**COMPLEXITY, AKRASIA, COGNITIVE DISSONANCE, AND BURIDAN’S ASS**

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**ABSTRACT**

An important philosophical question relates to whether or not our decision-making practices are constrained or free (or, at least, mostly constrained or free). The notion of rationality (reason or logical thinking) is exemplary of the former, while a kind of radical voluntarism propounded by some post-structuralists is exemplary of the latter. The post-structuralist conception of decision-making – as a free (and largely unbridled) enterprise – predicts that we should witness people struggling to successfully and reliably make decisions. I intend to demonstrate that this is not the case. If so, then post-structuralists suffer a debilitating dilemma. They must either (a) retain their post-structuralist principles and accept that their view does not concord with how successful decision-making actually occurs or (b) accept that successful decision-making is constrained (by something like rationality) and thereby give up their view’s post-structuralist foundation. I will suggest that Option b is more tenable.

**Keywords:** Decision-making; rationality; complexity theory; voluntarism; Jacques Derrida; Edgar Morin

1. **Introduction**

An important issue in epistemology relates to how we do and can make successful choices when we act on or intervene in the world. Is there perhaps some norm of rationality or some nomological principle that can guide us? Or, are we largely lost in a haze of overdetermined alternatives with only the volitional will to call on? How we answer these questions has significant import for, not only philosophical inquiry but also practical socio-political and scientific affairs.

Post-structuralist views are often overlooked in contemporary scientific debates around decision-making. This is surprising given that post-structuralist motifs are widely expressed in the humanities and social sciences literature. Here, I will focus on a novel and nuanced post-structuralist position called Critical Complexity (CC) (notably developed in Cilliers, 1998 and Woermann, 2016; see also Hurst, 2010; Human, 2016; Preiser, 2019).

Proponents of CC draw on both complexity theory and Derrida’s post-structural semantics to argue that the world’s manifest complexity radically overdetermines rational decision-making. According to CCists, there are no non-contextual, non-provisional criteria or constraints that can determine our choices when we act on or intervene in the world. We are, they say, nonetheless, ethically compelled to do so (Derrida, 1999; Woermann and Cilliers, 2012). Despite the absence of rules or rationality, CCists follow Derrida in maintaining that actional and interventive decision-making is possible via an *existential* *leap* into the unknown. We can think of such a leap as an act of pure will or volitional freedom in the face of radical uncertainty due to the world’s overwhelming complexity. I will call this view *radical voluntarism* (RV).

CCists dismiss the kind of transcendental rationality that dominated 18th century epistemology, and then conclude with RV. In this paper, I will explore the merits of RV, specifically what it predicts about human behaviour. I argue that RV does not seem to describe how we *de facto* make choices when faced with complex situations or environments. If RV is correct, then we should either (a) behave in a random and erratic fashion or (b) be repeatedly frozen in doubt whenever faced with two or more choices in some complex actional or interventive scenario. This is, however, not what occurs. Instead, we seem to quite easily make choices day-to-day. This presents CCists with a dilemma: They must either (a) retain their post-structuralist moorings and accept that their view cannot account for successful decision-making or (b) accept that decision-making is constrained by something like rationality and thereby untether their view from its post-structuralist moorings. It is up to CCists how to proceed given this dilemma. I will, nonetheless, suggest that Option b is more viable.

A few things to note upfront. This paper centres around the notion of decision-making.[[1]](#endnote-1) I take ‘decision-making’ to be the act of performing or doing some activity in which we transition through time from a state of non-choice to choice-made (see [Author’s paper] for more). Decision-making is a cognitive process; it occurs in the mind, even if there are obviously physical (i.e. brain) mechanisms involved. As CCists would agree, decisions do not occur in an instant. They are, instead, transitional; there is a shift (or what some might call a ‘phrase transition’) from indecision to decision-made.

Examples need not necessarily involve ‘existential’ decisions related to, say, having a baby, religious belief, or assisted suicide when terminally ill. The kind of decision-making I have in mind is also exemplified in simple, everyday activities like making (or not making) a cup of coffee and opening (or not opening) a door. Consider an outwardly mundane activity like crossing the road. [Author’s paper] have suggested that such activities might involve agents performing a six-stage process: (1) set some pertinent goal, (2) use one’s senses to survey the environment, (3) draw on relevant memories, (4) formulate predictions about the behaviour of one’s environment and oneself, (5) make an appropriate decision based on Stages 1–4, and then (6) act accordingly (i.e. cross the road). For my purposes here, the most important stage is Stage 5.

So, in line with some goal (Stage 1) and informed by information gathered in sensation (Stage 2) and from memory (Stage 3), an agent makes a prediction (Stage 4). She then makes a concomitant decision to move forward (Stage 5). Assume that Stages 1–4 are functioning reliably (which they generally do given that we mostly cross the road successfully, even if there are, of course, accidents from time to time[[2]](#endnote-2)). Thus, based on Stages 1–4, the relevant decision will *ceteris paribus* produce a successful outcome.[[3]](#endnote-3) Action (Stage 6) – the road-crossing event itself – naturally follows from Stage 5. We might say that the decisional outcome of Stage 5 ‘activates’ (or stimulates) the agent’s relevant physiological apparatuses in such a way that she progresses towards her goal (the other side of the road) ([Author’s paper]). This is the kind of “decision-making” I have in mind when I use the term throughout the rest of the paper.

Decision-making and rationality are, of course, big topics. My aim here is neither to settle once and for all the metaphysics of decision-making and rationality nor to offer necessary and sufficient conditions for their instantiation. Rather, as stated, my aim is to call RV into question. Although RV is unique to a certain kind of post-structuralism, it resembles accounts of decision-making found in existentialist, contextualist, and post-modern literature more broadly (i.e. any account that treats decision-making as a largely free, rather than constrained, enterprise). My argument should, therefore, have import outside the direct focus of this paper.

