Entitlement, Leaching and Counter-Closure

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Abstract: Crispin Wright has articulated and defended the view that by incorporating non-evidential entitlements into our theory of knowledge, we can achieve a satisfactory reply to key sceptical challenges. Crucial to this view is the thesis that various regions of thought are underpinned by 'cornerstone' propositions—propositions for which warrant is antecedently required in order for non-cornerstone or 'ordinary' beliefs in that region to enjoy the epistemic support of experiential evidence. Critics of this view have noted that because cornerstone propositions are entailed by ordinary propositions, a plausible Closure principle delivers two unwelcome results: that one can acquire evidential justification for cornerstones via deduction (alchemy) and that the epistemic risk involved in accepting cornerstone propositions impugns the evidential justification we are supposed to have for ordinary propositions (leaching). Noting that cornerstone propositions are not only potential conclusions of deductive inferences from ordinary propositions, but are primarily intended on Wright's view to perform an enabling role in the inference from evidence to non-cornerstone propositions, I argue that leaching has been misdiagnosed by Wright and his critics as relying essentially on a Closure principle. Instead, it relies on a Counter-Closure-style principle. I argue that once this point is recognised, Wright's own solution to the leaching problem becomes unsatisfactory, and that a guiding maxim from the extant literature for demarcating true from false Counter-Closure-style principles can be usefully applied to identify a successful resolution to the leaching worry on Wright's behalf.

1. Introduction

Crispin Wright (2004, 2014) has articulated and defended the view that by incorporating non-evidential entitlements into our theory of knowledge, a novel and satisfactory response to key sceptical challenges comes into view. Crucial to his position is the thesis that various regions of thought are underpinned by 'cornerstone' propositions. According to Wright, cornerstone propositions (such as 'There is an external world') are those for which warrant is antecedently required in order for non-cornerstone or 'ordinary' beliefs in that region (such as 'I have hands') to enjoy the epistemic support of experiential evidence (such as the appearance as of a hand).

Wright's view has attracted substantial discussion and criticism. Here I focus on one of these criticisms, the so-called leaching problem. I argue that Wright's and his critics' diagnosis of this problem as relying essentially on a Closure principle is incorrect, and that a Counter-Closure-style principle is instead at issue. This observation, coupled with the problematic nature of Wright's most recent proposed solution to leaching, suggests an alternative response. It also prompts reconsideration of the relationship between the leaching problem and the alchemy problem, which Wright (incorrectly) conceives of as 'dual' problems admitting of a unique solution.

The paper proceeds as follows: in section 2 I provide an overview of Wright's position, including a presentation of the elements of his view required for my critique. In section 3 I describe the problems of alchemy and leaching as understood by Wright and his critics, and present Wright's proposed solution to these problems. Section 4 is the key argumentative section: there I argue (i) that Wright's solution to the leaching problem is not ultimately satisfactory; (ii) that the leaching

problem has been mischaracterised by Wright and his critics as turning essentially on a Closure principle, and that it turns instead on a Counter-Closure-style principle; and (iii) that once this point is recognised, a better solution to leaching is achievable, one that (a) flatly rejects the Counter-Closure-style principle that essentially drives leaching and that (b) motivates this rejection by way of independently plausible considerations in the extant literature on Counter-Closure.

2.   Wright's Cornerstone-Based Epistemology: An Overview

The following is an arguably plausible epistemic point: we can claim warrant for the routine beliefs we hold in various regions of thought (e.g. that there is a tree in the garden, that Sarah is feeling happy, that the next penguin I observe will be flightless) only if certain foundational propositions enjoy good epistemic standing: the latter category includes propositions such as the proposition that there is an external world at all; that other minds exist; and that regularly observed correlations will extend into the future. Thus, for instance, if one lacked warrant for the belief that an external world exists, it would be wrong to maintain that one's belief based on casual observation that there is a tree in the garden is warranted. Following Crispin Wright, let's call these foundational propositions *cornerstones*. We can construe cornerstones in a given region as propositions such that lack of warrant for them would also result in a lack of warrant for any belief in the run-of-the-mill propositions of that region.[1] In addition to the examples mentioned, cornerstones include among their ranks the denials of scenarios of radical deception—e.g. that I am not a bodiless brain-in-a-vat whose experiences in virtually no way reflect the actual external environment; that I'm not the victim of a powerful evil demon who systematically deceives me—the proposition that the world did not come into existence just a few moments ago replete with apparent evidence of a much longer history, and the proposition that speakers can generally be trusted to speak truly.

Cornerstone propositions thus defined not only bear the particular relation to routine beliefs just noted, but also play an *enabling* role in allowing the evidence we typically adduce for those beliefs to *constitute* evidence for those beliefs. For example, a lack of warrant for the proposition that I am not systematically deceived by an evil demon regarding the external world plausibly implies a lack of warrant for the belief that there is a tree in the garden, *and* it also disables the evidential support of the appearance as of a tree for my belief that there is a tree: it seems plausible that without some kind of assurance (warrant) that I am not so radically deceived, it is illegitimate for me to take that appearance as providing sufficient (or indeed any) support for my belief there is a tree, when things would look exactly the same if the sceptical hypothesis were true. *Mutatis mutandis*, the same goes for the other cornerstones mentioned.

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[1] Strictly speaking, Wright describes cornerstones as propositions such that: if one lacked warrant for them, one would lack the higher-order warrant *to claim* warranted belief in everyday propositions. However, Wright himself (2004) thinks that the lack of warrant to claim warranted belief in everyday propositions stems from the fact that such beliefs *would be unsupported by evidence* if the cornerstone were not warranted. Since everyday beliefs are only warranted evidentially, it is clear that the higher-order lack of warrant for claiming warranted belief in everyday propositions, produced by lack of warrant for cornerstones, is due to the lack of first-order warrant for those everyday propositions. Additionally, the construal of cornerstones I have offered --in terms of lacking warrant for everyday propositions, rather than in terms of lacking *warrant to claim* warrant for them—allows us to see Wright's view as a response to first-order scepticism, in keeping with the way most epistemologists interpret sceptical challenges.

Wright helpfully illustrates this situation using the 'I-II-III' argumentative template, an example of which is this:

(I)   My experience is as of hands held up in front of me
(II)   I have hands
         Therefore,
(III)   I am not a handless brain-in-a-vat

(I) is a proposition that according to intuition ought to support the everyday proposition (II). Proposition (III) is a cornerstone of the region. That there is something unsatisfactory about this argument is a widely acknowledged point. Wright's diagnosis of the defect of this argument is that (I) cannot provide warrant for (II) unless (III) is *antecedently* warranted: in the absence of prior warrant for thinking that there I am not handlessly envatted, an appearance as of hands cannot provide evidential warrant for the belief that I have hands.

