linguistic idealists of your persuasion, Mr Locke, but also by your fiercest critic in the nineteenth and early twentieth centuries, Gottlob Frege.

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Locke: Ah, I have heard of this Thuringian gentleman. A logician, methinks? From Jena?

Paul: Yes, quite so. He held that if we attend to the true nature of thinking, we shall not derive thinking from speaking, for thinking will emerge as that which has priority.[7] Thoughts, in his view, are abstract objects that exist independently of us and of our minds. Thinking is not creating thoughts, but *grasping* them. Grasping he thought to be a special and mysterious mental process which connects the psychological with the logical, that is to say, the psychological process of thinking with the logical objects constituted by thoughts, conceived as abstract, sempiternal objects.[8]

Locke: [*dryly*] Most instructive. Master Frege, I see, must have been a Cambridge man – a Platonist.

Socrates: [*roars with laughter*] Plato would have been proud of him! [*He chuckles*] They all suffer from abstract objectivitis.

Alan: What's abstract objectivitis, Socrates?

Socrates: [*chuckles*] It is a disease of the intellect that consists in thinking that if some expression looks like the name of a concrete object only isn't, then it must be the name of an abstract object. Haha! My friends, you must get it into your heads that thoughts are not *objects* of any kind. They are what is expressed by declarative sentences that *can*, but *need not*, be used for making an assertion. But *what* you assert when you say that things are thus-and-so is not a kind of object. To think a thought is not to grasp an object. Thoughts are not psychological objects, and they aren't abstract objects either, because they aren't objects!

Paul: I agree. But let me just finish filling you in about Frege's ideas. He did hold that thinking, in its higher forms, was made possible for us humans only if it is presented in language. But he claimed that it was perfectly conceivable that there should exist beings that can grasp the same thought as we do without needing to clad it in a form that can be perceived by the senses.[9]

Alan: Let me get a wee bit clearer. Mr Locke and the linguistic idealists hold that thinking antecedes language, since, on the one hand, language *presupposes* the ideas for which words stand, and,

[7] G. Frege, *Posthumous Writings* (Blackwell, Oxford, 1979), 270.
[8] Ibid., 145.
[9] Ibid., 142, 269.

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on the other hand, thinking is *operating with ideas*, that is, combining, separating and inter-substituting ideas in the mind. Frege, and linguistic Realists, or Platonists, hold that thoughts exist independently of language, and that thinking is a matter of grasping these entities that stand in sempiternal logical relations that are described by the laws of thought. But they also hold that for us humans, thoughts must be presented in the symbolic forms of language and mathematics.

Socrates: That seems a fair summary, my dear boy. You could of course add the Language of Thought hypothesis advanced by young Wittgenstein and later repudiated, and subsequently advanced by others, such as Fodor. Wittgenstein told me that when he was young, he held that thinking just is a kind of language. A thought, he then argued, is no less a logical picture of possible facts than is a proposition of language, so a thought *just is* a kind of proposition.[10] And he held that a thought must have psychological constituents which correspond to the words of language, constituents that stand in the same sort of relation to reality as words.[11] Of course, he rapidly changed his mind about this when he returned to philosophy. But we discussed the Language of Thought hypothesis before dinner, and need not pursue it further.

Locke: Yet it seems evident, does it not, that a Child can conjoin and separate Ideas long before he can speak? And, contrary to the Views of Monsieur Des Cartes, Brutes have Ideas no less than we Humans.

Frank: And cognitive scientists would argue that information-processing presupposes the possession of pre-linguistic concepts.

Socrates: But, my dear friends, we have already been over most of this ground. Combining ideas is not thinking, and it is surely obvious that perceiving is not processing information if 'processing information' is a cognitive or logical operation on propositions with a sense. If you are sensible, you will ask yourselves what a pre-linguistic concept might be, and what would show that a creature had such concepts.

Frank: Well, isn't it enough if the creature can discriminate between things that have a certain property and things that don't?

[10] Wittgenstein, *Notebooks 1914–16* (Blackwell, Oxford, 1961), under 12. 9. 16.

[11] Wittgenstein, letter to Russell 19. 8. 1919, repr. ibid., 129.

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Alan: Or, more generally, isn't it a sufficient condition for a creature to possess a concept that it can distinguish between things that fall under the concept from things that do not? I mean, doesn't it suffice for a creature to have a given concept that it have an appropriate recognitional and discriminatory ability? And both animals and human babies have a multitude of recognitional and discriminatory abilities.

