

Updating Practical Wisdom¹

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1. Empirical challenges to practical rationality?

Recently, students of virtue ethics have responded to the empirical-psychology-inspired assault on character² by calling attention to the crucial role of practical rationality, and its excellence practical wisdom, in virtue.³ In our view, failure to understand that character is animated by and expressed in practical reasoning leads to a false expectation that character-traits will yield behaviour in a mechanical fashion. The empirical evidence that such mechanical entities do not generate cross-situationally consistent behaviour, we have argued, does not bear on virtuous character as conceived of in virtue ethics. But quite apart from whether empirical psychology undermines virtue ethics and the possibility of developing a virtuous character in particular, there is a far more pressing question: what is the bearing of empirical psychology on the very possibility that practical rationality—whether on the classical virtue ethicist’s, Kant’s, Bentham’s, or ordinary people’s interpretation—has a role in determining our behaviour?

¹ For comments on ancestors of this paper, I’m grateful to audiences at the University of Denver conference on Situationism and Virtue Ethics and the Northwestern University Virtue Workshop, and to Joshua Knobe.

² Doris, John (2002), Lack of Character: Personality and Moral Behavior (Cambridge: Cambridge University Press); Harman, Gilbert (2000), ‘Moral Philosophy Meets Social Psychology: Virtue Ethics and the Fundamental Attribution Error’ in Explaining Value and Other Essays in Moral Philosophy (Oxford: Oxford University Press), pp. 165-178.

³ Annas, Julia, forthcoming; Kamtekar, Rachana (2004), ‘Situationism and Virtue Ethics on the Content of Our Character’, Ethics vol. 114, no. 3,

Surprisingly, at least some empirically-inclined students of ethics have embraced the view that practical rationality is not important in determining what we do. For example, according to John Doris:

‘Given the quantities of empirical work with apparently “bleak implications” (Nisbett and Borgida 1975) for human rationality, . . . practical rationality is not a promising entrée to an empirically sustainable psychology of character.’ (Doris, ‘Skepticism about Persons’, 10/5/05)

In this paper, I examine some of the empirical evidence that allegedly has these ‘bleak implications for human rationality’. First, I look at two examples of weaknesses in inferential reasoning much discussed in the ‘heuristics and biases’ literature in cognitive psychology: the overconfidence bias and the neglect of the base rate or prior probabilities. Then, I look at experiments that study the effects of ‘priming’ on our behaviour and that have been used to characterize our behaviour as produced ‘automatically’ by environmental stimuli without any rational mediation.

Although I will be arguing that this research does not warrant the pessimistic conclusion that practical wisdom, or at least significant improvement in practical rationality, is incompatible with an empirically sustainable psychology of character, my interest in this empirical work is not purely negative, for the empirical research also suggests concrete ways in which we can improve as practical reasoners. And those of us who have argued that practical wisdom is at the heart of the ideal of virtue have acquired the burden of putting some flesh on the mostly negative (anti-Platonic) skeleton of an account of practical wisdom we have inherited from Aristotle. Much of Aristotle’s discussion is an attempt to distinguish practical wisdom from scientific knowledge and

knowledge of first principles, which, according to Aristotle, Plato mistakenly supposed could guide our attempts to live well. Aristotle's own positive characterization of practical wisdom—a true and reasoned state of the capacity to act with regard to human goods (*EN* 1140b20, cf. 1140b4-6), acquired by experience (1142a15)—is disappointingly thin. Recent work in cognitive and social psychology makes this thinness harder to ignore, because by detailing the cognitive errors to which we are prone in reasoning, this work demands that we say more than that practical wisdom is a sensitivity to all the ethically salient features of a situation and that this is what our upbringing, experience and reflection should be aiming to inculcate. We need to be able to say what specific abilities such a sensitivity would consist in, and how we can develop these abilities so that the weaknesses that seem to pervade our practically-oriented faculties do not determine what we do.

2. Heuristics, Biases, and their Corrections

According to the 'heuristics and biases' programme in cognitive psychology, we use certain heuristics to make quick inferential judgments, and while these often serve us quite well, they also lead us into error. One pervasive heuristic is 'representativeness', the expectation that causes will be like their effects and whole classes like the instances we have sampled (or stereotypes); we use this heuristic, it is argued, to the exclusion of statistically more significant factors like the base rate or incidence of a characteristic in a given population. For example, given a character sketch of 'Steve' as shy, helpful, and with a passion for detail, people say that Steve is more likely to be a librarian rather than a farmer—ignoring the fact that there are many more farmers in the population than librarians. Another pervasive heuristic is 'availability', the use of information that is

vivid, perhaps because it is familiar or fits into a script we already know, to assess probability. Because factors other than frequency affect availability, relying on availability can lead us astray. For example, when people are asked to estimate whether there are more men than women on a list, they judge that there are more women if the women on the list are more famous than the men, and vice versa.