This point plays a key role in Wright's reconstruction of the external-world sceptical argument. He diagnoses the sceptic as drawing essentially from this observation in order to mount their threat, as follows: since (I) can constitute evidence for (II) only if one enjoys antecedent warrant for (III), *and* since proposition (III) can only be warranted by accumulation of evidence of the kind provided by (I) for (II), then there is no non-circular way of obtaining warrant for (III). Therefore, warrant for (III) is not legitimately achievable and, owing to the cornerstone nature of (III), warrant for (II) and for all other everyday propositions in the region of thought is not to be had.

Wright's response to this construal of the sceptical argument is partially concessive. It involves agreeing with the sceptic's first point that (III) cannot be warranted evidentially on the basis of reasoning from type-II propositions. But crucially, Wright argues that the sceptic's transition from the impossibility of *evidential* warrant for (III) to the impossibility of warrant *in general* for (III) is overly quick. This transition can be resisted—as Wright does—if the case can be made for the existence of *non-evidential* warrant for type-III propositions. If type-III propositions enjoy non-evidential warrant that is in place independently of and, crucially, *antecedently to* any accumulation of evidential warrant for type-II propositions on the basis of type-I propositions, then the sceptical conclusion is blocked. These non-evidential warrants can enable type-I propositions to provide evidential warrant for type-II propositions, thus rescuing our external-world warranted beliefs and knowledge from the sceptical threat.

But what lends legitimacy to the idea that such non-evidential warrants are indeed in place? In other words, how can Wright avoid the charge that the inclusion of non-evidential warrants into his epistemology is the mere product of philosophical wishful thinking? Certainly, it would be nice to believe that non-evidential warrants can fill precisely the anti-sceptical brief outlined by Wright. But an argument is clearly needed.

Here, Wright (2004) appeals to several considerations to defend four kinds of entitlement, two of which are salient for our purposes. It will be useful to start by considering how Wright handles the case of inductive scepticism, which challenges us to find a non-circular justification for the cornerstone proposition that nature is uniform—or at least, uniform enough to allow for 'All observed Fs are Gs' to constitute evidence for 'All Fs are Gs', where F and G are observable natural properties and when observations are numerous and relevant. The sceptical problem of induction, in

a nutshell, is that evidence for this cornerstone seems only accruable via induction. And without antecedent warrant for the proposition that nature is uniform, no legitimate inductive argument purporting to provide warrant for the uniformity of nature can be mounted. Thus, legitimately gaining warrant for the proposition that nature is uniform seems impossible; and since this proposition is a cornerstone, it also seems impossible to gain warrant for our beliefs in generalisations such as 'All Fs are Gs'

Wright's solution is to appeal to the idea, inspired by Reichenbachian considerations, that trusting that nature is uniform is a *dominant* strategy (2004, 2014). If we are interested in gaining true and reasonably held beliefs about the world, induction is our best bet. Sure, nature might actually turn out not be uniform—in which case our inductively obtained beliefs are likely to be false more often than not. But the alternative—not to trust inductive reasoning—leaves us in the no better position of having no true beliefs (if we decide not to reason inductively at all) or of having unreasonably held beliefs (if we decide to reason inductively without trusting the procedure that generates those beliefs), regardless of whether nature is uniform.[2] In other words, the strategy of trusting that nature is uniform is in all circumstances no worse and in some circumstances better than the strategy of not doing so, and is thereby dominant. When trusting a cornerstone is a dominant strategy *and* we have no reason to doubt the cornerstone, then according to Wright we enjoy non-evidential warrant for the cornerstone.

Next, let's consider a second type of argument in favour of entitlement, which Wright relies on to address Cartesian scepticism about the external world. Here, Wright's rationale for trusting the cornerstones, which in this case correspond to the denials of large-scale sceptical hypotheses, is slightly different. The Cartesian sceptical worry can be generated by observing that it seems impossible to acquire any evidence for the belief that we are not victims of a suitably described sceptical scenario according to which we are cognitively detached from our environment (such as a vivid dream, handless envatment or deception on the part of an all-powerful demon). Any purported process of evidence-acquisition of this kind (e.g. careful visual inspection of one's hands or a failed attempt at pinching oneself awake) will be hostage to the concern that the execution of the process itself is part of the sceptical scenario. So the process of establishing, for instance, that one is not a handless brain-in-a-vat can be successful only if one *has antecedent* warrant for thinking one is not so envatted—which is precisely what our process of evidence acquisition was trying to establish. Thus, evidence against handless envatment seems beyond our reach. From this point the sceptic concludes that we lack warrant for thinking we are not so envatted, and thus that we can never acquire warrant for the everyday beliefs about our surroundings for which non-envatment constitutes, on Wright's picture, a cornerstone.

Wright's response, again, is to claim that we enjoy non-evidential warrants for the denials of sceptical hypotheses. He notes that in virtually all our cognitive projects we rely on what he calls 'authenticity conditions', defined as 'any condition doubt about which would rationally require doubt about the efficacy of the proposed method of executing the project, or about the significance of its result, irrespective of what that result might be'(2014: 215).[3] For example, if I aim to establish the number of people on my bus by counting them, my authenticity conditions include that my eyesight is reliable. If I then wanted to be certain that my eyesight was reliable, I would engage in a

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[2] It has however been argued that this dominance-based argument depends on allocating primary value to having true beliefs. If one were to primarily value, for example, avoiding false beliefs, then the strategy Wright advocates would no longer be dominant. See N. J. L. L. Pedersen (2009, 2020).

[3] Wright (2004) originally talks of 'presuppositions' but later (2014) clarifies that 'authenticity condition' better captures the intended notion.

different cognitive project whose authenticity conditions might include that the optician is trustworthy, that their test lenses are accurately calibrated, etc. However, according to Wright the existence of authenticity conditions which have not been checked does not engender widespread scepticism regarding the outputs of the associated cognitive project, because the warrant enjoyed by these outputs need not (and does not) rest on having thoroughly checked the authenticity conditions of that project; instead cognitive projects are always undertaken with a level of risk:

> […] we should view each and every cognitive project as irreducibly involving elements of adventure—I have, as it were, to take a risk on the reliability of my senses, the conduciveness of the circumstances, etc., much as I take a risk on the continuing reliability of the steering, and the stability of the road surface every time I ride my bicycle. For as soon as I grant that I ought—ideally—to check the [authenticity conditions] of a project, even in a context in which there is no particular reason for concern about them, then I should agree *pari passu* that I ought in turn to check the [authenticity conditions] of the check—which is one more project after all—and so on indefinitely, unless at some point I can foresee arriving at [authenticity conditions] all of which are somehow safer than those of the initial project. (2004: 190-1)

Our non-evidential entitlements for cornerstones, then, rest on the following idea:

> If a cognitive project is indispensable, or anyway sufficiently valuable to us—in particular, if its failure would at least be no worse than the costs of not executing it, and its success would be better—and if the attempt to vindicate (some of) its [authenticity conditions] would raise [authenticity conditions] of its own of no more secure an antecedent status, and so on *ad infinitum*, then we are entitled to— may help ourselves to, take for granted—the original [authenticity conditions] without specific evidence in their favour. (192)

In other words, all cognitive projects that involve investigation of our environment rely on authenticity conditions. The sceptic observes that these ultimately rest on cornerstones that include the denial of sceptical hypotheses, and from our inability to acquire evidence in favour of their denials, the sceptic draws the conclusion that we lack warrant for them. Wright, instead, uses precisely these grounds to conclude that we must enjoy non-evidential warrant to accept them.

