Reasoning At Play, Simplify Anyway

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Thanks for your feedback!

Goal: defend a dual account about voluntary control for simplification in reasoning. Why in need of defense? The *act* of simplification can be voluntary, so some might want to deny that any involuntary state (like belief) can simplify reasoning. I argue that it doesn't follow that we should rule out involuntary doxastic states as plausible candidates for simplification. Why? A basic reason: even voluntary doxastic states are controlled only to some, non-full degree.

Spoiler: When facing a theoretical choice between unmanageable complexity and dual-control, prefer the latter.

Plan:
1. How to make it simple?
2. A voluntarist argument
3. Simplification, Complicated
4. A dual-control solution

1. How to Make it Simple?

You simplify reasoning when you reason using only a subset of the information available to solve a reasoning problem.

Sometimes you simplify your reasoning by default, other times you do it as a result of environmental pressures, and sometimes you do it with the express intention to simplify.

Doxastic states play a role in simplified ways of reasoning. They are one of reasoning's inputs: they are the representational basis on which reasoning is performed.

Doxastic states can play this *simplifying role* in different ways .

ways = they *dispose* you in a certain way or they *represent* information in a simple way.

Human and non-human reasoners simplify by disregarding complex rules and omitting information in both theoretical and practical reasoning.

Simplification role ≈ A doxastic state $\mathcal{D}$ plays the simplification role only if $\mathcal{D}$ disposes S to assume its content.
A subject S simplifies reasoning with $\mathcal{D}p$ when $\mathcal{D}$ disposes S to assume p or taking p for granted.
Notice that $\mathcal{D}$ itself can be categorical or graded. A subject S can simplify her reasoning with $c(p) = x$ because some heuristic disposes her to assume p (Tang 2015).

Two Examples:

1. Theoretical. When forming beliefs, people disregard skeptical scenarios as well as ordinary doubts. I hit a billiard ball. The ball moves. I believe that my hitting caused the moving. I simplified my reasoning: an evil demon didn't implant in me the idea of causality nor the cause was an improbable air current.

2. Practical. Equally, when making decisions, people omit considering numerous complications. Here I am in a pedestrian crossing and the light is green. I decide to cross. I simplified my reasoning: a driver is not going to spontaneously form the desire of running over me and I don't explicitly consider utility maximization in my deliberation.

Specially in a world of overabundance of information, our reasoning threatens to become intractably complex if we don't disregard complex rules or omit information.

Two main questions in the literature on simplified reasoning:

I. Rationality Question:[2] if more information leads to more knowledge and better decisions, how and why is simplification rational? Is simplification epistemically or practically rational?

[2] See: Harsanyi 1985, Bratman 1992, Lance 1995, Holton 2008, Wedgwood 2012, Ross and Schroeder 2014, Staffel 2019, Dinges 2021, Palmira 2023.

II. State-Functional Question: Which doxastic state(s) $\mathcal{D}$ is(are) able to play the simplification role?[3]

[3] Answers in the menu: $\mathcal{D}$ = Belief (Staffel 2019, Ross and Schroeder 2014), Credence (Dinges 2021), Acceptance (Dinges 2022), Imagining (Palmira 2023). Consequences for the "Bayesian Challenge" (see Jeffrey 1970 and Kaplan 1998, Ch. 4).

My question today deals with another subject, related but different from the subject in the **State-Functional Question**. In particular, I am interested in the:

III. Control Question: What type of control is involved in simplified reasoning?

2. *A Voluntarist Argument*

Voluntarism about simplification (**VS**) is the view that only voluntary doxastic states can play the simplification role.

There are cases in the literature that could help to motivate **VS**. A defender can claim that these are clear-cut cases of voluntary control. Take this case from Bratman 1992:

Case 1 (Planning). In planning my day —a June day in Palo Alto— I simply take it for granted that it will not rain even though I am not certain about this. If I were instead figuring out at what odds I would accept a monetary bet from you on the weather I would not simply take it for granted that it will not rain. But in my present circumstances taking this for granted simplifies my planning in a way that is useful, given my limited resources for reasoning. (Bratman 1992, p. 5)

Let's stipulate here that the agent does *not believe* that it won't rain (*pace* Bratman).