Although I am going to present a philosophical argument rather than a scientific study, the originality of my thesis can be further identified by advancing the following working hypothesis:

If RV is correct, then we should witness people displaying radically indecisive behaviour; they should be overwhelmed by the world’s complexity and therefore struggle (or perhaps even find it impossible) to successfully and reliably make decisions.

In this sense, post-structuralist views like CC (at least tacitly) make an empirically testable prediction. I will, however, not conduct a rigorous scientific study per se. Following the philosophical tradition, I will employ the tools of argumentative rigour, cogency, and hopefully soundness to dialectically ‘test’ my working hypothesis. I will, nonetheless, discuss some pertinent cases from the topical empirical literature and personal experience.[[4]](#endnote-4)

In Section 2, I introduce CC and RV. I also outline the dilemma that RV seems to introduce for post-structuralists and why it is a problem. I then discuss some empirical cases that seem to call RV into question. In Section 3, I explicate Edgar Morin’s conception of rationality and how it might resolve the dilemma from Section 2. I also discuss the phenomena of cognitive dissonance, which I contend should result from RV but does not. In Section 4, I engage with two possible objections that CCists might make to my argument.

1. **Critical Complexity and radical voluntarism**

My goal in this section is to briefly outline CC and its discussion-worthy post-structuralist understanding of decision-making. I will emphasise CC’s criticism of the idea that rationality can serve as a criterion or constraint on decision-making and that the proper alternative – RV – involves a ‘blind’ existential leap into the unknown.[[5]](#endnote-5)

***2.1. Différance and trace***

For Derrida, a semantic system – such as a language – has no centre. There is no locus or ground of meaning. Instead, meaning is constituted by the many differences between signs making up the system.

*Différance*

According to Derrida, meaning is *generated* by the endlessly iterative interactions of differences. This is the so-called “play of *différance*”. Although reluctant to define the term precisely, Derrida suggests that his much-debated concept (qua non-concept) of *différance* is

the systematic play of differences, of the traces of differences, of the spacing by means of which elements are related to each other. This spacing is the simultaneously active and passive… (1981, p. 27).

*Différance* is the generator, but not the ground, of meaning; meaning is always elusive (Derrida, 1982, 1988; Gasché, 1986; Cilliers, 1998 ch 3; Woermann, 2016 ch 3). For Derrida, the meaning in some linguistic system cannot be codified into a linear and deterministic nomological structure. Meaning is never fully present to an epistemic inquirer. *Différance* endlessly plays in all semantic systems; it *disrupts* the closure of meaning and any knowledge that purports to rely on meaning.

CCists draw inspiration from this radical semantics. Tanya De Villiers-Botha and Paul Cilliers, for instance, state that

meaning is not static or final – it is always deferred. The process in which meaning is generated is suspended somewhere between active and passive. The sign is produced by the system, but at the same time the meaning that is generated for it through the process of *différance* reverberates through the system, influencing other signs (2010, p. 31).

According to Minka Woermann, *différance* is “neither oppositional nor dialectic, but *aporetic*” (2016, p. 64 original emphasis). She concludes that the “force” of *différance* “signifies the irreparable loss of meaning”; it “destroys the... possibility of saturated meaning”; it “threatens the total ruination of meaning” (2016, p. 100). Further, “meaning is the product of conceptual hierarchies, which are necessarily partial and exclusive, and which therefore require intervention” (Woermann, 2016, p. 105). All meaning is, thus, necessarily provisional and prone to *différance’s* disruptive power.

In the context of complexity, Cilliers (2010) thinks that *différance* constitutes the *dynamics* of a complex system. For Woermann, *différance* is the “play of disorder, anti-organisation, and entropy” in and around a complex system (2016, p. 64). *Différance*, she says, is Derrida’s “organisational principle”; it generates the structure of a complex system even if this structure can never be semantically closed or epistemically captured (Woermann, 2016, p. 187). This means that “complex systems are “necessarily open (and even open to an absolute collapse)” (Woermann, 2016, p. 81). Meaning made fully present would entail total equilibrium and therefore the death of the system.

*Trace*

For Derrida, nothing “either in the elements or in the system, is anywhere simply present or absent. There are only, everywhere, differences and traces of traces” (1981, p. 26). For CC-style post-structuralists, the signs that constitute the elements of a linguistic or complex system have no unique semantic content. A sign only consists in the *trace* of other elements in the system. As Cilliers puts it, “[t]he sign has no component that belongs to itself only; it is merely a collection of the traces of every other sign running through it” (1998, p. 44). On Derrida’s account, traces do not emanate from some fixed point. They have no origin; they are always at play in the system. A sign both produces and is a product of the system.

***2.2.******CC on rationality***

CCists take the ungroundedness of meaning to have wide-reaching implications for key philosophical concepts like truth, reality, and (most importantly for my purposes) rationality. Given *différance’s* disruptive effect, we can never grasp an objective truth, reality, or notion of rationality (Woermann and Cilliers, 2012). Rationality is endlessly underdetermined by complexity (whether in physical systems, semantic systems, ethical systems, or the like).

In CC, *the self* is also a kind of complex system and therefore ungrounded and decentred (de Villiers-Botha and Cilliers, 2010). CC, says Woermann, challenges

the Cartesian humanist subject and the predicates of subjecthood… [T]his challenge results in a so-called *liquidated subject,* wherein the notion of the subject no longer corresponds with any fixed or signified content, but is instead characterised as a decentred and complex construction (2016, p. 11 original emphasis).

The same goes for any standard or principle (e.g. rationality) that pretends to ground the subject and its decision-making practices.

CC stands against the idea that “the world can be made rationally transparent and can yield objective and universal knowledge” (Woermann, 2016, p. 88; see also Cilliers, 2000b). The subject cannot secure or fix on putatively rational principles because of *différance’s* interference in any such semantic or epistemic aspirations. According to Woermann,

it is *because* of complexity, or the non-closure of meaning, that our decisions and actions cannot be objectively described. Instead, we must engage in contingency, alterity, and the over-determinations that characterise our contexts (all of which involve judgement and sense-making that surpass calculation and pure rational argumentation) (2016, p. 8 original emphasis).[[6]](#endnote-6)

This engagement in “contingency, alterity, and the over-determinations that characterise our contexts” introduces RV.