Nevertheless, our heuristics are valuable: as Tversky and Kahneman say about the availability heuristic in an early article,

‘Lifelong experience has taught us that, in general, instances of large classes are recalled better and faster than instances of less frequent classes; that likely occurrences are easier to imagine than unlikely ones; and that the associative connections between events are strengthened when the events frequently co-occur. As a result, man has at his disposal a procedure (the availability heuristic) for estimating the numerosity of a class, the likelihood of an event, or the frequency of co-occurrences, by the ease with which the relevant mental operations of retrieval, construction, or association can be performed.’⁴

Still, it is a problem that in experiment after experiment we have been shown to use these heuristics to the exclusion of information highly relevant to making predictions.⁵

The bearing of these heuristics and biases on practical wisdom should be clear: practical reasoning is reasoning about what to do, so judgment under uncertainty—about

⁴ Tversky, Amos and Kahneman, Daniel, ‘Judgment under Uncertainty: Heuristics and Biases’ *Science* (n.s.) vol. 185, no. 4157 September 27, 1974, pp. 1124-1131, at p. 1128.

⁵ See, e.g., Nisbett, Richard and Ross, Lee (1980). Human Inference: Strategies and Shortcomings (Prentice-Hall)

what other people are like, or how it is likely to be with them, or what they are likely to do—is central to our deliberation and decision-making. Making inferences about the likelihood of an event, or the distribution of some property in a population, etc. is central to practical rationality. And to the extent that our inferences are biased, we fall short of excellent practical reasoning or practical wisdom. Can we improve, that is, can we approach practical wisdom?

In their classic work, Human Inference, Nisbett and Ross recommend that everyone study statistics in high school, and among their preferred inferential practices they highlight the following:

- (i) when establishing covariation between two variables, pay attention to all 4 possibilities (variable 1 present/variable 2 present; variable 1 absent/variable 2 present, variable 1 absent/variable absent, variable 1 present/variable 2 absent);
- (ii) avoid data known to be vivid but not relevant (like job interviews);
- (iii) if your own judgment or action is surprising to you, ask yourself why you made it or did it;
- (iv) prefer collective over individual reasoning.

However, they and other cognitive psychologists caution that such remedies are not always available or appropriate in the heat of action, and that when they are reasoning intuitively, trained statisticians themselves routinely make the errors they have studied.

The persistence of errors in inferential reasoning despite statistical training may be explained by the hypothesis that we have two independent systems for inferential

reasoning, an associative intuitive system that uses heuristics to give us the quick and dirty results we need to get by, and a rule-based one that uses formal logical or statistical methods.⁶ Some suggest that the associative system, which we use in everyday reasoning, is automatic, is not capable of being brought under rational control or being taught the superior inferential methods of the rule-based system; among the reasons they give is that our heuristics operate below the level of consciousness.

Although the heuristics and biases programme identifies many errors—the effect of arbitrary anchors on estimates, availability biases, nonregressive predictions, and others⁷--this paper focuses on errors involving subjective probabilities, because some research on this topic shows a way ahead for improving practical reasoning.⁸

⁶ Slovic, Steve A. 'Two systems of Reasoning' in Gilovich, Griffin and Kahneman (eds.) Heuristics and Biases: The Psychology of Intuitive Judgment (Cambridge, 2002)

⁷ See Tversky and Kahneman 1974, remarked by Kahneman and Tversky (1996), 'On the reality of cognitive illusions', Psychological Review vol. 103, pp. 582-591, at p. 583

