

SYMPOSIUM

The Mechanics and Psychology of Practical Reasoning

Alex King^(α)

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Abstract In this commentary on Sinhababu's *Humean Nature* I will explore three lines of inquiry. The first asks about the explanatory power of the Desire-Belief Theory of Reasoning, by way of wondering about how desires and beliefs combine with one another. The second question continues along these lines, asking about the further conditions Sinhababu places on reasoning and whether a theory of reasoning can be normatively neutral. The third points out the need for more clarity in his account of intention by contrasting it with practical reasoning.

KEYWORDS: Desire; Belief; Humean Psychology; Intention; Practical Reasoning

Riassunto *Meccanica e psicologia del ragionamento pratico* – In questo comment su *Humean Nature* di Neil Sinhababu intendo esplorare tre linee di indagine. La prima si interroga sul potere esplicativo della Desire-Belief Theory of Reasoning, indagando come desideri e credenze si combinano reciprocamente. La seconda prosegue su questa strada, interrogando le ulteriori condizioni che Sinhababu pone sul ragionamento e chiedendomi se una teoria del ragionamento possa essere normativamente neutrale. La terza individua il bisogno di maggiore chiarezza nella sua descrizione dell'intenzione, mostrandone le differenze rispetto al ragionamento pratico.

PAROLE CHIAVE: Desiderio; Credenza; Psicologia humeana; Intenzione; Ragionamento pratico



SINHABABU'S *HUMEAN NATURE* OFFERS an incredibly comprehensive picture of Humean psychology, according to which our mental states are parsimoniously built of beliefs and desires, and according to which it is only the desires that do any motivating.

In what follows I will, for the most part, be granting Sinhababu his Humean theory. While there are many ways in which one might question this theory, and many ways in which it has been questioned, Sinhababu takes great care to respond to objections to his Humean picture.

(To his credit, one also gets a clear sense of how he might respond to further objections.) And because he also takes great care in working out the Humean theory of motivation and explaining how all its parts come together, and because Humeanism about motivation is so popular, it is worth exploring what follows when we take for granted the very fleshed-out and thoroughgoing Humean vision he presents us with.

I will be exploring three lines of inquiry. The first asks about the explanatory power of the *Desire-Belief Theory of Reasoning*, by way of

^(α)Department of Philosophy, State University of New York at Buffalo, 135 Park Hall Buffalo, NY 14260-4150 (USA)

E-mail: alexk@buffalo.edu (✉)



wondering about how desires and beliefs combine with one another. The second question continues along these lines, asking about the further conditions Sinhababu places on reasoning and whether a theory of reasoning can be normatively neutral. The third points out the need for more clarity in his account of intention by contrasting it with practical reasoning.

■ Combining

«Desire that M is created as the conclusion of reasoning if and only if the reasoning combines desire that E with belief that M would raise E's probability».¹ This is Sinhababu's characterization of the *Desire-Belief Theory of Reasoning*, a component of the Humean theory of motivation. On this view, a certain kind of desire and belief combine, and their combination produces a certain new desire. As far as I can tell, there are a few different things we might have in mind in talking about mental states combining with one another, and we cannot fully understand the *Desire-Belief Theory of Reasoning* without determining which of these Sinhababu subscribes to.

The first way mental states can combine is simply by clicking together, as it were, and then being relatively difficult to separate. Let's call this the *puzzle piece* model. On the puzzle piece model, when mental states A and B combine, they retain their individuality as A and B, as well as many or all of their original properties, but now travel together in one's mental space.

We can also talk about two mental states combining to form a third, new mental state. Let's call this the *offspring* model. On the offspring model, when A and B combine, a previously nonexistent C is formed. On this model, it is constitutive of the combination that C is formed. If C had not formed, A and B would not truly have combined.

Maybe two mental states can also combine in such a way that each of the original mental states is destroyed, but a wholly new mental state is formed in the process. Let's call this the *cake* model. Think of what hap-

pens when we combine the ingredients for a cake and then bake. Each of the ingredients is consumed during the process and a new thing is formed. The finished cake has many new properties. It has gained some properties the ingredients didn't have, and lost some that they did. So on this model, A and B combine to form a new mental state C, and A and B are, so to speak, used up in the process.