***2.3. RV: A leap into the unknown***

According to Derrida, we have to “go through an ordeal of undecidability in order to decide. So, to that extent the result, by definition, is unpredictable, unknown” (Derrida in Cilliers et al., 2016, p. 173; see also Human, 2016). We undergo a “terrible experience of undecidability” preceding action or intervention in the world (Woermann 2016: 180). This ordeal – this moment of “fear and trembling” (Derrida, 1999, p. 66) – ineliminably accompanies our decision-making practises due to the absence of a determinant decisional criterion or constraint, such as rationality.[[7]](#endnote-7),[[8]](#endnote-8)

For CCists, this situation indubitably introduces normativity, specifically *ethics*. Cilliers writes that, due to our limited capabilities, interpretation is always involved in modelling complex systems:

[I]nterpretation is never a merely mechanical process, but one that involves decisions and values. This implies a normative dimension to the ‘management’ of knowledge... Interpretation implies a reduction in complexity. The responsibility for the effects of this reduction cannot be shifted away... (2000b, p. 12).

We must, then, “reduce” the world’s complexity during our decisional practices, and this means that we can never be certain. A pertinent decision depends on us – as human agents engaging with complexity – when we act in and on the world. For CCists, a decision is, consequently and unavoidably, ethical. It is up to *us*; we cannot defer responsibility for our actions onto something outside ourselves. CCists thus replace conservative, prescriptive ethical doctrines with a post-modern ethics, one that connotes situatedness, volition, disruption, and transformation. This “ethics of complexity” invites us to “radical self-critique” (Preiser and Cilliers, 2010, p. 276). We cannot judge or instruct the world without including ourselves; we are not detached moral spectators.

Despite this radical conception of decision-making, CCists recognise that we somehow successfully make decisions and act on and intervene in our complex world. For Derrida, we do so – we overcome the ordeal of undecidability – by performing a kind of “leap” from undecidability to decidability. Such a leap “not only threatens a break with science in the strict sense, but with philosophy as ontology, as knowledge...” (Derrida in Cilliers et al., 2016, p. 173). Without the guidance (and safety) of truth, objectivity, or rationality, we undergo a moment of pure volition, one that compels us to choose one actional course over another.

This notably introduces *freedom*. As mentioned, CCists maintain that rationality is radically overdetermined by complexity, and “it is these overdeterminations that generate freedom...” (Woermann and Cilliers, 2012, p. 455). We are not bound by constraining decisional rules; instead, *we* are the determiners. But, with freedom comes responsibility (Derrida, 2002; Cilliers, 2005; Woermann, 2016). For Derrida and CCists, the moment of undecidability – the moment we make a decision – is unavoidably ethical given its non-rational nature. As Preiser et al. put it, the “ethical moment is situated in the moment in which we take the leap from that which is known to that which is uncertain or unknown…” (2013, pp. 270–271). This is RV. RV entails an ethically imbued moment of radical uncertainty, one that results in a putatively effective, but arational, actional choice.

Beyond this, it remains largely mysterious what exactly such an “ethical moment” entails on Derrida’s and CC’s accounts. Attempting to account for such a moment would presumably introduce the kind of criteria or constraints that are not allowed.[[9]](#endnote-9) But, one naturally wonders how *successful* decision-making is possible if all decisions ultimately result from the seemingly pure volition at the heart of RV. If there are no discernible *norms* for decision-making, then how do we make successful decisions throughout each day?

Today, I decided to get out of bed, I decided to come to work, and I then decided to continue writing this paper where I left off yesterday. These are just three of the countless decisions I made today. Most of us would surely consider these decisions successful on any non-trivial definition of ‘success’. I further made these decisions without anything ostensibly resembling fear and trembling. As we act on and intervene in our complex world moment-to-moment, we repeatedly make decisions that are *prima facie* successful but resemble nothing like a Derridean crisis. This should be impossible were RV correct.

Moreover, if decisional actions involve ethical leaps, then one wonders why we leap one way rather than another. CC’s appeal to ethics seems unsatisfactory unless this ethics is suitably criterial or constraining, which post-structuralist principles forbid. CC cannot explain why we decide this way rather than that. The view seems to suggest that we are ‘lost at sea’ – adrift and rudderless in a vast ocean of complexity.

* 1. ***Akrasia and Buridan’s ass***

I contend that, if nothing determined why we choose some option over another, then we would either (a) behave in a random and erratic manner or (b) be perpetually frozen in decisional doubt.

Regarding (a), akrasia is perhaps the clearest example of practical irrationality (see Stroud and Svirsky 2021). It is often translated as “lack of self-control” or “weakness of will” – the disposition to act against one’s own interests or against one’s considered judgment. People sometimes act in ways that are contrary to their best interests, moral principles, or long-term goals (e.g. smoking cigarettes or eating overindulgently). Were RV correct, then we should witness an extreme version of akrasia. Not only would people behave against their own interests and better judgement, but they would seemingly have no way to make decisions in the first place. They would simply be out of control (their movements and behaviours would be entirely randomly generated).

Regarding (b), Buridan’s ass famously dies of hunger when presented with two equidistant bales of hay of the same size and quality. Buridan’s ass freezes in indecision due to being a perfect (or Cartesian) rational creature ‘deciding’ between two equally enticing options. CCists claim the opposite (we make decisions by an act of pure volition in the absence of rationality). Yet, Buridan’s dilemma applies either way. A creature that is deficient of rationality – i.e. a creature with no decisional (or volitional) constraints – should, likewise, be unable to make a choice. Consider two cases – one from the scientific literature and one from personal experience.