⁸ And so I ignore a number of cases where the alleged error is in fact the psychologist's error. For example, take the 'inclusion' bias. Subjects are supposed to be guilty of this bias when they say that (1) 'Robins have ulnar arteries, therefore birds have ulnar arteries' is a 'stronger' argument than (2) 'Robins have ulnar arteries, therefore ostriches have ulnar arteries'. The psychologists fault the judgment that (1) is a stronger argument than (2) on the grounds that ostriches are included among birds, so (2) is at least as strong as (1); they explain the faulty judgment by the representativeness heuristic: robins but not ostriches being paradigmatic birds. (Osherson, Smith, Wilkie, Lopez and Shafir, 1990; reported in Slovic p. 387) But is the judgment is faulty, in the first place? The conclusion of (2) may be no less likely than the conclusion of (1), but in (1) the conclusion is obviously related to the premise, whereas in (2) the relationship between premise and conclusion has to be made via some argument like (1), the conclusion of which would be the missing major premise in (2). Since in (2) there is no direct relationship between premise and conclusion without introduction of the conclusion of (1), it is reasonable for people to say that (1) is the stronger argument. Similarly, in the so-called conjunction fallacy, viz. the judgment that Linda, who is 'single, outspoken, bright, concerned with discrimination and social justice and anti-nuclear' is more likely to be a feminist bank teller than a bank teller. The conversational implicature of the 'bank teller' alternative would seem to be 'and not a feminist'. And is that really more likely than that she is a feminist bank-teller? (This possibility is recognized in Gilovich and Griffin's introduction to Heuristics and Biases, p. 12; Tversky and Kahneman recognize

2.1 Overconfidence?

In one kind of study of overconfidence, participants are asked many questions of the form,

Which city has more inhabitants?

(a) Hyderabad (b) Islamabad

How confident are you that your answer is correct?

50% 60% 70% 80% 90% 100%

The experimenter then counts how many answers in each of the confidence categories were actually correct. Typically, in cases where the participants say '100%', the relative frequency of correct answers is 80%; and where they say '90%', it is 75%, and so on.

Overconfidence is defined as mean confidence minus relative frequency of correct answers. Two experts, von Winterfeldt and Edwards, say about the overconfidence bias,

'Overconfidence is a reliable, reproducible finding.'

'Can anything be done? Not much.'⁹

that rules of cooperativeness in conversation demand that information be given that has high value, even if the trade-off is reduction in probability, but they think that their experimental subjects distinguished clearly between the instruction to rank statements by probability and ranking of statements by their expected information value. 'Extensional versus Intuitive Reasoning,' pp. 46-47, in Heuristics and Biases.)

⁹ Quoted in Gerd Gigerenzer, Adaptive Thinking: Rationality in the Real World (Oxford, 2000), p. 247. The reference: W. Edwards and D. von Winterfeldt, 'On Cognitive Illusions and their Implications' in H. R. Arkes and K. R. Hammond (eds.) Judgment and Decision-making: An Interdisciplinary Reader (pp. 642-79) (Cambridge, 1986). My discussion above is indebted to Gigerenzer, pp. 245-48.

But are we overconfident? In two studies (Gigerenzer, Hoffrage, and Kleinbolting 1991), participants were asked either

- (i) 'how confident are you that you got this question right?' about each question,
- OR
- (ii) 'how many of these 50 questions do you think you got right?'

In (i), the mean confidence minus relative frequency of correct answers was +13.8% and +15.4%; i.e., the subjects were significantly overconfident.

But in (ii), the mean confidence minus relative frequency of correct answers was -2.4% and -4.2%. That is, subjects were slightly underconfident.

What could explain these findings? The overconfidence hypothesis has no explanation of the underconfidence in response to question (ii). Gigerenzer points out that there is no contradiction between believing that the probability that a certain event E will come about is 100% and believing that the frequency of events of type E is 80%. The two beliefs, one about single-event probability, and the other about frequency, are logically independent. Laypeople hear a difference between the question, 'how confident are you that you got this question right?' and the question, 'how many of these questions do you think you answered right?' Statisticians do not, because they have been trained to convert both single-event and frequency judgments into degree-of-confidence judgments.

It may seem that even if single-event probability and frequency are logically independent, there is still a contradiction between saying of every question on the test

that you are 100% sure you got it right and at the same time saying that you think you got 80% of the questions right. But this is the attitude of a conscientious author in the preface of a book: she takes responsibility for any persisting errors, feeling sure that there are some—but of any particular statement in the book, she is as sure as she can possibly be that it is correct. (If she weren't, she'd correct or at least qualify it.)¹⁰

If overconfidence is an artefact of the framing of information in an unfamiliar, theoretically-dictated format, as Gigerenzer claims, then improving our practical reasoning in such cases will not involve somehow compensating for overconfidence, but rather, translating information from a subjective probability format into a frequency format. Identifying just what our errors are is crucial for improving our reasoning. I will return to the topic of what kind of improvement is needed and is possible after discussing a second heuristic-and-bias, neglect of the base rate.