Paul: No, that's quite wrong. One can teach a bird, or a baby, to differentiate between red buttons and buttons of other colours. But does that mean that they possess the concept of red?

Frank: Why not? If they both possess colour vision, and have been taught, by means of training and rewards, to respond differentially to red things, then why should we not describe them as possessing the concept of redness? Or at any rate, the proto-concept?

Paul: You're both forgetting that the meaning of a word can be described as the place of the word in the grammar of the language. So to know what a given word means is to know its logical powers. To grasp a concept is to know its logical implications, its compatibilities and incompatibilities, and so forth. So if a creature possesses the concept of red, it must know that red is a colour, that anything that is red is coloured. Can a creature have mastered the concept of red without knowing that red is darker than pink?

Alan: I don't follow you, Paul. Surely a child learns how to use the word 'red' before it learns the use of the word 'colour'?

Paul: Perhaps. But in so far as that is true, it has a very poor grasp of the concept. To possess a concept is to possess a linguistic ability, and obviously abilities come in degrees. One may have only partial mastery of a concept, but if one has no more than the ability to distinguish red things from things that are not red, independently of the use of a word that means red, there is no warrant for ascribing possession of the concept of red.

Alan: That sounds reasonable. But what about red being darker than pink?

Paul: Well, if you – a competent, mature language-user – know that the roses in the front rose-bed are all red, and the roses in the rear rose-bed are all pink, then you surely don't need to look to see whether the roses in the front bed are darker than those in the rear rose-bed do you?

Alan: [*hesitantly*] No… No, of course not.

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Paul: Right. So you must know that red is darker than pink. And what you know, when you know that, is an inference rule, namely that from 'A is red' and 'B is pink', one can infer 'A is darker than B'. That inference rule is partly constitutive of what it is to be red. Similarly, if one rose is red, another is orange, and the third is yellow, then you know that the first is more similar in colour to the second than to the third.

Alan: Ay.

Paul: That is because adequately to have mastered the concept of red is to know that red is more like orange than it is like yellow. And that too is the expression of a rule of inference.

Alan: You mean that if you possess the concept of redness – as a mature speaker of the language does – you must have grasped these inference-rules.

Paul: Of course. These are *constitutive* of being red, not mere *consequences* of being red. And that is part of the reason why mere possession of a recognitional ability is not sufficient for concept possession. Moreover, in many cases, it isn't even necessary. You know what a thousand-sided polygon is, but you certainly can't recognize one on sight. You certainly possess the concept of being old, or of being a fake, but that does not mean that you have the ability to identify an Old Master or a fake on sight.

Alan: I can see that. But it's still open to thinkers like Chomsky to argue tha' the speed and precision of vocabulary acquisition leaves no real alternative to the conclusion that the child has the concepts available before experience with language and is basically learning labels for the concepts that are already part of his or her conceptual apparatus.[12]

Paul: Alan, you've already forgotten what Socrates showed us before dinner. Words aren't names or labels of concepts. Concepts don't have names, and there is no such thing as a label for a concept. *Some* names *express* concepts, but to express a concept is not to label it.

Alan: Ay, I'm sorry, I should have remembered. But what names *don't* express concepts?

[12] N. Chomsky, *Language and the Problems of Knowledge* (MIT Press, Cambridge, Mass., 1988), 27f.

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Paul: Well, personal names, like 'Tom', 'Dick' and 'Harry' don't, and neither do many other proper names, like 'Paris' and 'London', or 'Monday' and 'Tuesday'.

Alan: All right. But Chomsky might still insist that learning a language is learning to use words to express concepts that one already possesses innately.

Paul: He might. But would he have any reason for doing so?

Frank: Well, I guess he'd say that it was an inference to the best explanation. He'd argue that the speed of language acquisition in the human child is such that there is no better explanation than the assumption that we are born in possession of innate concepts.

Paul: But Frank, old boy, an inference to the best explanation is coherent only to the extent that the 'best *explanans*' has been given a sense. But it is wholly obscure what *counts* as possessing concepts innately. Do we have any criteria for a neonate's being born with innate concepts – *other than* the phenomenon of rapid language-acquisition. But this was what the hypothesis, the inference to the best explanation, was supposed to *explain* – and now it turns out that the phenomenon is the only explanation we have of the meaning of the hypothesis. That human beings have innate tendencies and propensities to respond to linguistic stimuli, to gesture, voice and intonation contour, is indisputable. But the supposition that they have *actually innate* concepts is a very much weightier hypothesis than that, and it is supported by no empirical evidence whatsoever.