The first comes from Gerd Gigerenzer, who has developed the much-discussed notion of “ecological rationality” (see [Author’s paper] for an overview). Gigerenzer (2021) invokes the example of a baseball outfielder catching a flyball. The outfielder does not perform anything like a mathematical (or Cartesian) calculation related to measurements of height, distance, mass, acceleration, and like. She is also not overwhelmed by the complexity of the situation (which might invoke RV). Instead, she follows what Gigerenzer calls the “gaze heuristic” (a kind of ‘rule of thumb’): Fixate your eyes on the ball, run, and adjust your speed so that the angle of gaze remains constant (2021, 5). To engage in rational (i.e. goal-attaining) decision-making, the outfielder need only have the ability to (1) hold her gaze on the ball, (2) run, and (3) adjust her running speed. She thus makes decisions quite easily and naturally without akrasia or Buridan’s ass-style vacillation.

The second case comes from personal experience, and is more closely related to the kind of ethical scenarios that CCists are concerned with. When walking through the centre of the town where I live, I am often confronted by panhandlers. On each occasion, I have to make a decision: give some money or shrug and say, “No, sorry”. Although similar, each encounter with a panhandler is slightly different and involves much complexity (viz. linguistic variance and nuance, ambient conditions, my mood on any given day, the movement and chatter of other pedestrians, and the like). Nonetheless, I consistently decline to give money to panhandlers. This consistency in behaviour is based on the advice of relevant experts, who encourage us to give money to reputable charities rather than to people on the street. This decisional consistency seems to violate RV. As before, I can (despite complexity) reliably make the same choice in each case (and will likely continue to do so). I am not prone to akratic or Buridan’s ass-style indecision.

We do not generally witness either of these scenarios in the ‘real world’. If so, then, contra RV, *successful* decision-making must seemingly be determined – or, at least, strongly influenced – by some criterion or constraint (or criteria or constraints).

1. **Morinean rationality and the need for constraint/s**

I have outlined CC and its alternative to rational decision-making (RV). As argued, RV invokes a troublesome dilemma for CCists (and probably post-structuralists in general). In this section, I briefly outline Edgar Morin’s account of rationality. Since CCists already draw inspiration from Morin , they might be open to embracing his notion of rationality and abandoning RV. I also discuss a kind of “aporetic” logic or rationality that CCists sometimes put forward. Lastly, I discuss cognitive dissonance, which should arguably accompany a decision-making procedure like RV.

* 1. ***Morin on rationality***

CCists sometimes cite Morin’s writings on complexity, but seem to overlook his views on rationality. Morin acknowledges CC’s kind of decisional and actional freedom, but also recognises the need for constraints or what he calls “conditions”. He writes:

Freedom can be defined as the possibility of choice between diverse alternatives. Freedom also presupposes two conditions. To begin with, there is an internal condition, involving the cerebral, mental, and intellectual ability to consider a situation and establish choices and chances of success. Then there are external conditions which render the choices possible (Morin, 2008, p. 78).

Morin’s “internal condition” involves what we would normally call rationality: Our capacity for rationality grants us the ability to “consider a situation and establish choices and chances of success”. Morin’s external condition is the way the world ‘out there’ is (independent of us).

Following Derrida, CCists do not recognise either of these decisional constraints. Instead, only the endless play of *différance* and traces informs our decisional (never mind semantic and epistemic) activities. This is why we are putatively *free*. Yet, Morin maintains that, for there to be freedom,

there must be the possibility of decision and choice. There must, therefore, be a self-eco-organizing being capable of computing and cogitating the situations that confront it, capable of deciding between scenarios and commanding the chosen action… Free action depends upon the knowledge and utilization of determinations (constants, structures, laws) (2008, p. 114).

Morin thus allows for some kind of rational ground to decision-making (*viz*. “the knowledge and utilization of determinations”).

In sum, we can see that, for Morin, there are two “conditions” (or determinations, criteria, or constraints) for decision-making:

C1: An internal condition: A cognitive ability – *viz*. rationality – that can determine, or at least strongly inform, decision-making in a way that engenders a successful outcome.

C2: An external condition: A way the world is ‘out there’ independent of us, which constricts our range of decisional options at any given moment.

CCists cannot appeal to either C1 or C2 because of the implications of Derridean semantics

The inability to appeal to C2 is a problem CCists must surely deal with, but it is not my immediate concern here. My concern is specifically with the notion of rationality contained in C1.

* 1. ***Aporetic rationality?***

I have suggested that CC’s lack of an internal criterion like C1 leads to outwardly absurd empirical consequences (*viz*. akratic or Buridan’s ass scenarios). These are consequences that we do not witness in the world around us. In dealing with these kinds of problems, Oliver Human has suggested that CC “harbours a somewhat ironic dimension” (2016: 53 fn 9). This involves dealing with “uncertainty through the use of *reason*... defined as a wager between the calculable and the incalculable” (Human and Cilliers, 2013, p. 34 emphasis added). According to Preiser et al.,

the logic of [CC-style] thinking proposes a type of thinking that necessitates a double movement... It suggests that the concept and its counterpart (the *yes* and the *no*) are thought simultaneously (2013, p. 269 original emphasis; see also Woermann, 2010, p. 174, 2016, pp. 68–71; Hurst 2010, p. 241).

Cilliers calls this style of dialethic reasoning a “‘postmodern’ form of rationality” (1998, p. 145 fn 5). Woermann refers to it as a “both/and” logic (2010, p. 174; see also Stacey, 2003).