These three models – the puzzle piece model, the offspring model, and the cake model – aren't exhaustive, but they provide usefully diverse models of how we *do* understand the idea of combination in general, and how we might understand it in the case of mental states.

For us, the question at hand is whether all three models can be represented by reasoning. I suspect the answer is that only the second, and maybe third, could properly be called reasoning. An uncontroversial example of the offspring model is a simple modus ponens: We put two beliefs together and a third, distinct belief is formed. Less obviously, the cake model might be embodied by a *reductio* piece of reasoning: We put a few beliefs together, realize they entail something absurd, and end by rejecting the original claims. (I'm not confident about this. It is difficult to say precisely what has happened in such cases.)

From what Sinhababu says, it is clear which of the above models he subscribes to. A desire and a belief combine to produce a new desire. So his is the offspring model.² But we might well wonder about different types of offspring models. For example, theoretical reasoning gives us one kind of offspring model where A, B, and C are all beliefs. Meanwhile, one of the central debates about practical reasoning is, to adopt my terminology, *which* offspring model we should adopt. Are A, B, and C all the same sort of mental state (as they would be if there were all beliefs, per Joseph Raz)? Or are A and C intentions, while B is a belief (as with John Broome's analysis)? Or is A a desire, B a belief, and C an intention (as many other accounts go)?³ In this debate, Sinhababu also clearly stakes out his territory: A is a desire, B

is a belief, and C is also a desire. This view is notable because it is unusual, despite the fact that his view may be compatible with the second and third views, since he takes intention to be a desire situated in a certain way. The final section will examine this in more detail.

At this point, one can't help but wonder about the psychology and the mechanics of practical reasoning, about how desires could combine with beliefs to form new desires. Sinhababu's answer is attention. According to him, desires have different basic properties. What he calls the *Attentional Aspect* is crucial for practical reasoning. It is the property that desiring some end disposes one to attend to things associated with that end. So, for example, desiring that I drink some water disposes me to attend to streams, faucets, and glasses. Similarly, Sinhababu argues, the desire for an end and a means-end belief regarding that end can combine «when the desire directs attention to the content of the belief».⁴ Suppose I desire that I drink some water, and also believe that filling a glass with potable tap water will enable me to drink some water. The Attentional Aspect of desire then disposes me to attend to streams, faucets, glasses, and so on, and because some of those are part of the content of my means-end belief, my desire and belief can combine.

Sinhababu argues further that the Attentional Aspect is a sufficient condition for desires' and beliefs' combination in practical reasoning,⁵ though he acknowledges that attentional resources might be diminished by things like fatigue or drunkenness. He underscores this view by saying that «[t]he Attentional Aspect allows desire to *bring itself together with belief*, explaining the possession and exercise of capacities for practical reasoning».⁶ (In fact, on his account, attention explains how some beliefs combine with others in theoretical reasoning, too. This is because we have a desire to know the answer to a certain question, and that desire activates our attention.)

It seems to me that this view leaves the

most important thing unexplained. Suppose I wonder why two magnets attract. Suppose also that you explain this by saying, «You'll find that, unless something funny gets in the way, anytime they get close enough, they snap together». While close proximity is perhaps a sufficient condition for the attraction of two magnets, this explanation leaves the surprising things unexplained. One still feels left in the dark about how the attraction works. One doesn't understand why they snap together at all. Why, for example, do *magnets* do this while *eggs* don't? Is the way that planets attract each other the same? In the case of magnets, electro-magnetic theory gives us the fuller answer. But in the case of practical reasoning, Sinhababu doesn't.

For Sinhababu, if you desire E and you believe that A-ing will raise E's probability, then you will desire A-ing. But if we want to know why *this* desire combines with *this* belief and why it produces *that* desire, it looks like we must be content with the answer that this is simply how things are. To be clear, this is not an objection to the theory, but a concern that not enough has been said to explain what is really interesting about practical (or theoretical) reasoning.

However, there is more to Sinhababu's story than attention, and perhaps we will find a fuller explanation there.