Frank: OK… OK… Still, let me try one more point to show that thought is prior to language. Y'know William James, the greatest philosopher of psychology we've ever had in my country, observed that there was good empirical evidence to show that one can think perfectly well without knowing a language. A deaf and dumb kid, James wrote, can weave his tactile and visual images into a system of thought just as rational and effective as that of a language-user. James relates that there was a guy named Ballard, a deaf-mute, whose reminiscences of childhood prove that one can think even though one cannot speak.[13] Ballard said that when he was a child, two or three years before he learnt to write, he asked himself the question of how the world came into being. When this question occurred to him, he says, he set himself to thinking

[13] W. James, *The Principles of Psychology* (Henry Holt and Co., New York, 1890), vol. I, 266f.

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about it at length. Now, why isn't that definitive? One *can* think without knowing a language.

Locke: That does, methinks, give Quietus to the Language-mongers.

Socrates: Gentlemen, we have got so far in painting our picture, don't spoil it by a few rash and hasty brush strokes. What would you say if one of our friends, say Xenophon, told you that he remembers that before he was born he enjoyed long conversations with Solon?

Alan: You can't remember something that could never have happened. How can anyone remember doing something before he even existed?

Socrates: Quite so, my dear fellow. So what would you say?

Alan: Well, I suppose I'd ask him what on earth he meant. I'd say that I couldna understand his words.

Frank: I don't see the point of this.

Socrates: Well, the sentence 'I remember that before I was born I engaged in conversation with someone' is unintelligible, is it not?

Frank: Yeah, I guess so.

Socrates: Well, is the sentence that Ballard wrote any more intelligible?

Frank: Y'mean when he said that he could remember that before he could use language, he thought about the origins of the world? Why isn't that intelligible?

[*A pause*]

Paul: Yes, I see. What would it mean for little Ballard to think this?

Frank: Well, exactly the same as what it means for you or me to think about the origins of the universe.

Paul: I think not. What you can be said to think is what you *can* express even if you don't. If I say 'A penny for your thoughts', you can tell me. But what could little Ballard do? He couldn't speak, and he hadn't yet mastered sign-language, let alone learnt to write.

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Locke: But if, by fell Fortune, I were bereft of the Power of Movement, I too would not be able to relate my Thoughts on Request.

Alan: But we know what you'd have to do in order to express what you thought. And we know that if not for your paralysis, you'd be able to do it. After all, y' know how to speak, only you can't move your lips and tongue.

Paul: Yes. Saying what you think is within your *behavioural repertoire*. If you were to recover from the stroke that afflicted, you *would* say what you think. But Ballard is not prevented from exercising his linguistic abilities, he does not have any. There is nothing he could do, nothing within his behavioural repertoire, that would *count* as an expression of thoughts about the origins of the world.

Frank: But one *can* think without saying anything either out loud or to oneself. Thought is possible without language.

Alan: Frank, y're confusing two quite different claims. We've seen that it makes sense to say that a person thinks or is thinking something or other, even though he is not using language – not saying anything aloud or to himself. But we haven't established, and I fancy canna establish, that a person can be said to think something that he could not express if unimpeded.

Paul: Good, I think we're getting there. Can we say that the limits of thought are the limits of the possible behavioural expression of thought? Of course, the behaviour may be non-linguistic as well as linguistic, but non-linguistic behaviour is *exceedingly* limited in its thought-expressive possibilities.

Locke: Master Paul, that sounds most ingenious. But I have not fully comprehended your Words. I should be greatly in your debt were you to elaborate somewhat upon that Idea.

Paul: My proposal is that although, as we have agreed, we can think without saying anything, either to ourselves or out loud, what thoughts it *makes sense* to ascribe to us is constrained by what we *could* say out loud, if we so chose and were not impeded either externally or internally. The limits of thought are the limits of the possible expression of thought.

Frank: OK. that's very fancy. But I'm still not convinced by your whole approach. Y' wanna say that thinking isn't the same as speaking, but it's almost like it. I don't understand that. Thinking something isn't at all like talking. For one thing, you can think much

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faster than you can say anything, aloud or to yourself. Hell, don't all the poets express their amazement at the speed of thought? Y'can think of the solution to a complex problem at a stroke, and then it may take you half an hour to spell it out.