2.2 Neglect of the Base Rate?

According to the heuristics and biases programme, we neglect base rate information in favour of information that is 'available' to cognition or information that we (wrongly) take to be 'representative'.

'Over the past few years much experimental evidence has accumulated which indicates that people underutilize an important source of information in making predictions. That source is base-rate data, that is, prior probabilities, population proportions, or information about central tendencies in the outcome domain. The same evidence shows that intuitive predictions usually overutilize information

¹⁰ I owe the analogy with 'the paradox of the preface' to Tad Brennan.

about the target case, that is, the particular object or person about which predictions are made.’ (Nisbett and Ross 1980, pp. 142-43)

In an experiment designed to demonstrate neglect of the base rate, 60 students and staff at Harvard Medical School were asked,

‘If a test to detect a disease whose prevalence is 1/1000 has a false positive rate of 5%, what is the chance that a person found to have a positive result actually has the disease, assuming you know nothing about the person’s symptoms or signs?’

Over half of the experimental subjects answered that the probability was 95%, and only one-third of them gave the correct answer of 2%.¹¹

Again, alternative framing of the question produces very different results. In another study, Stanford undergraduates were told:

‘One out of 1000 Americans has disease X. A test has been developed to detect when a person has disease X. Every time the test is given to a person who has the disease, the test comes out positive. But sometimes the test also comes out positive when it is given to a person who is completely healthy. Specifically, out

¹¹ Gigerenzer p. 251, reporting A. Tversky and D. Kahneman, ‘Evidential Impact of Base Rates’, in D. Kahneman, P. Slovic, and A. Tversky, Judgment Under Uncertainty: Heuristics and Biases (Cambridge, 1982), pp. 153-60.

of every 1000 people who are perfectly healthy, 50 of them test positive for the disease.’

They were then asked:

‘Imagine we have assembled a random sample of 1000 Americans. They were selected by a lottery. Those who conducted the lottery had no information about the health status of any of these people. How many people who test positive for the disease will actually have the disease? ___ out of ___.’

The correct answer, ‘one out of 50 (or 51)’ (2%) was given by 76% of participants.¹²

What explains the difference between these two results? The Harvard medical school subjects who gave 95% as the chance that a person who tested HIV positive was in fact HIV positive seem not to have been underestimating the importance of the base rate—at least not in the way that someone who assumes that the dark-skinned man walking down the street is a criminal is ignoring the base rate. This person knows that not every dark-skinned man is a criminal but ignores that information; the Harvard medical school subjects, however, seem not to have understood that the 5% false positive figure had anything to do with the population at all and to have thought that 5% was the chance that this individual might test HIV-positive when he was not. Perhaps they didn’t connect this single-event probability with the frequency or prevalence of HIV in the

¹²Gigerenzer, p. 251-54, reporting L. Cosmides and J. Tooby, ‘Are Humans Good Intuitive Statisticians After All? Rethinking Some Conclusions from the Literature on Judgment Under Uncertainty’, in Cognition 58 (1996), pp. 1-73.

population, or perhaps they thought that the 5% figure meant that of 100 people who test positive, 95 will in fact be HIV positive (that would be to confuse the rate of false positives with the sensitivity or ‘hit rate’ of the test.)¹³

So in at least the cases of overconfidence and neglect of the base rate, it looks as if our inferential errors are due to an unfamiliar information format, rather than to an inability to reason statistically. Our ability to reason using information in the natural frequency format in which we usually experience probabilities may be quite adequate for our purposes—except to the extent that we are increasingly given information, about our health, safety, educational success, and so on, in the unfamiliar formats in question.

One may wonder whether this sensitivity to information formats is evidence for or against our ability to predict accurately and use base rate information appropriately. One wouldn’t say, of someone who couldn’t solve multiplication problems using Roman numerals, but had to be given them using decimal numbers, that he didn’t know how to multiply. On the other hand, one would say of a person who couldn’t process English sentences in the passive voice, but had to be given them in the active voice, that he didn’t know English. It is worth asking exactly what the competence with probabilistic reasoning is supposed to consist in. Does it, for example, involve a competence across information formats, or the ability to translate information from one format to another?