■ The Syntax of Reasoning

Sinhababu notes that there are syntactic constraints on the relevant desires and beliefs that can combine in practical reasoning. «One distinctive mark of reasoning», he writes, «is that it involves mental states quickly producing others because of syntactic relations between their contents».⁷ In other words, reasoning is a causal mechanism that occurs at least partly due to certain syntactic relations. Adding syntactic constraints is important, otherwise *any* causal transition between mental states might count as reasoning, and surely that lets too much in. If I see a bus and that triggers a desire for a cookie, I

obviously haven't done any reasoning.

But it is not clear what these syntactic relations are meant to be. In particular it's not always clear where Sinhababu places logical relations. Sometimes they sound like a species of syntactic relation, other times the two categories seem coextensive. But we should be careful to distinguish them. There are syntactic relations between our beliefs when we affirm the consequent because there are Ps and Qs floating around that get combined in a certain way. Affirming the consequent, however, is not permitted by logical rules. If the *Desire-Belief Theory of Reasoning* is just a causal story about how some mental states quickly produce others because of syntactic relations, then it is unlikely to be bound by logical rules. After all, people frequently do affirm the consequent, and it's plausible that we make similar errors in practical reasoning.

Given this, we need to determine whether the constraint on practical reasoning is syntactic or logical. I think the view will be better off if the constraint on reasoning is syntactic. This is because, on this construal, the view is able to do something that can pose serious difficulty for accounts of reasoning, namely make space for *bad* reasoning – something that genuinely counts as reasoning, but fails to be good reasoning. Such reasoning may conform to syntactic relations but violate logical ones. If this is right, then when mental states quickly produce others because of syntactic relations between their contents, we will have reasoning. When these syntactic relations are *also* relations licensed by logic, we have good reasoning.

I worry, however, that even adding a syntactic constraint will not exclude enough cases from counting as reasoning. There are cases where some mental states quickly produce others because of syntactic relations between their contents, but fail to be reasoning. Take, for instance, syntactic relations between different desires. Suppose I desire that P and desire that if P then Q, and this causes me to desire that Q. It doesn't seem like this should count as reasoning, even as bad reasoning. Or

take cases of wishful thinking, where a desire that P be the case quickly produces a belief that P will be the case. Here is a very tight syntactic relation between contents (namely identity), but the nature of the mental states makes these seem not like bad reasoning, but not instances of reasoning at all.

While might be able to fix some cases by supplementing the view with substantive constraints on the syntactic relations allowed, these examples suggest that we also need constraints on the mental states involved. In both examples, the contents are related in the way we might want (modus ponens and identity, respectively), but seem not to count as reasoning because of the nature of the mental states involved. Modus ponens is fine for belief contents, but not, it seems, for desire contents. Identity of contents likewise is fine in the case of belief, but starts to look strange if we have one desire and one belief.

The worry, though, is whether a purely descriptive theory can give us the constraints we need. These sorts of things do happen, but a purely descriptive theory does not seem able to explain it. It is admittedly a question for the psychologist, but I strongly suspect that we undergo non-reasoning, but nevertheless causal, mental transitions just as quickly as reasoning – perhaps even as frequently. So there's likely to be no statistical way of separating reasoning from non-reasoning. We could try to add constraints on the relevant mental states involved, in addition to the syntactic relations of contents. But it will be hard, again, to present a principled, yet descriptive means of distinguishing the mental transitions that count as reasoning from those that don't.

On the other hand, one promising and natural way of precluding such cases from counting as reasoning will involve deferring to some underlying norms, whether those be rules of classical logic or more tailored and specific rules pertaining to practical reasoning. This suggests a return to the view that we should actually look to logical, and not merely syntactic,

relations. Sometimes, too, it sounds like this is what Sinhababu wants. He says that one of the best-known functional properties of beliefs is that they bear logical relations to other beliefs, so that we can combine beliefs to do things like modus ponens.⁸ He also writes that «[a]ttending to evidence activates dispositions to believe in accordance with it, and attending to the contents of logically related beliefs activates their dispositions to produce new beliefs by inference».⁹ Instrumental reasoning, presumably, works the same way: there is a disposition for certain desires and beliefs to combine and produce new desires (perhaps also by inference). Perhaps this is the needed supplement to the attention-induced combination we were searching for earlier.