Bratman-Acceptance ≈ an inner state on the basis of which we form and maintain plans and intentions and that is sensitive to different practical pressures (e.g., the necessity to simplify, high stakes, cooperation, special obligations, among other things.)

Belief ≈ an inner state that is context-independent, responsive to evidence and truth-directed, involuntary (i.e. not formed by choice), and under rational requirements of coherence (see Williams 1970). In the probabilistic case, credences are accuracy-directed.

Case 2 (Polls). Elections are close. Party A is polling at around 45% for months now, showing a consistent trend. The remaining 55% is equally distributed among Parties B, C and D. Jones, a political analyst, is reading the latest polls and on the basis of this evidence forecasts that Party A will outperform every other party. [4]

[4] See Dinges 2021, sec. 4.1. See Buchak 2014 for the insufficiency of statistical evidence for belief and the connection of belief and blame. Moss 2018, Ch. 10 generalizes the argument for legal proof.

Case 3 (Bank). Is the bank open on Saturday? Depends on the stakes! [5]

[5] See DeRose 1992, Dinges 2021, sec. 4.2

VS[6] can be favored with Cases 1, 2, 3 constructing the following argument.

[6] Who advocates for this? Indirectly, Dinges 2021, sec. 3 argues for this conclusion in attacking the identification of "treating as true" with outright belief.

P1. Simplification in reasoning is flexible.

P2. If a doxastic state $\mathcal{D}$ can play the simplification role, then $\mathcal{D}$ is potentially under our direct voluntary control.

P3. Belief is not potentially under direct voluntary control.[7]

[7] Example. Suppose a variation of Case 1: the subject believes will not rain ($B\neg r$). Now, suppose he is deciding something that is high stakes that hangs on whether r. Here $B\neg r$ still holds, but now uses his acceptance that it might rain ($A \diamond r$) rather than his belief.

C1. Therefore, belief cannot play the simplification role.

C2. Any doxastic state $\mathcal{D}$ that is not potentially under our direct voluntary control can't play the simplification role.

3. *Simplification, Complicated*

My contention will be that the possibility of voluntary simplification is paradoxically insufficient for real simplification.

THE WORRY is this. Suppose the **VS** argument is right. Then, the simplification role needs to be conceptualized as always potentially under voluntary control.

In particular, take some doxastic state $\mathcal{D}_1$ with which a subject doesn't want to reason. The agent rather adopts $\mathcal{D}_2$. By **P2**, we can exert that control to come back to the previous $\mathcal{D}_1$. This potential is open even if we didn't actually perform reasoning with with that new state.

But this is implausible. Why to simplify in the first place if I can switch back and forth? This doesn't look very simplified!

More carefully:

Motivation for **P2**: in Case 1 the agent stops treating $\neg r$ as true voluntarily and directly. [8]

Lack of the same type of control over belief is therefore sufficient for rejecting belief as a candidate to play the simplification role.

But notice further: the *locus* of control in cases of simplification is in the *act-token* of adopting some $\mathcal{D}p$. The flexibility in **P1** and the potential of control in **P2** are connected at this token-level.

It would be certainly incoherent that the subject in Case 1 simplified by choosing $A \diamond r$ deliberately *and* involuntarily for a specific act.

But is not odd that sometimes people accept things non-deliberately.

Someone can non-deliberately accept q, because they accepted p and independently believed in $p \rightarrow q$.

If simplification doesn't have an automatic element, we would need to exert control both to adopt some $\mathcal{D}$ and also to stop switching it to another one. but it's necessary that control *stops* at some point.

If the doxastic state D fulfilling the simplification role is always potentially under control, we coultn't avoid to end up in a regress. Nobody would simplify reasoning if they have to make it complex first at a higher-order level and then come back.[9]

Upshot: the *locus* of control doesn't extend to cover all cases of simplifying his reasoning. We need to reject **P2**.

[8] Voluntarily $\approx$ by choice and non-coercively.
Notice two senses of oppositon: involuntary
1. Involuntary: automatic (cannot be controlled by choice).
2. Not voluntary: out of ignorance, or under coercion or compulsion.
Directly $\approx$ no mediation of, say, evidence gathering with the aim of believing $\diamond r$.
It is stipulated that he accepts $\diamond r$ non-coercively with the aim of assessing the bet and without mediation of evidence-gathering.

[9] See Appendix.