¹³ Gigerenzer’s explanations are different, but not incompatible: (i) that medical personnel might ignore base rate information because in their experience, a person who shows up for an HIV test is not randomly selected; (ii) that presenting the false positive rate as a percentage or relative frequency (5%) conceals information about the base rate in the population, whereas ordinarily, people acquire frequency and base rate information as a package; (iii) that (as in the overconfidence case) people do not calculate single-event probability (in this case, the likelihood of the individual’s being HIV-positive) on the basis of frequency (the prevalence of HIV in the population).

In any case, converting statistical information from difficult-to-manipulate probability or percentage formats into more user-friendly natural frequency formats (e.g. to translate information from the format given to the Harvard Medical School subjects into the format given to the Stanford undergraduate subjects) would seem to be a highly desirable reasoning skill. According to Gigerenzer, who has been designing tutorials to teach people how to effect these conversions, people can apply and retain their ability to reason using natural frequencies much better than they can formal statistical training.¹⁴ To illustrate: if you are told that for a given cancer screening, the false positive rate is 10%, the prevalence of the cancer 1%, and the test's sensitivity 80%, and then asked, what are the chances that someone who has tested positive actually has the cancer, Gigerenzer's tutorial teaches you to reason as follows: the prevalence figure tells you that 10 out of every 1000 people have the cancer. The sensitivity figure tells you that 8 of these 10 will test positive for the cancer. The false positive test tells you that of the remaining 990 [who don't have the cancer], 99 will test positive. So how likely is it that the person who has tested positive will have the cancer? $8 / (8 + 99)$, or less than 8%.¹⁵

So far, I have gone along with the assumption of the heuristics and biases programme that formal statistical reasoning is normative reasoning. But whereas the goal of statistical reasoning is accuracy in prediction, everyday reasoning is constrained by

¹⁴ 'Ecological intelligence' is discussed in Gigerenzer pp. 55-76. So we can use Bayesian reasoning in natural frequency formats by keeping track of: cases of evidence-borne-out and cases of evidence-not-borne out and dividing the former by the sum of the former and the latter.

¹⁵ However, Gigerenzer exaggerates in his 'How to Make Cognitive Illusions Disappear,' pp. 241-66—his own numbers show that the illusions do not completely disappear with reframing information in frequency formats.

other goals as well as accuracy; for example, a simple result that is simple to use again,¹⁶ or a speedy result, or even a result that others in the group will accept. Is it right to expect that in reasoning what to do we should first attain the accuracy required of statistical reasoning and then plug that information into deliberation? If an increase in accuracy on one inferential task can only be had at the price of a too-slow reaction time, or a neglect of the other practical tasks required for living one's life, then perhaps taking statistical reasoning as normative is repeating the mistake Aristotle convicted Plato of.

Compare two departments at Princeton University. Because of the 'interview illusion'—the fact that job interviews give highly available information that trumps the more accurately predictive information provided by letters of recommendation, written work, etc.—the Princeton Philosophy Department do not interview job candidates. But the Princeton Psychology Department, although they accept that there is such a thing as the interview illusion, having done much of the work to establish it, continue to interview job candidates, on the grounds that doing so promotes departmental harmony. Which department's policy is the more practically rational? Perhaps the end of academic success is specified somewhat differently for each department: perhaps academic success in psychology requires greater collaboration and so greater departmental harmony than does academic success in philosophy. But in any case, the example shows that pursuing accuracy wherever possible may not be the most practically rational thing to do.

3. Automaticity: A more radical challenge?

¹⁶ Gilbert Harman suggests this as one explanation for our preference for simplicity in theoretical explanations. 'Practical Aspects of Theoretical Reasoning' in Alfred R. Mele and Piers Rawling (eds.) *The Oxford Handbook of Rationality* (Oxford, 2004) pp. 45-56.

So far, my discussion has tried to show that we may hope to improve our practical reasoning if we can better understand why we make the sorts of inferential errors we do. However, according to proponents of the ‘automaticity hypothesis’ Bargh and Chartrand, the more fundamental mistake is to think of us as engaging in practical reasoning—well or badly—at all. For although

‘much of contemporary psychological research is based on the assumption that people are consciously and systematically processing incoming information in order to construe and interpret their world and to plan and engage in courses of action’

in fact

‘ . . . most of a person’s everyday life is determined not by their conscious intentions and deliberate choices but by mental processes that are put into motion by features of the environment and that operate outside of conscious awareness and guidance. . . ’ (Bargh and Chartrand 1999) ¹⁷

If this is right, then deliberation and decision, long the focus of moral philosophers since Aristotle, do not properly characterize most of our practical behaviour: we are on automatic pilot in most respects and for most of the time that we act.