But there are also problems with this alternative. First, how is it that a desire that E is *logically* related to a belief that M will make E more likely? Answering this requires a logic of practical reason, since the inference doesn't obey any rules of classical logic. Some philosophers have argued against such a logic, even while defending the existence of sound practical inferences (but which don't conform to logical rules as we traditionally understand them). Maybe Sinhababu thinks there is one, but even so, spelling it out is no easy task. In any case, it's worth noting that a skeptic about logical relationships in practical reasoning will either reject this immediately or else interpret the logical relationships in a way that is more amenable to their view.

Next, even if we grant a logic of practical reason, it's unclear how to characterize logical relatedness. It's intuitive enough that a belief that *P* and a belief that *if P then Q* are logically related, and that they might have dispositions to produce the belief that *Q*. But are the belief that *P* and the belief that *Q* logically related because we can form the belief that *P&Q*? If so, then all beliefs are logically related, and we again encounter the problem of allowing too much to count as reasoning.

To avoid this, we could count mental states as logically related only with respect to certain (licensed) conclusions. The belief that

P and the belief that *Q* would thus be logically related, but only with respect to the conclusion belief that *P&Q*.

However, this raises an earlier question: Should we say that the beliefs *Q* and *if P then Q* are logically related with respect to the conclusion belief that *P*? In other words, are the beliefs involved in affirming the consequent logically related, albeit badly or fallaciously so? There are two options.

Suppose we answer in the affirmative and take beliefs involved in, e.g., affirming the consequent to be logically related. This means that those beliefs are *disposed* to combine in this fallacious way. Taking the descriptive psychology of this view seriously means that it would, in a way, be psychologically unhealthy or aberrant to *fail* to make psychologically common fallacies in one's reasoning. In short, if we understand the mental states and contents involved in fallacious reasoning as logically related and therefore as reasoning, then we have to say that such beliefs and desires are disposed to combine in the fallacious way.

If, on the other hand, we say that the beliefs involved in affirming the consequent are *not* logically related because fallacious, then we face two problems. First, as mentioned above, there ceases to be any gap between reasoning and good reasoning. Second, beliefs *do* frequently combine in fallacious ways, and what's more, they do so as effortlessly as any other beliefs. But as before, the purely descriptive Humean theory seems ill-equipped to explain why this would be. It is difficult to imagine a principled, yet ultimately descriptive explanation of why logically related beliefs would be disposed to combine to form logically licensed beliefs as conclusions, but wouldn't be so disposed to form equally common but fallacious conclusions. This is because the most obvious answer relies on something normative: fallacious conclusions are bad ones and we shouldn't draw them, even though, fallible creatures that we are, we do.

Sinhababu admits that he does not have «a general account of what distinguishes reasoning from other mental processes».¹⁰ I am not

suggesting that he develop a full account of this, but there is a related issue that his account cannot skirt. His reliance on combination as an explanatorily illuminating process demands an account of which things combine and why. And part of that explanation invokes syntactic constraints, or perhaps logical ones. I have discussed the outlook for both options.

In the end, I think Sinhababu's view is best off if it sticks with syntactic rather than logical constraints. Of these two options, this seems to be more consonant with his Humean picture. He could then provide a "just so" list of which things count as reasoning, but one determined by the actual psychological regularities we find in humans. On that view, it might just turn out, surprisingly, that if we regularly enough move quickly from desires that P to beliefs that P , it's reasoning just the same as moving from a belief that P to a belief that P , albeit not as trivial nor as valid. After all, Sinhababu says that we may be surprised by some aspects of his view.¹¹ Perhaps this is simply the route he must pursue if he is to offer an illuminating account of mental state combination.

Intention

The first two sections have been concerned with Sinhababu's account of practical reasoning. The first section focused on combination, and the second focused on an additional constraint on practical reasoning that might be either logical or merely syntactic. This section will look more closely at the account of intention. This line of inquiry will continue to develop the central theme of this paper, namely what combination is and how it works.