So, there might be a kind of rationality in play, but it is defined in terms of what post-structuralists call “aporia” (a logical disjunction). CCists also refer to an “aporetic logic” – a logic that embraces paradoxes and contradictions (Woermann, 2016, pp. 67–81; see also Derrida, 1988, p. 116).[[10]](#endnote-12) We must think both closed and open, both randomness and predictability, both yes and no, both p and ~p, both rational and arational (Woermann, 2016, p. 118; see also Hurst, 2010, pp. 243–246).[[11]](#endnote-13)

According to Derrida, aporia is neither an “apparent or illusionary” inconsistency nor a Hegelian dialectical contradiction (an antithesis) (1993, p. 16). It is, instead, a puzzle or an impasse we encounter, one that results in a feeling of perplexity. Citing Antony Flew (1984), Gulshan Kahn states that aporias are “blocked passageways within arguments or within philosophical reasoning and logic; they ‘raise questions and objections, without necessary providing answers’” (2019, p. 6). If so, then aporias do not signal dead-ends; instead, they purportedly produce new avenues for philosophical investigation and enlightenment.

The problem is that post-structuralists are not quite clear about how we should engage with aporia. We are instructed to “embrace” it, but it remains vague what this entails. In other words, we are supposed to embrace contradictions (e.g. p and ~p), but it is unclear how this is supposed to help in decision-making (let alone explain it). Let us say that, while travelling, I am confronted with a fork in the road. I must choose left or right. Post-structuralist aporia seems to suggest that I should take both. I should embrace both left and right. As Yogi Berra put it, ‘When you come to a fork in the road, take it”. I do not think that Berra was a post-structuralist. Instead, he seems to have been relying on the absurdity of his claim for the sake of humour.

It is worth noting at this point that Morin sometimes falls prey to CC’s style of paradoxical thinking (*viz.* aporetic logic). He states that to conceive of complexity science, we need to apprehend “unity and diversity at the same time, continuity and rupture”; “chance/necessity, quantity/quality, subject/object... holism/reductionism” (Morin, 2008, pp. 31–33; see also 2007, p. 13). It is, however, questionable whether we can simultaneously think contradictory concepts like this. What does it mean to apprehend unity and diversity, for example, “at the same time”? Personally, I can think about one and then the other (and the first one again, and so on), but I cannot comprehend these juxtapositional concepts simultaneously. I suspect that I am not the only one. I challenge non-post-structuralist readers to try it; I predict certain failure. Doing so would be akin to concurrently visualising black and white, which does not seem possible (thinking of grey does not count). If aporetic thinking is a special cognitive skill that only post-structuralists have mastered, then it would be nice if they told the rest of us how to do it. So far, I have not found such an instruction in the post-structuralist literature.

Like Morin, Derrida and CCists ask us to concurrently think antithetical or binary concepts. We must think both yes and no – both positive and negative or true and false – at the same time if we want to understand and engage in a post-modern kind of meaning, knowledge, and decision-making. Yet, how exactly post-structuralists (and Morin) can achieve this outwardly superhuman feat remains unclear.

* 1. ***Cognitive dissonance***

The kind of aporetic ‘reason’ (or ‘rationality’) I have been discussing can be written down (Graham Priest’s [2006] paraconsistent logic comes to mind). But, I do not believe that it can be *thought* (*viz*. concurrently holding p and ∼p in cognitive awareness). CCists state that “grappling” with complexity requires us to embrace, rather than reject, contradictory thinking. Yet, doing so should arguably lead to a kind of cognitive dissonance. According to Leon Festinger’s (1957) theory of cognitive dissonance, we seek psychological consistency in order to function in the world. Psychological inconsistency – i.e. contradictory beliefs resulting from confusing data – causes a sense of discomfort; it is stressful to hold paradoxical beliefs.[[12]](#endnote-14) To relieve this stress, we either adjust our ‘web of beliefs’ (as Quine [1951] would put it) or try to sort the data in such a way that it is comprehensible.[[13]](#endnote-15)

Buridan’s ass surely suffers this sort of cognitive dissonance (assuming that equids have the appropriate cognitive apparatus to do so). Buridan’s ass is frozen in absolute undecidability between two equally compelling options. Attempting to think both p and ∼p (or both yes and no or both true and false) without preferencing one over the other seems to equate to an extreme kind of doubt. Alternatively, such a state of perfect equilibrium represents a radical kind of agnosticism. In any event, if we take CC’s aporetic logic seriously, then choice and action in the world should be impossible. We should (like Buridan’s ass) be perpetually frozen in radical doubt (or full-blown agnosticism) whenever faced with some choice in our complex world.

CCists do, nonetheless, sometimes mention “constraints” of sorts. Here are some examples:

* “Complexity research recognises that systems and individuals are co-terminus, in that systems create certain opportunities for, and constraints on, human behaviour; and human behaviour – in turn – influences these systems through collective action” (Preiser and Woermann, 2019, p. 40).
* “[E]xistence is constrained and restricted by itself; there is nothing beyond existence” (Woermann, 2016, p. 189).
* “[The characteristics of complex systems] are all heuristic, in the sense that they provide a general set of guidelines or constraints” (Cilliers, 2000a, p. 27).
* “[A system is] dependent upon the limits or constraints determined by the relationships between the components in the system” (Human and Cilliers, 2013, p. 27).

However, I cannot find any mention in the CC literature of C1-style constraints on decision-making (i.e. the kind of constraints that would avoid Buridan’s ass or cognitive dissonance scenarios).

In any event, on a post-structuralist account, constraints (of whatever sort) can only be contextually compelling. They are always situated and operationally relativised – always fluid and contingent. There are no context-extrinsic criteria or imperatives to determine (or even strongly inform) decisional thought and action.

Interestingly, Kurt Richardson et al. (at least one of whom is a CCist) have noted that taking all perspectives into account “is all well and good, but decision-makers would be frozen by the plethora of possibilities that such paradigmatic freedom offers – the familiar *paralysis by analysis*” (2001, p. 14 original emphasis). Richardson et al. go on to suggest that, although “[e]xploration both within and without different perspectives is encouraged”, a plethora of perspectives requires “management” or “facilitation” (2001, p. 14). This kind of “management” or “facilitation” would invoke the kind of constraint(s) I am intimating.