Socrates: No. Now you are blundering around like a mule in a pottery shop, Frank. You need to slow down. We didn't establish that thinking is like talking. What we have now established is that the limits of thought are the limits of its *possible* expression. That correlates what you *can* think with what you *can* express in your behaviour, including your verbal behaviour.

Locke: Nevertheless, the Consideration that Master Frank has mooted is of no small Consequence. Every Man's Experience convinces him that he can think in a Flash. Is the Speed of Thought not a Mystery?

Socrates: Master Locke, you must not confuse what is wonderful with what is mysterious. It is wonderful that nature has endowed us with the power to see the solution to complex problems in a flash. But it only seems mysterious when you misconstrue the expression 'the speed of thought'.

Frank: I don't follow you, Socrates. That's just what *is* mysterious. How on earth can thought be so fast?

Socrates: Frank, we often see, or think we see, the solution to a problem in a flash. But we misconstrue this phenomenon if we think that this is a matter of whizzing in our minds through the manifold steps that lead from the statement of the problem to its solution, and then spelling it out slowly in words. But it's not like emptying an hourglass of water at a stroke as opposed to letting the water drip slowly through in an hour.

Locke: You must say more, Master Socrates, if you wish your Arrows to hit their Targets.

Socrates: Surely it is evident that to see the solution to a complex problem in a flash is the sudden *realization* that one can do something, not the high-speed *execution* of what one realizes one can do. The sudden flash of inspiration, the *Eureka* experience, is a pointer, not a product. Whether one is right to think that one has 'got it', that one really can prove the theorem, resolve the conundrum, solve the problem, remains to be seen. We do, after all, sometimes think that we have seen the solution in a flash, only to discover, when we try to spell it out, that we were mistaken.

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Frank: Y'mean that we may think we've twigged it, and then we find that we're wrong.

Paul: Yes. But of course, we don't advertise those cases. We tell tales of Archimedes, but consign to dust the hundreds of village Archimedes who've jumped out of their baths with a 'Eureka', only to find that they did *not* actually have the answer to the problem.

Socrates: [*chuckles*] Good.

Alan: So seeing the solution to a problem in a flash is more like the dawning of an ability than like its exercise.

Socrates: Yes, and that is why it is wonderful, but not mysterious. We can, sometimes, realize that we can do something, but realizing that we can solve a problem is not running at high speed through the reasoning that leads to its solution.

Alan: I think I follow you, Socrates, but there is still something that I canna understand. Where does all this leave animal thinking? Surely, animals can think. But *they* can't express their thoughts, can they? So are we going to follow Descartes and *deny* that animals can think?

Locke: Methinks Master Alan has asked the proper Question. They must needs have a penetrating sight, who can see that Dogs or Elephants do not think, when they give all the demonstration of it imaginable, except only telling us, that they do so.[14] Brutes have Senses, no less than Man, and their Senses furnish them with Ideas.

Paul: To be sure, they see and hear, rather better than we do. They suffer pain no less than we do. But does it follow that they can think?

Locke: That is not easy to determine. I imagine that they have not in any great degree the Faculty of comparing Ideas one with another. It seems to me to be the Prerogative of Humane Understanding, when it has sufficiently distinguished any *Ideas* to cast about and to compare them. *Beasts compare* not their *Ideas*, farther than some sensible Circumstances annexed to the Objects themselves. Nor do they, I suppose, compound *Ideas to* make new complex *Ideas*. Moreover, I think, I may be positive in, That the power of *Abstracting* is not at all in them. The having of general *Ideas*, is that which puts a perfect distinction

[14] Locke, op. cit. n.4, II-i-19.

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betwixt Man and Brutes. For it is an Excellency which the Faculties of Brutes do by no means attain to.

Paul: I see. And if by *lacking general ideas* you mean that they have no concepts, then I agree. For, to be sure, animals do not speak, do not use words, and cannot master the use of words. But does that imply, in your view, Mr Locke, that animals can neither think nor reason?