'Accept' here is crucial. For Wright prudently shies away from the overly bold claim that subjects have warrant for *believing* that cornerstones are true, opting instead for the weaker epistemic attitude of acceptance, which is consonant with the ideas that (i) belief is tied intrinsically to truth and (ii) only evidence bears on truth, whereas (iii) warrant for cornerstones is non-evidential. Thus, Wright's distinctive move to conceive warrant as coming in either of two kinds— evidential and non-evidential—is mirrored in the kind of epistemic attitude properly taken towards the propositions enjoying either kind of warrant. In other words, Wright thinks that the warrant in favour of everyday, type-II propositions is evidential and that the accompanying appropriate epistemic attitude is one of *belief*. The kind of considerations Wright offers in favour of non-evidential warrant for cornerstones suggest to him by contrast that non-evidential warrant licenses us in merely *accepting* or *trusting* such propositions, where this attitude implies acting in many ways *as if* they are true, without outright believing them to be true.

One point that will be important in what follows is that Wright's concession that accepting the denials of sceptical hypotheses carries some risk is not restricted only to these cornerstones. Very plausibly, it also encompasses the acceptance of other cornerstones, including (crucially, for reasons that will become clear) the cornerstone that nature is uniform: for just as when embarking on a perceptual cognitive project, one must take a risk on the reliability of one's senses and the cooperation of the environment—that is, just as one hasn't checked these authenticity conditions

and to a good degree takes them on trust—so when embarking on inductive reasoning one takes a risk on the uniformity of nature. Even though trusting that nature is uniform may be a dominant strategy in our endeavour to gain knowledge of the world, that point alone does not provide *evidence* for its uniformity. If it did, there would be no reason for Wright to claim that our warrant for the uniformity of nature is non-evidential. Thus, our trusting that nature is uniform similarly entails taking on a risk.[4]

3.   Threats to Epistemic Asymmetries Across Knowable Entailment: Alchemy and Leaching

Wright's cornerstone-based epistemology has attracted several criticisms. Among these, two influential objections trade on the epistemic asymmetries across knowable entailment that at first blush result from his view. To see this, let us focus our attention on everyday (type-II) and cornerstone (type-III) propositions. As mentioned, on Wright's view, we can *believe* everyday propositions and we enjoy evidential warrant for them (stemming from type-I propositions). By contrast, we lack evidential warrant for cornerstones; nonetheless we have non-evidential warrant which allows us to *accept* and *trust* them, where acceptance and trust are epistemic attitudes weaker than belief.

Wright's elegantly concessive response to the sceptic apparently relies on this difference in our attitudinal stance towards everyday and cornerstone propositions. For if we thought it theoretically legitimate, *contra* Wright's stated view, to extend the attitude we hold towards everyday propositions to cornerstone propositions, so that we not only accept but also legitimately believe cornerstones (where legitimate belief requires evidential warrant) then Wright's position would no longer be in a position to concede to the sceptic the point that we cannot acquire evidentially warranted belief in the denials of sceptical hypotheses. On the other hand, if we were to equalise in the other direction, by saying that we have merely non-evidential warrant both for cornerstone propositions *and* everyday propositions, then Wright's overall view would be robbed of its anti-sceptical force: for it would be unclear what help it would be to vindicate our right merely to *accept* or *trust* everyday propositions in the face of the sceptical challenge, which is commonly understood as urging us to articulate a defense of our right to *believe* them.

The problem for Wright is that an equivalence of attitude towards both kinds of proposition seems to be forced on his position by the very plausible principle of closure for evidential warrant. We can understand this principle as follows:

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[4] The point is particularly compelling for the Reichenbachian considerations on which Wright draws in order to motivate the dominance-based argument for trusting in the uniformity of nature (Reichenbach 1938). In the example discussed by Wright, Crusoe is stranded on an island with no food other than a strange-looking fruit whose edibility is in question. It is a dominant strategy for Crusoe to trust that it is edible, since not doing so will lead to death by starvation, and doing so may lead to survival. It is undeniable that Crusoe's strategy of trusting that the fruit is edible carries risk—not just risk of poisoning, but—more relevantly—the *epistemic* risk that his trust in the fruit's edibility will not be borne out by the facts.

Closure$_{EW}$: Necessarily, if S has an evidentially warranted belief that p, and S competently deduces q from p, then S acquires evidentially warranted belief that q.[5,6]

Closure$_{EW}$ enjoys a substantial deal of plausibility, underwriting competent deduction's ability to extend our body of evidentially warranted beliefs across entailment. While it is not without its detractors, it is fair to say that rejecting this principle is seen by most epistemologists as a substantial and indeed unaffordable cost.[7]

How does Closure$_{EW}$ restore the symmetry in attitudes across type-II propositions and cornerstone propositions, a symmetry which Wright's position ideally would avoid? Take for example the everyday proposition that I have hands, and the cornerstone that I am not a handless brain-in-a-vat. Wright's picture is supposed to vindicate, in the face of the sceptical challenge, my evidential warrant for the belief that I have hands. But as Martin Davies (2004) first pressed, suppose I now competently deduce, from my belief that I have hands, the cornerstone proposition that I am not a handless brain-in-a-vat. Closure$_{EW}$ says that I have now acquired evidential warrant for the cornerstone—which is precisely what Wright's view denied I could do. This is known as the problem of *alchemy*: Closure$_{EW}$—problematically for Wright—turns 'the lead of rational trust into the gold of justified belief' (Davies 2004: 220), thus restoring the symmetry in attitude—evidential warrant—for both my belief that I have hands and the cornerstone that I am not handlessly envatted.