4. A Dual-Control Solution

THE OUTCOME of the discussion: potential of switching needs to be present for dealing with the flexibility of simplification at a given *act-token*.

But its not necessary that *all acts* of simplification are subject to direct and voluntary control.

Given that there are clear cases of voluntary simplification, I conclude that a dual-control view about simplification must be true: we should allow for both voluntary and involuntary doxastic states to play a simplification role.

How to appeal to both deliberate and automatic ways of simplifying our reasonings?

DISTINGUISH potential for direct voluntary control in how we reason $\neq$ the same type of control in the attitudes used to *undertake our reasoning*.

The distinction implies *degreed control* at different levels:

- Choice level: we select how to simplify our reasoning. Here, control can be either direct and voluntary (as with acceptance) or indirect (as with belief).
- Operational: our reasoning is at play, and the attitudes we have play their simplification roles without our control.

In simplified reasoning, we control which doxastic attitude $\mathcal{D}$ will be at play while we undertake our reasoning. But that doesn't mean the undertaking it self isn't automatic!

Dinges appeals to the blinking example:

> Staffel (2019, n.5) states [...] that 'we usually can't employ deliberative control over which claims we take for granted in framing a reasoning problem, this is done automatically and without our conscious awareness'. I agree that we often grant propositions 'automatically and without our conscious awareness' [...]. But it does not follow that we lack 'deliberative control'. Analogously, we often blink automatically without our conscious awareness. Nevertheless we can control our blinking if we want. (Dinges 2021, n. 4)

If my argument is right, then we lack control when reasoning itself is at play, when being undertaken. Control happens at the act-token when we simplify, and if it extends to the undertaking of reasoning itself it could defeat the simplification purpose by producing a regress.[10]

In argumentative exchanges or active disagreements: common expressions are "taking as true", "taking for granted", and "assuming". They mean oftentimes beliefs inferred from verbal behavior.

I don't take this to mean that involuntary doxastic states are *always* the things that people refer to when they talk about others assuming, taking as true or taking for granted p in an argument. What I take this to imply is that we need to make room for the involuntarism about simplification, given that there are low-hanging examples of involuntary acts of taking things for granted or assuming.

Non-ideal methodologies in epistemology call for psychologically realistic theorizing. This could involve simplifying when reasoning is at play. As limited reasoners, we can't help but assume things (involuntarily).

[10] When someone says: "oh, you are assuming p as true in your bad argument". You stop, reconsider, and stop assuming p. You were in control in the act of reflection, but you assumed p without deliberate control.

Appendix. Decision-Theoretic Framework

CONSIDER FOR ILLUSTRATION a decision problem[11] looking like this:

D

	S_1	S_2
A_1	$O_{1,1}$	$O_{1,2}$
A_2	$O_{2,1}$	$O_{2,2}$

Table 1: A 2x2 decision matrix problem representing a decision problem. The decision problem could be solved determining $U1 = MEU(D1)$

[11] A decision problem is a tuple $D = (A, S, O, U)$, where A represents a set of actions, S represents a set of states of the world, O represents the set $A \times S$ of outcomes and U is a stipulated, real-valued utility function.

Now consider a second, expanded[12] decision problem:

[12] See Joyce 1999, Ch 4.

D_1^+

	S_1	S_2	S_3
A_1	$O_{1,1}$	$O_{1,2}$	$O_{1,3}$
A_2	$O_{2,1}$	$O_{2,2}$	$O_{2,3}$

Table 2: A 2x3 decision matrix problem representing a slightly more complex decision problem. The decision problem could be solved determining $U2 = MEU(D2)$

But which of **D1** or **D2** should the decision maker solve?

D^2

	$U1 = U2$	$U1 < U2$
Solve **D1**	U1	U1
Solve **D2**	U2	U2

Table 3: A 2x2 decision matrix problem representing a decision problem. This decision problem can only be solved by MEU if D1 and D2 are already solved.

The example above illustrates one way in which the potential for controling simplification might go. Control involves the potential choice of solving either **D1** or **D2**.

Assume that **D1** simplifies reasoning because it disregards S_3. Rationality would be impossible for **D1** if rationality required having solved **D2** beforehand. But if potential control needs to be always present, then it would permit *going back* to **D1**, which is already irrational to go back to!

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