Sinhababu characterizes intentions as properly situated desires.¹² As he acknowledges, this is a huge departure from what has become the norm, thanks in large part to Michael Bratman, i.e., the view that intention is its own irreducible mental state. Even those Humeans who depart from this dominant view typically take intention to be a desire-belief pair, rather than the desire itself. For Sinhababu, however, an intention that ϕ is

just a properly situated desire that ϕ .

The desire's being properly situated consists in the following. Roughly, this desire must combine with a belief that a situation will obtain in which one's performing a behavior B will make ϕ more likely. Furthermore, if this desire that ϕ were to combine with a belief that that situation *currently* obtained, then this desire and belief would produce sufficient motivational force to initiate action. More precisely, the requisite background conditions for a desire to become an intention are (1) a future belief (the situation will obtain), (2) an instrumental belief (one's B -ing makes ϕ more likely), and (3) a disposition to produce sufficient motivation to initiate action.

At first blush, this looks quite different from practical reasoning, but it's worth comparing the two. In practical reasoning, one desires end E . For ease of comparison, let's instead call the end ϕ . This desire combines with a belief that a certain state of affairs (originally called M) would make ϕ more likely. Practical reasoning combines these two and produces a new desire, the desire that the means obtains.

Given this analysis, one would think that intention formation would be a species of practical reasoning. It's the special case of practical reasoning where you not only desire the ends and understand an appropriate means-ends relationship, but you also believe, roughly speaking, that you can bring about the means. The main difference is that in practical reasoning a further desire is produced, namely the desire for the means. This is not true of intention formation. As Sinhababu puts it, «The role of reasoning in generating intentions is mostly to combine desires and beliefs so that the background conditions in (2) and (3) obtain *for some pre-existing desire*».¹³ So combination in this case doesn't produce a new mental state, but simply brings existing mental states together.

If intention truly were a species of practical reasoning, then a desire for the means to obtain would be generated. And this, together with your knowing that you could bring about that

means (by B-ing) would, it seems, produce the motivation requisite to B. This last part is just Humean action. One might naturally think that it's *this* desire – the desire to B (or the desire that the means obtains), not the desire that ϕ – that constitutes the intention.

It is not this view, however, to which Sinhababu subscribes. He is very explicit that the intention in question is *not* the intention that the means state obtains or that one B. The intention he aims to explain is the intention that ϕ . Of course it's consistent with his view that an intention to B also forms, at least sometimes. This is surprising, I think, though not inconsistent. The nagging concern is why combination looks different in each of these cases, and whether forming an intention involves reasoning or not.

This is related to our first question: What is combination, and how does it work? For intentions, combination looks like the puzzle piece model. No new mental states are generated. The intention is identified as the original and pre-existing desire, which is combined with a couple of beliefs (and a certain psychological disposition). It retains all of the properties of desire, though it may acquire a new property or two in becoming so situated to become an intention.¹⁴

Combination in practical reasoning, on the contrary, uses the offspring model. But then one wonders whether combination is really one sort of phenomenon, or different things going by one name. This is especially salient when we recall that we were using the generation of a new desire as a criterion for whether combination through practical reasoning had even occurred. So far, we lack a full story about combination, and the way combination works in intention and practical reasoning only serves to deepen the problem.

Finally, I have a worry about the intention-as-desire view. In his critique of Gibbard's quasi-realist account,¹⁵ Sinhababu argues that moral beliefs have structure that quasi-realists struggle to accommodate. For the quasi-realist a moral judgment is a motivational mental state, which, together with a

Humean account of motivation, means that a moral judgment must be fundamentally a desire. Here Sinhababu reminds us of the contradiction problem for quasi-realists, a variant of the Frege-Geach problem. The problem is that desires do not have the internal structure requisite to support contradictions. I can desire both P and $\sim P$ without being irrational and without one of these two desires disappearing (unlike what happens if I discover I believe both P and $\sim P$).

For Sinhababu, though, this argument is a double-edged sword. One reason many have leaned toward cognitivism about intention (the view that intentions entail or are partly composed of beliefs) is that intentions *do* seem to have an internal structure more akin to beliefs than to desires. Consider what Sinhababu dubs "exclusion", a feature of intention according to which one intention excludes the formation of other, conflicting intentions. If I intend to meet someone at 8:00 am, then I won't form a conflicting intention to be on a flight at 7:30 a.m. Similarly, if I discover that I have formed both intentions, I will revise one or both accordingly.¹⁶ But if intentions are just desires, and we can desire contradictory things, then how do we explain exclusion?