Locke: No, that I cannot concede. If they have any *Ideas* at all, and are not bare Machins – as Monsieur Des Cartes and his followers would have them – we cannot deny them to have some Reason. It seems as evident to me, that they do some of them in certain Instances reason, as that they have sence. But it is only particular *Ideas*, just as they receiv'd them from their Senses. They are the best of them tied up within those narrow bounds, and *have not* – as I think – the faculty to enlarge them by any kind of *Abstraction*.[15]

Socrates: Thank you, Master Locke. That's very interesting and thoughtful. Now let's see whether and how we can accommodate these penetrating observations in our reflections.

Paul: Well, for one thing, we surely need to abandon the supposition that thinking is an operation or operations on ideas. On the other hand, Mr Locke is surely right to draw our attention to the the generality of concepts and of words that express concepts, and to combination and separation by means of predication and negation, as well as sentential combination by means of operators such as conjunction, disjunction, and negation. Not to mention generalization by means of such quantifiers as *All* and *Some, Any* and *Many*, and so forth. One surely cannot ascribe such essentially intellectual operations to non-language users.

Frank: Well, I'm kinda feeling out of my depth here, but it seems to me that Mr Locke is right to say that animals think and reason in a primitive kind of way. And a great deal of scientific work is being done on animal reasoning, y'know. It's pretty much accepted by respectable animal ethologists that chimpanzees develop a theory of mind that enables them to recognize the beliefs of other chimpanzees and to form intentions and plans to deceive them.

Paul: Well, that's pushing it.

Frank: No, honestly – there's a mass of evidence from chimpanzee behaviour that involves hiding food in pretty complicated ways that

[15] Ibid., II-xi-11.

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presuppose that the chimpanzee, who's keen on protecting his hoard of bananas, forms beliefs about the beliefs of the other chimps in his group. I kid you not – they're pretty sophisticated apes, y'know.

Paul: [*rather irritated*] Not that sophisticated, Frank. Ascribing a theory of mind to a chimpanzee that can't even talk is preposterous.

Frank: [*rather annoyed*] I don't see why. And I don't see with what right you can so easily dismiss serious scientific work done by animal behaviorists and ethologists.

Socrates: Now calm down, you two, and try thinking, instead of getting excited and swapping intuitions. The first matter we must settle is a set of agreed cases that exemplify an animal's thinking something to be so. Then we can go to work.

Paul: Well, I am willing to go along with the idea that if I take my dog's leash off the peg and rattle it, the dog will think it is going to be taken for a walk. And if a dog chases a cat that jumps up a tree, and the dog barks excitedly at the bottom of the tree, even though the cat has disappeared, then it thinks that the cat is in the tree.

Alan: Ay, I'll go along with that.

Socrates: But would either of you say that the dog *has the thought* that it is going to be taken for a walk, or that the cat is still in the tree?

Alan: [*hesitantly*]… Well, I'm not sure. It sounds odd!

Frank: That it sounds odd doesn't mean that it isn't true. Maybe it sounds odd because you never have reason to say such things. Perhaps it's too obvious to be worth saying, and that's why it sounds odd to you.

Paul: Hmm. That's the Grice gambit.[16] But I wonder whether it is right. It's a very popular move these days, and is usually wrong.

Socrates: Let us investigate. What is the difference between thinking, or believing, that something is so, and thinking or believing the thought that something is so?

[16] Paul Grice introduced a variety of pragmatic conversational principles by means of which he defended the view that, for example, whenever we see, we seem to see, but it is not worthwhile saying so, since it is too obviously true. Similarly, he suggested, whenever we do something, we try to do it and succeed, but we don't say that we tried because it is too obvious. This analysis has not gone unchallenged.

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[*A short silence*]

Paul: Yes, that *is* a good question, Socrates. I suppose that *to think the thought that something is so* is to believe the proposition that things are so.

Alan: Ay, and to believe the proposition that things are so is to believe the proposition to be true. But y'canna believe propositions to be true unless you have the concept of a proposition, as well as the concepts of truth and falsehood. And surely no one wants to ascribe such concepts to non-language users!

Frank: [*thoughtfully*] Yeah, that's neat.

Locke: It does, in truth, confirm my Judgment that mere Brutes abstract not, and are wanting in general Ideas.

Frank: OK, Alan. But y'do concede that animals think and believe. So you accept the claim that when I rattle the dog's leash and it rushes to the door wagging its tail, it believes that it's going to be taken for a walk.

Socrates: You must take this slowly, Frank, for the path branches here, and you must take care to follow the correct road.

Frank: I don't follow you. The dog believes it's going to be taken for a walk and that's why it rushes to the door wagging its tail.