Of course, rationality is a candidate for managing or facilitating our decisional activities, but CCists have already ruled this option out. In fact, as we have seen, post-structuralism forbids any (dictatorial or oppressive) manager or facilitator in pertinent scenarios. Such a manager or facilitator would violate the decisional and actional freedom we are supposed to enjoy. It would introduce exactly the kind of oppressive hierarchy CCists (and post-structuralists generally) set out to ‘deconstruct’ (see Endnote vii). Richardson et al. consequently go on to suggest that

the theoretical insights offered by any framework should not be used to *determine* our explorations, but considered as an offering of *direction*, or simply as a source of creativity to fuel the exploration process (2001, p. 14 original emphasis).

So, as before, *we* decide. Constraints (or Morinean “conditions”) like rationality can only serve as a source of creativity during decision-making. This suggests RV. The problem is that, as argued, this would seemingly lead to Buridan’s ass or cognitive dissonance scenarios. And, we do not witness such scenarios when we observe everyday agents making everyday decisions around us. Thus, instead of revelling in aporia, we should perhaps seek to avoid the cognitive dissonance that would seemingly result from being confronted with the decisional practice CCists encourage. Resolving, rather than embracing, contradictions seems to engender successful decisional practices.

I hope to have shown that CCists (and probably post-structuralists in general) lack a cogent account of decision-making. They lack decisional constraints (or Morinean “conditions”). I have focused on C1 – an internal condition. To avoid Buridan’s ass or cognitive dissonance scenarios, we need some cognitive principle (some manager or facilitator) that can determine (or, at least, strongly inform) our decision-making processes. Rationality is an obvious candidate, but this option is ruled out by post-structuralism’s own dictates. This leads to the dilemma I outlined at the beginning of this paper.

I am not sure what exactly the way forward for CCists should be. They appear in need of some C1-style constraint, but it is unclear what such a thing would look like. It seems impossible to invoke one without abandoning RV, which is a core feature of CC (and seemingly post-structuralism more generally). CCists will, I think, have to choose between these two options:

1. *Bite the bullet*. CCists can simply live with the putative fact that their view entails outwardly absurd consequences. CC entails an account of decision-making that does not comport with the actual decision-making activities of actual people.
2. *Acquiesce*. CCists can accept that there is some freedom-violating constraint on decision-making (e.g. rationality). This would, though, involve giving up RV. CC would then desist being a version of post-structuralism (at least a conventional kind).

I suggest Option b, but it is, in the end, up to CCists how will they proceed given this dilemmic situation.

1. **Possible objections and replies**

In this section, I anticipate two possible responses that CCists might make to my argument. I then respond to each.

*Objection 1*

CCists might respond that we should embrace cognitive dissonance. They might say that this is part of the challenge post-structuralists must face; no one said it would be easy.

Arguably, cognitive dissonance is, however, a mechanism built into us by natural selection, one that helps us navigate the world successfully (recall Section 3.3). Admittedly, we sometimes engage in *post hoc* rationalising or fudge the data to relieve cognitive dissonance (Quilty-Dunn 2020). But, on average, relieving cognitive dissonance helps us successfully (and rationally) interact with the evidence we encounter. Generally speaking, the desire to relieve cognitive dissonance seems to help align our thoughts, beliefs, and actions with our goals (e.g. the goal to survive and flourish in a recalcitrant and sometimes dangerous world). If not, then one wonders why it would have evolved in the first place.[[14]](#endnote-16) As Leonid Perlovsky puts it,

[t]he unity of psyche [i.e. a lack of cognitive dissonance] is paramount for concentrating the will and for survival. Those of our progenitors who could combine the advantages of differentiated language and knowledge with the unity of psyche and the ability to concentrate the will received survival benefits (2013, p. 1).

Moreover, the cognitive faculties that engender our survival must (*ceteris paribus*) reliably track truths about an objective world ‘out there’ (Vlerick and Broadbent, 2015; [Author’s paper]). If so, then embracing, rather than dispelling, cognitive dissonance would render our thoughts, beliefs, and (of course) decisions misaligned with the objects and processes occurring in the world. As before, this is not what we see in the world around us. People regularly and reliably navigate the (complex) world to attain various goals (see also [Author’s paper]).

*Objection 2*

CCists might also respond that, of course, we perform successful decisions and actions day to day. They might say that CC’s goal is only a modest one. They only intend to remind us that our choices are ethically loaded; there is always some *degree* of undecidability and therefore freedom.

Indeed; as CCists often emphasise, we are not *absolutely* rational and the world is not *perfectly* predictable. Presumably, only ‘God’ can engage in *completely* successful decision-making practices. As Morin puts it, rationality “never has the ambition to exhaustively hold the totality of reality in a logical system”; it is nonetheless “our only trustworthy instrument of knowledge...” (2008, p. 47). I would add that rationality is also “our only trustworthy instrument for decision-making”. Even if it is not a totalitarian constraint, rationality is, at least, a constraint of some sort. Even if it does not *determine* our decisional practices, it can strongly inform them, and this is, arguably, enough to avoid Buridan’s ass and cognitive dissonance scenarios (even if the details of how exactly this occurs must wait for a future paper).

In any case, even if these things come in degrees, CC (via RV) drastically overstates the extent to which we are decisionally free rather than constrained (at least when it comes to *successful*, rather than akratic, decision-making). Although an emphasis on volitional freedom is inspiring (even liberating), it is important not to put forward misleading rhetoric when it comes to the degree to which this is the case. As argued, there must be decisional constraint/s, and post-structuralists would do well to (a) explicitly recognise as much and (b) explicate what such constraint/s might look like.

1. **Conclusion**

I have discussed a post-structuralist view called CC. CCists bring lessons from Derrida’s semantics to complexity science. This is a novel and thought-provoking approach. I have, though, suggested that CCists (and probably post-structuralists more generally) fail to account for successful decision-making. CCists put forward RV, but, as argued, this should lead to bizarre practical outcomes – outcomes that we do not witness when observing people engaged in decision-making activities.