The symmetry, it might seem, can also be restored by Closure$_{EW}$ in the other direction, to pose a related issue for Wright.[8] The problem, as Wright himself describes it, stems from the following kind of consideration:

> The general picture is that the cornerstones which sceptical doubt assails are to be held in place as things one may warrantedly trust without evidence. Thus at the foundation of all our cognitive procedures lie things we merely implicitly trust and take for granted, even though their being entitlements ensures that it is not irrational to do so. But in that case, what prevents this 'merely taken for granted' character from leaching upwards from the foundations, as it were like rising damp, to contaminate the products of genuine cognitive investigation? (2004: 207)

The *leaching* problem, as it has come to be known, is attributed by Wright to Stephen Schiffer (177, fn8) and characterised by way of an observation of Sebastiano Moruzzi's: that the risk one takes in accepting the cornerstone 'seeps upwards from the foundations' to affect everyday, type-II propositions. Wright (2004) claims that the problem is best expressed as the incompatibility of these three claims:

(a) If we run a risk in accepting [cornerstone] C, then we run a risk in accepting [everyday proposition] p

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[5] This formulation will do for our purposes, but it is worth observing that formulations of this principle vary across authors, and that the question of which formulation of this principle is most plausible is the subject of some debate.

[6] Note that Wright likes to reserve the term 'Closure' to principles that are silent on the way in which warrant for the entailed q is achieved, and the term 'Transmission' to principles, like Closure$_{EW}$, which specify that the warrant for the entailed q is achieved by deductive inference from the entailing proposition p. Nothing much hinges on this difference in terminological use. My rationale for labelling Closure$_{EW}$ as a Closure principle is to set up a comparison with Counter-Closure-style principles.

[7] For notable exceptions, see Dretske (1969, 1970, 1971), Nozick (1981) and more recently Alspector-Kelly (2019).

[8] I will ultimately disagree with the claim that Closure$_{EW}$ plays an essential role in generating the leaching worry. I use this claim here only for illustrative purposes, following Wright's characterisation of the leaching worry.

(b) We run a risk in accepting C.

(c) p is known

To see the putative connection with Closure$_{EW}$ let's (plausibly, and in line with Wright[9]) interpret 'running a risk in accepting' as 'lacking evidential warrant for'[10] and work with this version of the argument:

(d) If S lacks evidential warrant for cornerstone C, then S lacks evidential warrant for everyday proposition p in that region

(e) S lacks evidential warrant for cornerstone C

(f) S has evidential warrant for p

Clearly (d) and (e) serve jointly as grounds for rejecting (f). [11] With this in mind, it seems that claim (d) turns on Closure$_{EW}$. Suppose S deduces 'I am not a handless brain-in-a-vat' from the belief 'I have hands'. By Closure$_{EW}$, the impossibility of warrant for cornerstone propositions results in the impossibility of warrant for everyday propositions.[12]

In sum, while alchemy forces Wright's position to deliver too much, leaching forces it to deliver too little. While I will argue otherwise, it seems—and Wright initially agrees[13]—that both problems turn essentially on Closure$_{EW}$. It is thus unsurprising that Wright's initial response to both problems is precisely to deny that Closure$_{EW}$ holds universally, and to replace it with a version of Closure according to which warrant *tout court* (evidential or non-evidential)—but not *evidential* warrant specifically—is closed over competent deduction.

Wright's (2004) initial rejection of Closure$_{EW}$ as a solution to both problems apparently allows him to maintain the consistency of evidential warrant for everyday propositions and mere acceptance of the cornerstones they entail.[14] The rejection of Closure$_{EW}$ is for Wright motivated independently of leaching, given his view of the architecture of our warrants: since warrant for the cornerstones must be in place *before* everyday propositions of the relevant region can enjoy evidential warrant, any deductive inference from an everyday proposition to an entailed cornerstone will fail to transmit that evidential warrant to the cornerstone. Wright's view is that leaching and alchemy rely on Closure$_{EW}$ in precisely those instances in which we have good theoretical reason to believe Closure$_{EW}$ fails. So both problems are apparently resolved.

In more recent work, however, Wright's initial view that both problems can be handled by denying Closure$_{EW}$ has shifted, in the light of criticism brought by Aidan McGlynn (2014). In a

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[9] The epistemic risk Wright is concerned with here is incompatible with evidence (Wright(Wright 2004; 2014)

[10] I am not denying that risk is incompatible with some small amount of evidential warrant. I wish to deny merely that risk is incompatible with evidential warrant *sufficient for warranted belief*. 'Evidential warrant' should be read throughout with this qualification, which I omit for simplicity.

[11] The observant reader will notice that (f) reinterprets Wright's (c) by adverting to warrant rather than knowledge. This slight adjustment, made for expository purposes, is entirely legitimate: in more recent work of his (Moretti and Wright (2022)) it is clear that Wright views the pressure (a) and (b) place on 'S knows p' as indirect, i.e., as stemming from the pressure they directly place on 'S has evidential warrant for p'.

[12] Wright (2014).

[13] Wright (2014) labels alchemy 'a kind of dual of the concern about leaching'.

[14] Wright additionally concedes that leaching occurs, but merely 'at second-order'. According to his view, while in fact we *possess* evidential warrant for everyday propositions thanks to the entitlement to trust cornerstones, what we cannot do is *claim* evidential warrant for everyday propositions, since this would require second-order evidential warrant for such propositions, which we lack. I will not be concerned here with this aspect of Wright's overall view. See McGlynn (2017) for an argument that this move is ultimately problematic for Wright's position.

nutshell, McGlynn observes that the awkward alchemical result which Wright's rejection of Closure$_{EW}$ was meant to avoid can also be generated via the combined work of two seemingly undeniable principles for evidential warrant:

> Closure-disjunction$_{EW}$: Necessarily, if S has an evidentially warranted belief that p, and S competently deduces from p the disjunction p or q, then S acquires evidentially warranted belief for the disjunction.

> Closure-equivalence$_{EW}$: Necessarily, if S has an evidentially warranted belief that p, and S competently deduces from p a proposition q that is equivalent to p, then S acquires evidentially warranted belief for q.

How do these two principles combine to deliver the unwelcome result that we have evidential warrant for cornerstones? Let p be the everyday proposition 'I have hands' and q be the cornerstone 'I am not a handless brain-in-a-vat'. Assuming, as Wright maintains, that I have evidential warrant for 'I have hands', then by Closure-disjunction$_{EW}$ I can obtain evidentially warranted belief that 'Either I have hands or I am not a brain-in-a-vat'. Now all we need to do is note that 'Either I have hands or I am not a brain-in-a-vat' is equivalent to 'I am not a brain-in-a-vat'. (This follows from the general principle that if p entails q, then the disjunction p or q is equivalent to q.) So by Closure-equivalence$_{EW}$ I obtain evidentially warranted belief that I am not a handless brain-in-a-vat—precisely the result Wright wishes to avoid.[15] Moreover, Wright accepts that the independent considerations which motivated his rejection of Closure$_{EW}$ do not motivate a denial of either of the two principles above: for, in defence of Closure-disjunction$_{EW}$, it seems exceedingly plausible that the very evidential warrant one has for p must at the same time constitute evidential warrant for the disjunction p or q; similarly for Closure-equivalence$_{EW}$.