Sinhababu accounts for it by saying that «when I intend to perform some action, I usually believe that I'll do it».¹⁷ Therefore, because these beliefs usually accompany intentions (i.e., desires), we won't intend conflicting things. But I worry about cases of intending the improbable. He discusses the case of a basketball player who believes that his making a halfcourt shot is unlikely. In such a case, why should exclusion take hold at all? What precludes the player's intending something else that is conflicting, but unlikely, since after all he *doesn't* believe that either of them will occur? (I take it that the "usually" included above is included to circumvent irrationalities, not rational responses to improbable outcomes.) There may be ways for the intention-as-desire view to account for exclusion, but the story will have to be at least a little more complex than the one Sin-

hababu outlines.

It will, I think, have to draw on *other* intentions that are likely to form, and so on *other* beliefs. Perhaps in the case of the basketball player, for example, what explains exclusion is the fact that the basketball player will not only form the intention *that he make a halfcourt shot* but also the intention *that he try to make a halfcourt shot*. This intention would form as a result of practical reasoning, assuming what I have said in the first half of this section is right. Then the latter intention, we are assuming, would cause the basketball player's belief that he will try to make a halfcourt shot. And it's this that precludes his also intending something contradictory but improbable, like missing the halfcourt shot by exactly 6 inches to the left of the basket. Because, in order to intend *that*, he would also have to form the intention to *try* to miss by exactly 6 inches to the left.

Whether the solution I'm offering works depends on other components of what I have suggested here. It depends on whether intention can operate in a way parallel to practical reasoning, which in turn depends on how we understand practical reasoning and on the model we use for combination. As is fitting for such an ambitious, systematic, and comprehensive view, solutions and further developments of the view will have to be deployed carefully in order to maintain the balance of the existing elements.

Notes

¹ N. SINHABABU, *Humean Nature. How Desire Explains Action, Thought, and Feeling*, Oxford University Press, Oxford/New York 2017, p. 2.

² I won't address complications that arise with the sentence that follows the one quoted above, where he writes: «It is eliminated as the conclusion of reasoning if and only if the reasoning eliminates such a combination» (see N. SINHABABU, *Humean Nature*, cit., p. 2).

³ See, e.g., J. RAZ, *From Normativity to Responsibility*, Oxford University Press, Oxford 2011; J. BROOME, *Rationality Through Reasoning*, Oxford University Press, Oxford 2013.

⁴ N. SINHABABU, *Humean Nature*, cit., p. 84.

⁵ *Ivi*, p. 85.

⁶ *Ivi*, p. 87, my emphasis.

⁷ *Ivi*, p. 4.

⁸ *Ivi*, p. 43.

⁹ *Ivi*, p. 87.

¹⁰ *Ivi*, p. 4.

¹¹ *Ivi*, p. 18.

¹² Though sometimes he seems to waver in this characterization. He writes that, «prior intentions [...] I think they're desire-belief pairs», or «the Hedonic Aspect provides an additional positive argument that intentions are desire-belief pairs» (see N. SINHABABU, *Humean Nature*, pp. 110, 112). That said, he acknowledges that, for the most part, his arguments support the desire view as well as the desire-belief view (*ivi*, p. 101).

¹³ N. SINHABABU, *Humean Nature*, p. 103, my emphasis.

¹⁴ This view is strange particularly because it seems like the puzzle piece model can't be a model of reasoning at all, whereas Sinhababu clearly thinks reasoning plays a role in generating intentions.

¹⁵ See A. GIBBARD, *Wise Choices, Apt Feelings: A Theory of Normative Judgment*, Harvard University Press 1990; A. GIBBARD, *Thinking How to Live*, Harvard University Press, 2003.

¹⁶ For the discussion of exclusion, see N. SINHABABU, *Humean Nature*, p. 106ff.

¹⁷ *Ivi*, p. 107. Though Bratman and others have raised objections views like this, I won't rehearse any of them here. I am happy to grant what Sinhababu says in order to explore relatively newer terrain.