We can now return to the working hypothesis from the introduction. As mentioned, CC makes an empirically testable prediction (we should witness people displaying radically indecisive behaviour). The arguments and cases I have invoked should have demonstrated that people do *not* display radically indecisive behaviour. In fact, we can see that people seem to regularly and reliably make successful decisions day-to-day. Although I did not conduct a thorough scientific study (involving a control group, explicitly stated dependent and independent variables, and the like), the cases I mentioned (Section 2) should be enough to call RV into doubt.

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**References**

Cilliers, P. (1998). Complexity and postmodernism: Understanding complex systems. London: Routledge.

Cilliers, P. (2000a). “What can we learn from a theory of complexity?”, Emergence, Vol. 12 No. 1, pp. 23–33.

Cilliers, P. (2000b). (Knowledge, complexity, and understanding”, Emergence, Vol. 2 No. 4, pp. 7–13.

Cilliers, P. (2005). “Complexity, deconstruction and relativism”, Theory, Culture & Society, Vol. 22 No. 5, pp. 255–267.

Cilliers, P. (2010). “Difference, identity and complexity”, P, Cilliers and K. Preiser (Eds.), Issues in business ethics: Complexity, difference and identity, London: Springer, pp. 1 – 18.

Cilliers, P., van der Merwe, W. and Degennar, J. (2016). “Justice, law and philosophy: An interview with Jacques Derrida”, R. Preiser (Ed.), Paul Cilliers, critical complexity: Collected essays, Berlin: De Gruyter, pp. 171–180.

Culler, J. D. (1982). On deconstruction: Theory and criticism after structuralism. New York: Cornell University Press.

De Villiers-Botha, T. and Cilliers, P. (2010). “The complex ‘I’: The formation of identity in complex systems”, P, Cilliers and K. Preiser (Eds.), Issues in business ethics: Complexity, difference and identity, London: Springer, pp. 19–38.

Derrida, J. (1981). Positions. Chicago: University of Chicago Press.

Derrida, J. (1982). “Différance”, in Margins of philosophy, A. Bass (Trans.), Chicago: University of Chicago Press, pp. 1–28.

Derrida, J. (1988). Limited inc., G. Graff (ed.), S. Weber (Trans.), Evanston: Northern Western University Press.

Derrida, J. (1993). Aporias, T. Dutoit (Trans.), Stanford: Stanford University Press.

Derrida, J. (1995). The gift of death, D. Wills (Trans), Chicago: University of Chicago Press.

Derrida, J. (1999). “Hospitality, justice and responsibility: A dialogue with Jacques Derrida”, R. Kearney and M. Dooley (Eds.), Questioning ethics: Contemporary debates in philosophy, London/New York: Routledge, pp. 65–68.

Derrida, J. (2002). “Ethics and politics today”, In Negotiations: Interventions and interviews, 1971–2001, E. Rottenberg (Ed. and Trans.), Stanford: Stanford University Press, pp. 295–314.

Egan, L. C., Santos, L. R. And Bloom, P. (2007). “The origins of cognitive dissonance: Evidence from children and monkeys”, Psychological Science, Vol. 18 No. 11, pp. 978–983.

Festinger, L. (1957). A theory of cognitive dissonance. California: Stanford University Press.

Flew, A. (1984). A dictionary of philosophy. London: Macmillan.

Gasché, R. (1986). The tain of the mirror: Derrida and the philosophy of reflection. Cambridge, MA: Harvard University Press.

Gigerenzer, G. (2021). Embodied heuristics. Frontiers in Psychology, Vol. 12, Article 4243.

Gilbert, D.T. (2006). Stumbling on happiness. New York: Vintage Books.

Hetmański, M. (2018). Rationality and decision making: From normative rules to heuristics. Leiden: Brill.

Human, O. (2016). “Potential novelty: Towards an understanding of novelty without an event”, Theory, Culture & Society. Vol. 32 No. 4, pp. 45–63.

Human, O. and Cilliers, P. (2013). “Towards an economy of complexity: Derrida, Morin and Bataille”, Theory Culture Society, Vol. 30 No. 5, pp. 24–44.

Hurst, A. 2010. “Complexity and the idea of human development”, South African Journal of Philosophy, Vol. 29 No. 3, pp. 233–252.

Kabat-Zinn, J. (1990). Full catastrophe living: Using the wisdom of your body and mind to face stress, pain and illness. New York, NY: Delacort.

Kahn, G. (2019). “Rereading Habermas's charge of ‘performative contradiction’ in light of Derrida’s account of the paradoxes of philosophical grounding”, Constellations, Vol. 26 No. 1, pp. 3–17.

Levinas, E. (1991). Difficult freedom: Essays on Judaism, Seán Hand (Trans.), London: Athlone.

Morçöl, G. (2001). “What is complexity science? Postmodernist or postpositivist?”, Emergence, Vol. 3 No. 1, pp. 104–119.

Morin, E. (2007). “Restricted complexity, general complexity”, C. Gershenson, D. Aerts, and B. Edmonds (Eds.), C. Gershenson (Trans.), Worldviews, science and us: Philosophy and complexity, Singapore: World Scientific, pp. 5–29.

Morin, E. (2008). On complexity. S. M. Kelly (Trans.), Cresskill: Hampton Press.

Newell, B. R., Lagnaado, D. A., and Shanks, D. R. (2022). Straight Choices: The Psychology of Decision Making, 3rd Edition. London: Psychology Press.

Perlovsky, L. (2013). “A challenge to human evolution-cognitive dissonance”, Frontiers of Psychology, Vol. 4, Article 179.

Priest, G. (2013). Doubt truth to be a liar. Oxford: Oxford University Press.

Preiser, R. (2019). “Identifying general trends and patterns in complex systems research: An overview of theoretical and practical implications”, Systems Research and Behavioral Science, Vol. 36. No. 5, pp. 706–714.