Paul: Oh, I see what you mean, Socrates. The dog's belief is not its *reason* for rushing to the door and wagging its tail. Our reluctance to ascribe thoughts and beliefs to animals is not only because that would commit us to ascribing concepts of truth, falsehood and of a proposition to a non-language user, it is also because it makes no sense to ascribe to the animal a reason for wagging its tail and pawing the door, namely: the belief or thought *that it is going to be taken for a walk*. It is not the belief that explains the behaviour, but rather the behaviour that gives sense to the ascription of believing.

Alan: I don't think I understand that, Paul. Could y'not elaborate a wee bit?

Paul: Well, what I am suggesting is that the significance of denying beliefs, as opposed to believings, to animals is much deeper than at first sight it appears to be. Surely there is no such thing as an animal believing something to be so in advance of acting, and reflecting on whether things' being so is a good enough reason for acting or whether it is outweighed by other

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reasons. I know what it is for us to weigh reasons and come to conclusions, but what one earth would it be for a cat or a dog to do so? Just think how many things they would have to be able to do before it could be said of them that they weighed reasons pro and con, and on reflection came to such-and-such a conclusion.

Locke: I warrant that you are in the right, Master Paul. For only if one can *reason*, can one act *for Reasons*.

Frank: Well, I don't see that. Look, a cuckoo lays an egg in another bird's nest. The bird doesn't notice, and when the fledgling hatches, the bird believes it to be her own. And that's why she doesn't throw it out of the nest. So she feeds it. Isn't that acting for a reason?

Paul: No, Frank. The female bird *treats* the fledgling as her own. It's not the belief that is her reason – we've agreed that it is misguided to ascribe a belief to her. Nor is it her believing that the fledgling is her own that *explains* her behaviour. On the contrary, it is the ascription of believing that re-describes the behaviour.

Frank: That's just not clear to me. What about this case. Y'know that a vervet monkey, when it's attacked by another troop, emits a leopard-warning cry in order to get the attacking group of vervet monkeys to scatter. Now that seems to me to suggest very clearly a piece of reasoning. The monkey possesses the information that a leopard-warning cry will frighten the attacking monkeys and get them to flee, and it wants to get them to stop attacking it, so it reasons that giving the leopard-warning cry will get them to flee, and that's why it acts.

Alan: But surely, Frank, we don't speak of animals *possessing information*.

Frank: Well, if we don't, I'd like to know why not. Dammit, they know things, don't they?

Alan: Ay, the dog knows the way home from the park, and it knows its master. And your monkey knows leopards are dangerous – it responds to the sight of a leopard with fear and flight, and it emits leopard-warning cries. But it doesn't follow that it possesses *information* about leopards. It hasn't learnt the truth of various propositions about leopards, it has learnt how to respond to leopards.

Paul: That's right. Look, Frank, what substance can we give to your cognitive and cogitative suppositions? In the absence of a language, what would it be for the monkey to reason thus?

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Frank: Well, what substance is there in our case?

Alan: Oh, Frank. We've already been over that. We can give justifications for what we are about to do, and give justifications for what we have done. We can reflect on our various reasons, and weigh them before deciding what to do.

Frank: So how would you describe what the vervet monkey is up to?

Paul: I don't think there is any difficulty. Its behaviour is purposive and is also a consequence of past experience. But that does not mean that it involves possession of information, reasoning, and foresight. A vervet's cries are innate – innate responses to something moving on the ground below or flying in the sky above. With time its cries become more discriminatory: it responds to eagles, but not to crows, and to leopards and not to other animals on the ground. Obviously it may learnt, presumably by chance, that if it gives a leopard-warning call, all the monkeys scatter. So it acts in order to get the attacking monkeys to scatter. Its behaviour is purposive all right, but not reasoned. Its cry is like an instrument that causes the other monkeys to scatter, but it means nothing and the monkey does not mean anything by it.

Frank: OK. I'm not sure now… Let me try one more time. Y'know that a lot of research has been done on chimps deceiving each other. I mean, if a chimp gets a banana, it'll try to hide it from the others who might take it away. If it knows that the alpha male is watching it when it is hiding the banana, it'll wait until the attention of the alpha male is distracted, and then move the banana to another hiding place. Now many animal behaviorists hold that this shows that chimpanzees have a developed theory of mind that enables them to predict the beliefs of other chimps, and to adjust their own behaviour to the beliefs of other chimps.[17]

Socrates: [*laughs long and heartily*] That is wonderful! [*He wipes his eyes*] I don't have a theory of mind myself [*he breaks out laughing again*], and your friends think that apes do!