Confronted by this issue Wright (2014) has more recently backtracked on his rejection of Closure$_{EW}$. To address alchemy and leaching, he has retreated instead to claiming that while Closure$_{EW}$ holds universally, so that one can indeed acquire warrant for a cornerstone by competent deduction from an everyday proposition in the relevant region of thought, the warrant for the cornerstone so obtained cannot be *first-time warrant*, since the cornerstone must be warranted (by entitlement to trust) before any everyday proposition can be warranted. While accepting Closure$_{EW}$, Wright now denies this restricted principle:

> *Closure$_{FTW}$*: Necessarily, if S has an evidentially warranted belief that p, and S competently deduces q from p, *and* S lacks *evidential* warrant for q, then S acquires a *first-time* warranted belief that q.

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[15] McGlynn describes an equivalent way of putting the point. According to Wright's conception of cornerstones, if we lack warrant for them, then we lack warrant for all other propositions in that region of thought. If a cornerstone proposition C entails a proposition C', then by closure of warrant, lack of warrant for C' will entail lack of warrant for C, which in turn entails lack of warrant for all propositions in the relevant region of thought. So C' itself is a cornerstone. In other words, the set of cornerstone propositions must be deductively closed. Now, since 'I am not a handless brain-in-a-vat' is a cornerstone, so is the entailed disjunction 'Either I have hands or I am not a handless brain-in-a-vat'. But evidential warrant for the latter can easily be reached via Closure-disjunction$_{EW}$ from the evidential warrant one is assumed to have for 'I have hands'.

In other words, according to Wright competent deduction of a cornerstone proposition from an evidentially warranted ordinary proposition cannot provide a *first-time* warrant. Moreover, Wright maintains, the evidential warrant one obtains via this deduction does not *enhance* one's epistemic position vis-à-vis the cornerstone. The prior entitlement to trust sets an upper bound on the confidence in the cornerstone yielded by deduction from an everyday proposition. So while a form of alchemy is admitted, the positive epistemic status for the cornerstone which we gain via deduction from an everyday proposition is no more valuable, epistemically, than the positive epistemic status we already had for the cornerstone prior to drawing the inference.

So much for alchemy. How does Wright's evolved position handle the leaching problem? Recall that leaching could be expressed by the following incompatible triad:

(d) If S lacks evidential warrant for cornerstone C, then S lacks evidential warrant for everyday proposition p in that region
(e) S lacks evidential warrant for cornerstone C
(f) S has evidential warrant for p

where (d) was underpinned by Closure$_{EW}$. Instead of denying (d) as he had originally done, Wright's solution to alchemy now also allows him to resolve leaching 'since we no longer have the assumption in place that there can be no evidential warrant for cornerstones' (2014:235). Wright thus denies (e) and allows that we do have evidential warrant for cornerstones. The rejection of (e) is made possible by the point that the evidential warrant enjoyed by cornerstones is both non-enhancing and preceded by entitlement to trust them.

4. Leaching Reconsidered

I will set aside discussion of the alchemy problem for the moment and focus solely on leaching. My contribution to the debate consists in three related points. First, Wright's solution to leaching is not ultimately satisfactory, because for all but a very few epistemic subjects, it will simply not be true that they have evidential warrant for cornerstones. The second point is diagnostic: the leaching problem has been mischaracterised by Wright (and, following Wright, his critics) as turning essentially on a Closure principle. Instead, it turns on a Counter-Closure-style principle. Thirdly, once this point is recognised, a new and improved solution to leaching comes into view, one that (i) rejects the Counter-Closure-style principle that essentially drives leaching and that (ii) motivates this rejection by way of independently plausible considerations in the extant literature on Counter-Closure. I argue for each claim in the following three sub-sections.

4.1. Wright's Solution to Leaching is Unsatisfactory

As we have seen, Wright's more recent proposed solution to the leaching problem is to deny (e) and to claim that S has evidential warrant for cornerstones, albeit to a degree capped by the prior non-evidential warrant in place.

But this solution is not ultimately satisfactory. The reason is that while on Wright's revised view it is certainly *possible* for subjects to acquire evidential warrant for cornerstones, the vast majority of epistemic subjects *do not actually* acquire such evidence. In particular, they do not entertain scenarios of radical deception, they do not note entailment relations between the ordinary

propositions they believe and the denials of these scenarios, and thus do not run through deductive inferences from propositions like 'I have hands' to 'I am not a handless brain-in-a-vat', or from 'There is a cup on the desk' to 'I am not the victim of an evil demon intent on systematically deceiving me'; so they *do not in fact* gain evidential warrant for cornerstones. Only epistemologists are likely to even notice these entailment relations, and only a small subset of these—those who genuinely believe that such inferences confer evidential warrant (e.g. dogmatists and Wright) *and* who are concerned about defending their corpus of beliefs from sceptical threat *in real life*—will *actually* run through these inferences and thereby (if Wright is correct) gain evidential warrant for cornerstones.

This is crucial, because while evidential warrant wards off epistemic risk, the mere *possibility of acquiring* evidential warrant does not. The whole point of leaching is that, absent evidential warrant for the cornerstone, we run an epistemic risk incompatible with evidential warrant, and this risk seeps up to infect our everyday beliefs. Wright's view leaves most epistemic subjects in exactly this position: believing everyday propositions with no evidential warrant for cornerstones. Importantly, it will not do for Wright to respond 'The risk is easily avoided if the subject draws these inferences', *if in fact* the subject does *not* draw these inferences. Although one could easily go next door and check whether the window in the bedroom is closed, insofar as one doesn't check, one runs a risk in believing without evidence that it is closed. Similarly, one's easy access to a seatbelt does nothing to mitigate the risk of injury if one doesn't actually wear the seatbelt.

Wright's position, then, leaves nearly all epistemic subjects vulnerable to leaching. In terms of the formal presentation of the problem above, Wright's proposed rejection of (e) is only plausible for a very small subset of epistemic subjects. Most epistemic subjects do not acquire evidential warrant for cornerstones, and so (e) can't be universally rejected. The leaching problem still affects the vast majority of epistemic subjects: they lack evidential warrant for cornerstones and thereby run an epistemic risk with respect to cornerstones—a risk which (d) says must also affect the superstructure of everyday beliefs.