Preiser, R. and P. Cilliers. (2010). “Unpacking the ethics of complexity: Concluding reflections”, P. Cilliers and R. Preiser (Eds.), Complexity, difference and identity, London: Springer, pp. 265–287.

Preiser, R., Cilliers, P. and Human, O. (2013). “Deconstruction and complexity: A critical economy”, South African Journal of Philosophy, Vol. 32 No. 3, pp. 261–273.

Preiser, R. and Woermann, M. (2019). “Complexity, philosophy and ethics”, V. Galaz (Ed.), Global challenges, governance, and complexity: Applications and frontiers, Cheltenham: Edward Elgar Publishing, pp. 38–62.

Richardson, K. A., Cilliers, P., and Lissack, M. (2001). “Complexity science: A ‘gray’ science for the ‘stuff in between’”, Emergence, Vol. 3 No. 2, pp. 6–18.

Quilty-Dunn, J. (2020). “Rationalization is irrational and self-serving, but useful”, Behavioral and Brain Sciences, Vol. 43, Article. E42.

Quine, W. V. O. 1951, “Two dogmas of empiricism”, Philosophical Review, Vol. 60 No. 1, pp. 20–43.

Stacey, R. D. (2003). Complexity and group processes: A radical social understanding of individuals. London: Routledge.

Stroud, S. and Svirsky, L. (2021). “Weakness of will”, E. N. Zalta (Ed.), The Stanford Encyclopedia of Philosophy, URL = <https://plato.stanford.edu/archives/win2021/entries/weakness-will/>.

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[Author’s paper]

[Author’s paper]

Vlerick, M. and Broadbent, A. (2015). “Evolution and epistemic justification”, Dialectica Vol. 69 No. 2, pp. 185–203.

Woermann, M. (2016). Bridging complexity and post-structuralism: Insights and implications. Cham: Springer.

Woermann, M. and Cilliers, P. (2012). “The ethics of complexity and the complexity of ethics”, South African Journal of Philosophy, Vol. 31 No. 2, pp. 447–464.

Woermann, M., Human, O. and Preiser, R. (2018). “General complexity: A philosophical and critical perspective”, Emergence: Complexity and Organization, Vol. 20 No. 2, pp. 1–18.

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1. See the collection in Hetmański (2018) for an overview of the current debate around decision-making and rationality (or the lack thereof). [↑](#endnote-ref-1)
2. See [Author’s paper] for more on the statistical reliability of our general road-crossing practices. [↑](#endnote-ref-2)
3. A discussion of the exact cognitive mechanisms involved is outside the scope of this paper (see, however, Newell et al., 2022 for an overview of the options currently available). [↑](#endnote-ref-3)
4. Thank you to an anonymous reviewer for suggesting that I include this paragraph. [↑](#endnote-ref-4)
5. Post-structuralists often complain of being misunderstood and misrepresented. I will, therefore, quote quite extensively in this section. [↑](#endnote-ref-5)
6. CCists sometimes advocate for what they call “self-critical rationality”. This is “a rationality that makes no claim for objectivity, or for any special status for the grounds from which the claim is made” (Cilliers in Woermann 2016: 106). It is, though, not at all clear whether this counts as a kind of rationality. It seems to me that the definition of ‘rationality’ is being stretched beyond comprehension here. [↑](#endnote-ref-6)
7. Post-structuralists cannot ostensibly delineate between decisional cases that involve this kind of ordeal and seemingly ‘easy’ cases (like deciding to cross the road) ([Author’s paper]; see also Morçöl’s [2001] criticism of CC). This is because, on post-structuralism, all such distinctions can, and should, be *deconstructed*. Post-structuralist deconstruction involves identifying and then disrupting – i.e. collapsing or perhaps reversing – any distinctions due to their hierarchical, exclusionary, and oppressive nature (see Culler 1982 for detail). [↑](#endnote-ref-7)
8. Derrida goes so far as to say that a decision represents a moment of “faith” (1995: 80) or even “madness” (1995: 65). [↑](#endnote-ref-8)
9. At times, Derrida appears to suggest that there is a quasi-theological force operant in the world, one that can compel our decisions (see Derrida in Cilliers et al. 2016). This suggests the kind of Jewish mysticism that one finds in the work of Levinas (1991) (who Derrida often cited as an inspiration). In any event, CCists do not follow Derrida in this regard. [↑](#endnote-ref-9)
10. According to Rodolphe Gasché, *différance* has the status of a “quasi-transcendental infrastructure”. It performs the function of “grounding and ungrounding at the same time” (Gasché, 1986: 161). [↑](#endnote-ref-12)
11. Woermann follows Derrida in stating that the identity of a complex system (like a human self) is “impure” – “both open and closed, dependent on the environment and autonomous, inclusively defined and exclusively defined, singular and plural” (2016: 194). Further, “I am *both* a ‘we’ *and* a ‘they’; an ‘inside’ *and* an ‘outside’” (Woermann 2010: 174 original emphasis). [↑](#endnote-ref-13)
12. Mindfulness guru Howard Kabat-Zinn suggests that contradictory thinking leads to impoverished well-being. We will “feel fragmented” when we attempt to think “this *and* that” – when “the *this* and *that* are in conflict” (1990: 25 original emphasis). He further writes:

This mind state can severely affect our ability to do anything or even to see situations clearly. In such moments we may not know what we are thinking, feeling, or doing. What is worse, we probably won’t know that we don’t know (Kabat-Zinn 1990: 25 original emphasis). [↑](#endnote-ref-14)
13. Social psychologist Daniel Gilbert (2006) thinks that cognitive dissonance is part of what he calls our “psychological immune system”. [↑](#endnote-ref-15)
14. It is implausible that such a central cognitive mechanism is what evolutionary biologists call a “spandrel” (see Egan et al. 2007). [↑](#endnote-ref-16)