Frank: I don't see what's so funny. And it seems to me that you do have a theory of mind, as we all do. Hell, we know that when someone hurts himself and cries out, we can infer that he is in pain, and that when someone turns white and trembles in

[17] See, for example, Frans de Waal, *Primates and Philosophers* (Princeton University Press, Princeton, 2006).

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circumstances of danger, we can infer that he believes that he is in danger and that he is frightened. We know that if y'say something offensive to someone, and he turns red and shouts at you, then he's angry. Why isn't that a theory of mind? It's a theory that enables you to predict what others are feeling and what they believe on the basis of their behaviour. We can't *see* what's going on in their mind, but we can observe their behaviour. So we can infer from their behaviour and from our theory of mind what they're thinking and feeling. That's what you guys call 'an inference to the best explanation' isn't it?

Locke: Master Frank, I must venture to say that it is incumbent upon you to explain how Brutes that cannot speak and can form no general Ideas can nevertheless construct an abstract Theory. For Beasts make no Propositions and reason not at all.

Socrates: My friend, your examples show that you understand the words 'pain', 'fear' and anger'. For that you need no theory. You need only to have learnt how to use these words. To judge a man to be in pain when he has injured himself and cries out is not to make an inference to the best explanation, as you call it. Indeed, it is not even to make an inference. You can *see* that the poor devil is in pain. And the pain-behaviour warrants your judgment.

Frank: Y'mean that you're a behaviourist? That pain is just pain behaviour?

Paul: No, no, Frank. You're rushing the fences. We mean no such thing. Pain-behaviour is constitutive evidence for pain. It is not inductive evidence, nor is it the grounds for an hypothesis. To learn how to use the word 'pain' is to learn that pain behaviour in appropriate circumstances warrants the application of the word, even though you do not *infer* that the man is in pain from his pain-behaviour. You may infer that your wife is in pain if you see that she has taken some analgesics, but you don't *infer* that she has a headache if she holds her head with a grimace of pain and says 'Oh, I've an awful headache'. Moreover, to learn the use of the word 'pain' is also to learn to replace one's natural pain behaviour with pain utterances. Instead of crying out or moaning, you learn to say 'It hurts' or 'I have a pain'. There is no *theory* here, only a linguistic practice.

Frank: But then how d'you explain the behaviour of chimps concealing their food from the alpha male? Hell, the animals are highly

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sensitive to the beliefs and desires of the other chimps. That surely requires that they can read their minds, and to read their minds they need a theory of mind.

Paul: No, no, Frank. You've got hold of the wrong end of the stick. The chimps are sensitive to the behaviour of other chimps. They learn to read their behaviour, not to read their minds. They learn to respond to the wants of other chimps only in so far as they learn to respond to their desire-manifesting behaviour. Similarly, they learn to respond to the cognitive behaviour of other chimps, not to impute beliefs to them.

Frank: Well, I'm not sure about that. I mean …

Locke: Gentlemen, it is with Reluctance that I must leave you. The play at the New Globe will shortly commence, and I do not want to be late.

Socrates: What, has Will Shakespeare put on a new play?

Locke: That is so. It is a subject that will gain your interest. It is entitled 'Alcibiades – a Tragedy'

Socrates: That is indeed a subject for a great tragedy. A much better subject than his 'Coriolanus'. We must see it. Gentlemen, enough philosophy for this evening. If we don't want to miss the play, we must stop.

[*They all rise from their chairs and walk off together through the trees*][18]

PETER HACKER (peter.hacker@sjc.ox.ac.uk) *is an Emeritus Fellow of St John's College, Oxford, and retired professor of philosophy at the University of Kent at Canterbury. He is known for his numerous books and papers on the philosophy of Wittgenstein. He has written, together with Max Bennett* Philosophical Foundations of Neuroscience (*2003*) *and* History of Cognitive Neuroscience (*2009*). *He is currently completing the final volume of his trilogy on human nature:* Human Nature: the Categorial Framework (*2007*), The Intellectual Powers: a Study of Human Nature (*2013*), *and* The Passions: a Study of Human Nature (*forthcoming 2017*).

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