But what are the implications of this fact for the role practical rationality can play in our lives? One position, that of John Doris (‘Skepticism about Persons’), is that if unconscious processes determine our behaviour, then rational processes, like reflection,

¹⁷John Bargh and Tanya Chartrand, ‘The Unbearable Automaticity of Being,’ *American Psychologist* July 1999, pp. 462-79. For a thoughtful discussion of how we should think of the way normativity operates in lives mostly lived automatically, see Railton, Peter, ‘Normative Guidance’ (ms.).

deliberation, etc., are epiphenomenal—we may be able to come up with reasons for our actions, but they are post hoc rationalizations.

Let us first consider some evidence cited in favour of the irrelevance of practical reasoning to our behaviour. Psychological studies on the behavioural effects of priming indicate that our behaviour is affected by environmental factors that subliminally produce in our minds the idea of some action or the other, which we then are likely to do. So, for example, 67% of experimental subjects exposed to words related to rudeness in what they were told was a ‘language experiment’ went on to interrupt in a later conversation, by contrast with only 16% percent of subjects primed with ‘polite’ and 38% of subjects in a control condition.¹⁸

But even if most of our behaviour is prompted by causes to which we have no conscious access, it does not follow that we do not have control over that behaviour, or that the reasons we may produce for that behaviour are just post-hoc rationalizations. (I also doubt that the fact that we do not have infallible introspective awareness of these causes means that we have no conscious access.) To see this, we should think about the ways in which we may have control over our behaviour.

¹⁸John Bargh, Mark Chen and Lara Burrows, ‘Automaticity of Social Behavior: Direct Effects of Trait Construct and Stereotype Activation on Action,’ Journal of Personality and Social Psychology 71 (2), pp. 230-44 (1996), reported in Bargh and Chartrand 1999, p. 466.

One way in which I can control my behaviour is by monitoring it as I go.¹⁹ But—and this is the truth in the automaticity hypothesis—it would take too many mental resources for us to monitor all of our behaviour all of the time and so most of our behaviour must be automatic. But I also control my behaviour by formulating explicit goals which rule out goal-undermining behaviour. (The ruling out would seem to happen consciously as well as unconsciously). For example, we might ask whether someone interviewing for a position as a waiter or receptionist would be so vulnerable to the rudeness primes described above.

It seems that we also exert control over our automatic behaviour by instituting mental overrides to interrupt automatic behaviour upon receipt of certain kinds of information.²⁰ So, for example, knowing about the bystander effect, one can put in place overrides to interrupt one's ordinary reliance on others for having a correct grasp of the situation and for doing the right thing, in cases in which (for example) someone seems to be in great distress.

Now consider the case of behaviour in which no override is activated, my explicit goals don't affect what I do, and I am not consciously monitoring my behaviour. Is such

¹⁹ Note that John Bargh *defines* control as experienced occurrent conscious control: he is talking about controlled processing, and says that in controlled processing you are able to reflect on yourself processing; you experience yourself as the agent of your own behaviour; you experience yourself making the effort to process, and you are aware that automatic processes may be occurring and are motivated to be able to counteract them. See John Bargh, 'The four horsemen of automaticity: Awareness, efficiency, intention, and control in social cognition'. In R. S. Wyer Jr. and T. K. Srull (eds.) Handbook of Social Cognition (2nd ed., pp. 1-40 (Erlbaum, 1994).

²⁰ H. Pashler, J. Johnston and E. Ruthruff, 'Attention and Performance' Annual Review of Psychology 52, pp. 629-651 (2001) discuss the related idea of 'off-line control'; the recent studies they review indicate that top-down goals influence the intake of external stimuli without conscious monitoring, just as a thermostat's setting turns the furnace on only when the temperature falls below a certain level.

behaviour in my control or not? Bargh and Chartrand themselves acknowledge that there are two routes to the development of automatic processes: behaviours may be first-time automatic responses to current environmental stimuli or they may have become automatic through consistent and frequent repetition of mental-process/situation pairings (e.g. through habituation and practice). These differences in history seem relevant to whether the automatic behaviour we are considering is in our control, and indeed the result of intention and deliberation, or not. Behaviour that originates in an agent's decision and becomes unconscious and automatic as a result of the adoption of a policy is surely a central case of intentional behaviour, behaviour that is in our control. From the agent's point of view, the disappearance of conscious choice is not a loss of control but its victory. For example, an agent whose table manners now unreflectively and automatically conform to bourgeois European etiquette due to a past decision to develop such manners surely has not lost control over his table manners. Automaticity may entail loss of control if we are engaging in behaviour that has no historical connection to any decision or intention on our part, or in behaviour that we could not consciously endorse. But this is not the case with consciously chosen behaviours that become second nature as a result of practice.