One might attempt to neutralise the objection by observing that it was always a key component of Wright's epistemology that we get some epistemic goods for free, in virtue of a 'welfare state epistemology' that does not require subjects to do any epistemic work. Admittedly, this is a linchpin of Wright's view. However, the generously provided epistemic goods on Wright's stated view are restricted to *non-evidential* warrants for cornerstones. Wright's idea is that *non-evidential* warrant is unearned and that it doesn't reflect any epistemic work or achievement on the subject's part. By contrast, to say that the *evidential* warrant for cornerstones required to mitigate epistemic risk is *also* unearned constitutes a very substantial (and not independently plausible) departure from Wright's desired framework.

4.2. Leaching Rests Essentially on a Counter-Closure-Style Principle

Having argued that Wright's recent solution to leaching is not compelling, I now move on to my second point, which is diagnostic in nature: while the leaching problem *might initially appear* to turn essentially on Closure$_{EW}$—as the appearance of (d) in the formalisation of the incompatible trio of claims suggests—it doesn't. Instead, the leaching problem of 'seeping' entitlement from cornerstone to ordinary propositions is better understood as primarily turning on a Counter-Closure-style

principle. My claim is that the leaching worry properly understood is fundamentally not the worry hitherto described by Wright and his critics.

To explain the misdiagnosis, consider first the relationship between Closure principles and Counter-Closure principles. Assuming that the subject competently carries out the relevant deduction and that the reasoning is of a single-premise variety, Closure principles generally understood (about knowledge, warrant, justified belief, conclusive evidence, etc.) entail that there is a *lower bound* on the epistemic status of the conclusion, imposed by the epistemic status of the premise: if one knows (has warranted/justified belief in/conclusive evidence for) the premise, one cannot end up with a conclusion that enjoys a lesser epistemic status. This guarantees knowledge of (/warranted/justified belief in/conclusive evidence for) the conclusion. In other words, Closure principles are expressions, in a deductive setting, of the broad thought that when they are correctly carried out, epistemic transitions *do not downgrade* epistemic status: if what we start with (the premise) has a valuable epistemic property φ, so will the downstream product of that transition (the conclusion). Closure principles assure us that when we extend our body of beliefs competently, the epistemic qualities enjoyed by our original beliefs utilised in the extension carry over to the new beliefs.

Counter-Closure principles can be roughly understood as reverses of their Closure counterparts. They, too, govern deductive inferences and can be understood most easily when applied to a simple, single-premise deduction that is competently performed. In such an inference from premise p to conclusion q, Counter-Closure principles for a particular epistemically relevant condition state that the conclusion meets that condition only if the premise from which it is drawn meets that condition, too. For example, a simple Counter-Closure principle for knowledge will claim that the subject knows the conclusion q only if the subject knows the premise p (assuming other routes to belief in the conclusion are screened off). Suppose, for instance, that Robin believes on the basis of wishful thinking that there are exactly three beers in the fridge. From this belief alone, Robin infers that there is an odd number of beers in the fridge. The intuition that Robin does not know that there is an odd number of beers in the fridge provides initial support for Counter-Closure for knowledge, since this principle can neatly explain this verdict, by appeal to the fact that Robin doesn't know their premise, that there are three beers in the fridge, in the first place.

Just as Closure principles can be formulated for epistemically relevant conditions other than knowledge, so Counter-Closure principles for other such conditions can be described. For example, a Counter-Closure principle for doxastically justified belief will claim that the conclusion of a single-premise competently performed deduction is believed in a doxastically justified way only if the premise is. A Counter-Closure principle for warranted belief will claim that the conclusion of a single-premise competently performed deduction is warranted only if the premise is. And so on, for other conditions.[16]

Counter-Closure principles, generally understood, maintain that there is an *upper bound* on the epistemic status of the conclusion, imposed by the epistemic status of the premise: if one does not have knowledge of (warranted/justified belief in/conclusive evidence for) one's premise, one

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[16] Counter-Closure principles will vary in their plausibility depending on the condition which they concern; and their plausibility will not always match the plausibility of their Closure counterpart. For example, Closure for truth is undisputable—if p is true and q is competently deduced, q must be true—but Counter-Closure for truth should clearly be rejected—a true conclusion q can clearly be competently deduced from a false premise p: from the falsehood that Einstein invented dynamite one can competently deduce that someone invented dynamite.

cannot wind up with a conclusion that enjoys a higher epistemic status. Counter-Closure principles are expressions, in a deductive setting, of the broad thought that (even) when they are correctly carried out, epistemic transitions do not *upgrade* epistemic status: if the downstream product of the inference (the conclusion) has valuable epistemic property φ, so too must the premise. When it comes to extending our body of beliefs, Counter-Closure principles guarantee that any new belief that enjoys key epistemic qualities must be borne of prior beliefs which also enjoy those qualities.

With these contrasts in mind, consider again a typical (I)-(II)-(III) trio of the Wrightean variety, where (III) is a cornerstone, (II) is an everyday proposition, and (I) is the evidence in favour of (II):

(I)   My experience is as of hands held up in front of me
(II)   I have hands
(III)   I am not a handless brain-in-a-vat

On Wright's picture, (III) is supposed to be an epistemic foundation of our architecture of knowledge, and it is this feature that makes the metaphor of 'upwards seepage' appropriate as an illustrative (if metaphorical) characterisation of the leaching problem. After all, it is precisely because of (III)'s foundational role that the sceptical point that we lack warrant for (III) constitutes a threat to the integrity of the whole epistemic structure. Moreover—and as an expression of its foundational role—the cornerstone *enables* the transition from (I) to (II), so that lack of warrant for the cornerstone makes this transition epistemically illegitimate. It is because of this enabling role that, as Wright maintains, in order to make the transition from (I) to (II) we *antecedently* require some form of warrant for (III).

This suggests that while (III) *can sometimes* be made to figure as the product of an inference from (II)—for those subjects epistemically savvy enough to notice that everyday external-world propositions entail the cornerstones of external-world inquiry—it is not the way it *invariably* figures (on both Wright's and the sceptic's views) in our epistemic architecture. Cornerstones are invariably found as *preconditions* for the transition from (I) to (II). They are in a roughly similar position to the one held by the tacit premise that one is in the northern hemisphere, in an inferential transition from one's belief that it's July to one's belief that it's summer: one needs some antecedent warrant for the proposition that one is in the northern hemisphere if one can take its being July as evidence that it's summer. The proposition that one is in the northern hemisphere is not (at least, not typically) the ultimate conclusion of a two-step inferential transition, from its being July, to its being summer, to one's being in the northern hemisphere.