Interestingly, agents engage in situationally-driven automatic behaviour of a sort they do not or would not endorse much less if they have previously articulated reasons for behaving in the ways they do endorse. So, in one experiment, participants in one group were asked to list reasons for and against treating people equally (in a 'test of abstract writing skills'), while participants in another group were merely primed with words related to equality (in an anagram-solving task) and participants in a third group

underwent no manipulation. Subsequently (in a ‘test of decision-making’), each of these groups was divided into a ‘red’ and a ‘blue’ team and asked to play a round of 20 questions at the beginning of which they were to assign future ‘red’ and ‘blue’ teams a number of initial points. If they gave more points to future players on their own colour-team, they received more points themselves. The participants who had listed reasons for treating people equally showed much less in-group favouritism [$M=4.08$] than did a control group [$M = 6.75$] and a group primed with equality-related words [$M=7.02$], even though the groups did not differ in how important a value they took equality to be.²¹

If articulating reasons enables people to withstand situational effects, then one might expect that people who have articulated reasons for behaving in one way (e.g. politely) would continue to act politely when primed with words suggesting the opposite behaviour (the rudeness-related words), and the size of such an effect might be of considerable impact for understanding the behavioural relevance of automaticity vs. rational control.

One might raise another worry about habituated automatic responses, though, and this is that automatic responses, whatever their history, are not as sensitive to situational specificities, and especially specific differences from past situations, as morality requires.

Perhaps the criterion of right action is the principle of utility, and the habit of helping

²¹ Maio, Olson, Allen and Bernard (2001), ‘Addressing Discrepancies between Values and Behavior: The Motivating Effect of Reasons’, *Journal of Experimental Social Psychology*, 37 pp. 104-117. We might raise some worries about this study: what counts as a reason? (It looks as if everything countenanced as a reason is instrumental.) Further, is it a failing of the subjects that they lack cognitive support for some of their values? Mustn’t justification come to an end at some point? Finally, is the phenomenon of greater belief-behaviour consistency among those who have articulated reasons for their beliefs about value due to the increased cognitive support they now have for their values? Or does reason-giving just have a polarizing effect?

your neighbour becomes less and less a contributor to overall utility as your neighbour becomes better and better off. But being automatic, your helping-your-neighbour behaviour may well continue when the morally right thing to do is clearly (and it would be clear to you if you were reasoning about it) to help the distant poor. This may be an inadequacy we just have to live with, and make the best of by engaging in periodic personal policy reviews. It may be a reason to believe that even the best life will contain regrets about particular actions.

4. Conclusion

The improvements in practical reasoning that I have been collecting here—training in converting information into natural sampling formats, monitoring and preparing overrides for behavioural-determinants anticipated to be problematic, periodic policy reviews—do not (and wouldn't even if I'd collected more of them) add up to the kind of perception-like sensitivity to whatever is ethically salient that is often associated with Aristotle. Aristotle does, of course, think that the virtuous person takes pleasure in things of genuine value, and that the virtuous person's motivations are characterized by harmony. But it doesn't follow that deliberation—reasoning about what to do, what means to adopt to one's ends—of which practical wisdom is the excellence is effortless or indeed unnecessary. What does follow is that a virtuous person won't chafe at the means identified by practical wisdom as the means to her end. So, for example, it may take quite a bit of thought for your virtuous and practically wise friend to determine the best way to support you when you have just lost a loved one. What it seems has to be spontaneous, or 'automatic', on her part is wanting to do the best thing she can to support you, and picking up on your various needs through careful observation and empathetic

identification. Her thinking about what to do might have the character of perception not in that she immediately and effortlessly determines which actions are called for in the situation, but instead in that it involves the activation of an already well-developed disposition to attend to a bereaved friend's concerns—whatever that involves. Rather than being undermined by empirical findings about perennial weaknesses in human reasoning, an Aristotelian ideal of virtuous character can be informed by empirical findings about the ways in which we can improve as reasoners.