Clinching support for the view that leaching can't be understood as essentially relying on Closure$_{EW}$ (as Wright and his critics have) is that the leaching worry arises *even in contexts in which type-II propositions do not entail the cornerstone in the relevant region of thought*. Consider the case Wright himself uses to illustrate inductive scepticism, which he takes his view to be able to handle (2004: 184-188). According to Wright, the relevant cornerstone in this region of thought is 'Nature is uniform', a statement expressing the broad idea, applicable to a multitude of observed regularities, that such observations track genuine natural regularities that extend to non-observed contexts. For Wright, non-evidential warrant to trust this cornerstone is needed to rationalise the transition from a type-I proposition of the form 'All observed Fs are Gs' to a type-II proposition of the form 'All Fs are Gs', where the former expresses a particular sample of observations of objects/events exhibiting specific properties F and G, and the latter a regularity or law of nature that extends beyond the

observed sample, but that does not entail the cornerstone 'Nature is uniform'.[17] Wright's view applied to this context is that we have evidential warrant for the belief 'All Fs are Gs', but that we are merely entitled to trust 'Nature is uniform'.

My point is that the leaching concern of 'upward seepage' arises just as strongly here as it does in the external-world case discussed earlier, with Moruzzi's observation holding equal force: since I run a risk in accepting that nature is uniform, I run a risk (incompatible with warrant) in accepting that all Fs are Gs. The question 'How can I still have warrant for 'All Fs are Gs' compatibly with the risk I take in trusting 'Nature is uniform'?' is just as compelling here as the question of how I can still have warrant for my belief that I have hands when I am taking a risk in trusting that I am not a handless brain-in-a-vat.

However, and crucially, the leaching worry in this context simply *does not rely* on Closure$_{EW}$. Recall the formal reconstruction of leaching, as the incompatibility of these three claims:

(d) If S lacks evidential warrant for cornerstone C, then S lacks evidential warrant for everyday proposition p in that region

(e) S lacks evidential warrant for cornerstone C

(f) S has evidential warrant for p

And now let's observe how the reconstruction works in our specific case, substituting 'Nature is uniform' for C and 'All Fs are Gs' for p:

(d$_{NU}$) If S lacks evidential warrant for the cornerstone that nature is uniform, then S lacks evidential warrant for the everyday proposition that all Fs are Gs.

(e$_{NU}$) S lacks evidential warrant for the cornerstone that nature is uniform.

(f$_{NU}$) S has evidential warrant for the proposition that all Fs are Gs.

First, notice that if (d$_{NU}$) and (e$_{NU}$) are true, then (f$_{NU}$) is false—so a genuine concern of leaching is indeed expressed by this trio, just as a leaching worry was expressed by the general argument (d)-(f) above. The crucial point of difference however, is that (d$_{NU}$) is *not an instance of Closure$_{EW}$*: the proposition that all Fs are Gs *does not entail* the cornerstone that nature is uniform. At best it provides only *extremely limited evidence* for this very broad claim, which in any case cannot be validated deductively. The problem, then, is that in his diagnosis of leaching Wright moves too quickly to interpret (d) as essentially an expression of Closure$_{EW}$, thereby taking engagement with this principle to be sufficient in addressing the leaching worry. But because the leaching worry does not rely essentially on Closure$_{EW}$—as (d$_{NU}$)-(f$_{NU}$) illustrate—he cannot be taken to have addressed the leaching worry to its full extent.

Wright's misdiagnosis results from his interpretation of (d) as an instance of a Closure principle. This interpretation is not always inaccurate: many cornerstones are in fact entailed by

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[17] It is essential to my diagnostic point that (at least some) type-II everyday proposition of the form 'All Fs are Gs' do not logically entail the cornerstone that nature is uniform. It seems to me that any attempt to deny this, and to thereby attempt to conceive the uniformity of nature as a proposition entailed by 'All Fs are Gs' will inevitably make it too specific—too specific, that is, to count as a proposition such that lacking warrant for it means lacking warrant for any proposition in that region of thought. Additionally, my argument does not turn solely only this example. We can think of other cornerstones that are not entailed by type-II propositions of that region. For example, the proposition 'My perceptual faculties are generally reliable guides to my environment' is not entailed by the proposition 'There is a cup on the desk', yet it is arguably a cornerstone. Thanks to [LM] for suggesting the latter case.

everyday propositions, and a leaching worry *can* thus be generated by the relevant Closure principle of which (d) is often an instance. But (d) is not always an instance of Closure, since not all cornerstones are entailed by everyday propositions in their region.

Instead, (d) is always an instance of a Counter-Closure-style principle, regardless of whether the cornerstone at issue is entailed by everyday propositions in the region. This stems from the fact that ordinary propositions *depend* for their warrant on cornerstone propositions: it is the warranted status of cornerstones that allows, on Wright's picture, ordinary propositions to enjoy warrant. The principle inevitably instantiated by (d) can be thus formulated:

> Counter-Closure*$_{EW}$: Necessarily, a proposition p enjoys evidential warrant only if any proposition q *on which p depends for its own warrant* is itself evidentially warranted.

For our purposes, the relevant instances of Counter-Closure*$_{EW}$ are those where p corresponds to an everyday proposition and q to a cornerstone proposition. In this case, the principle claims that the evidential warrant for the everyday proposition can only obtain if there is evidential warrant for the cornerstone—i.e., for the proposition on which p's evidential warrant depends. Read contrapositively: necessarily, if the cornerstone is not evidentially warranted, then neither are the everyday propositions which depend on that cornerstone for their warrant.

To be clear: my thesis is that when the cornerstone is entailed by everyday propositions, the relevant instance of (d) ("If S lacks evidential warrant for cornerstone C, then S lacks evidential warrant for everyday proposition p in that region") will undoubtedly be an instance of Closure$_{EW}$, and that everything Wright and his critics have said about leaching is relevant to these cases (although ultimately, as argued in the previous section, Wright's solution is problematic). But crucially, and simply in virtue of the foundational role played by cornerstones, the relevant instance of (d) will *also* be an instance of Counter-Closure*$_{EW}$ when cornerstones are entailed by the everyday propositions they sustain. Additionally, when the cornerstone at issue is *not* entailed by the everyday propositions of the region, the relevant instance of (d) will be an instance of Counter-Closure*$_{EW}$ *but not* of Closure$_{EW}$. That is why characterising the leaching problem as essentially turning on Closure$_{EW,}$, as Wright has done, involves a significant omission. In some cases, the leaching problem turns on Closure$_{EW}$; but in some, it doesn't. And in *all* cases, it relies on Counter-Closure*$_{EW}$.

Here's another way of putting the point. Closure$_{EW}$ allows one to use one's warrant for ordinary propositions to gain warrant for *deductively correlated* cornerstones. By contrast, Counter-Closure*$_{EW}$ is a principle that imposes a condition on the warrant for ordinary propositions, namely: that the cornerstones on which ordinary propositions depend be themselves warranted. It is clear that the latter, and not the former, is at issue in leaching, since (i) leaching arises even in situations where Closure$_{EW}$ cannot be applied, and (ii) Counter-Closure*$_{EW}$, unlike Closure$_{EW}$, is able to provide a link between the warrant one enjoys for ordinary propositions and the *antecedent* warrant for cornerstones, as leaching demands.[18]

At this stage, I should highlight that I have loosened some of the bolts when formulating Counter-Closure*$_{EW}$, which is not a strict reverse of Closure$_{EW}$. There are two dimensions along which the jurisdiction of this principle is broader than Closure$_{EW}$'s and other Counter-Closure-style

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[18] Thanks to [LM] for suggesting this presentation of the point.

principles I have discussed in prior work (and which motivate the distinguishing mark '*' in its name)[19]. However, I do not think either of these make the principle less compelling. The first broadening is that Counter-Closure*$_{EW}$ talks generally of dependence of warrant, and is not restricted solely to cases in which p is deductively inferred from q: the relation of warrant-dependence should be read widely enough to include not only cases where p is deduced from q, but also cases where p is inferred from q via ampliative inference and—crucially—cases where q plays an enabling role in the realisation of p's evidential warrant, as cornerstones do for everyday propositions. The second (related) difference is that Counter-Closure*$_{EW}$ is not restricted to cases in which the warrant for the proposition at issue depends on the warrant of only one other proposition. There may in fact be more than one proposition to which p owes its evidential warrant, as for example when a proposition p is evidentially warranted via the joint work of two propositions q and r from which it is inferred, where each of q and r provides a necessary but not sufficient contribution to p's overall evidential warrant. Here, too, I think Counter-Closure*$_{EW}$ enjoys at least first-blush plausibility: unless q and r are evidentially warranted, it seems hard to see how a subject could wind up with an evidentially warranted belief that p.

4.3. How Wright Could Resolve Leaching

How might Wright address the leaching problem, when it is diagnosed along the lines I suggested? I submit that leaching should still be viewed as arising from the incompatibility of the by-now familiar trio:

(d) If S lacks evidential warrant for cornerstone C, then S lacks evidential warrant for everyday proposition p in that region
(e) S lacks evidential warrant for cornerstone C
(f) S has evidential warrant for p

However, we should resist the temptation to read (d) as essentially an instance of Closure$_{EW}$, because the leaching worry still arises when p doesn't entail C, and thus when (d) is not an instance of Closure$_{EW}$. Recognising instead that (d) is always an instance of Counter-Closure*$_{EW}$ and that Wright's own evolved proposal of denying (e) is unsatisfactory suggests exploring a solution to leaching that confronts Counter-Closure*$_{EW}$ head-on and finds grounds to reject it, despite its *prima facie* plausibility.

Some of the considerations I offered in previous work, suitably adjusted, can offer such grounds. In prior work [omitted], I examined the plausibility of several Counter-Closure-style principles that tied the knowability of one's deductively drawn conclusion to the premise's epistemically relevant properties, such as knowledge, doxastic justification, and truth:

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[19] See [omitted].

Counter-Closure$_K$: Necessarily, if S believes q solely on the basis of competent deduction from p and S knows q, then S *knows* p.

Counter-Closure$_{DJB}$: Necessarily, if S believes q solely on the basis of competent deduction from p and S knows q, then S has a *doxastically justified belief* that p.

Counter-Closure$_T$: Necessarily, if S believes q solely on the basis of competent deduction from p and S knows q, then p is *true*.

I argued that the plausibility of each of these (and similar) principles turns on one's prior understanding of the conditions under which believing the premise p is permissible. This is because in general, impermissibly believing the premise of a single-premise deductive inference will always spoil the knowability of the conclusion of that inference—roughly put, if one has no business believing p, then any q one deduces from p will inevitably be a proposition which one has no business believing and therefore cannot know on the basis of that deduction.

The plausibility of Counter-Closure principles for specific epistemically relevant properties, then, will depend on whether one's theoretical commitments allow one to permissibly believe the premise p even when it lacks that property: if they do allow this, then one should take the Counter-Closure principle tied to that property to be false; if they don't allow this, then one should take the Counter-Closure principle tied to that property as universally true. For example, if one's epistemology allows for the possibility of S's holding a false belief that p in an epistemically permissible fashion (as many do) then counterexamples to Counter-Closure$_T$ can be devised. Such examples will be ones where S believes a false proposition p in a permissible way and deduces from p a true proposition q that enjoys a myriad of good epistemic properties, arguably sufficient to amount to knowledge.[20] But if one's epistemology rejects the possibility of holding a false belief in an epistemically permissible fashion, then no persuasive counterexample to Counter-Closure$_T$ can be devised and the principle should be deemed correct by that epistemic view. *Mutatis mutandis*, similar considerations hold for Counter-Closure$_K$, Counter-Closure$_{DJB}$, and other Counter-Closure principles.

To apply this thought to our context, we must once again broaden out from the single-premise deductive focus of Counter-Closure principles, to encompass the more general notion of epistemic dependence. Additionally, if this idea can be usefully applied to Wright's epistemology, we must also broaden out from the stricter notion of belief to allow for the relevant attitude to take either the form of belief or that of acceptance. Once these two broadenings are allowed, the lesson takes this specific form in the Wrightean context: in situations where p and q are such that the warrant S has for p depends on q's being warranted (as is the case when p is an ordinary proposition and q is a cornerstone), S can know p just in case belief that/acceptance of q is epistemically permissible.

The key question for Wright, then, is this: is it *epistemically permissible* to accept a cornerstone C when C is not evidentially warranted? The answer here is clearly affirmative. It is an essential and distinctive component of Wright's overall view that accepting a cornerstone does not

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[20] For seminal pieces in the debate on Counter-Closure$_T$, see Warfield (2005) and Klein (2008). For discussions of this principle, see Adams, Barker, and Clarke (2017); Audi (2011); Ball and Blome-Tillman (2014); Borges (2017); Buford and Cloos (2018); Coffman (2008); de Almeida (2017); Fitelson (2017); Hawthorne and Rabinowitz (2017); Leite (2013); Littlejohn (2016; 2013); Klein (2017; 1996); Luzzi (2014); Montminy (2014); Schnee (2015).

require evidential warrant. The boundaries of permissible acceptance for Wright outstrip what one's evidence indicates. We can view Wright's arguments in favour of strategic entitlements and entitlements of cognitive project as rationalising precisely this non-evidential acceptance of cornerstones.

Since it is epistemically permissible on Wright's view to accept cornerstones without evidence, then, by the point made above drawn from general consideration of Counter-Closure principles, it is to be expected that the lack of evidential warrant for cornerstones *does not* pose an obstacle to the *knowability* of a proposition p which depends on the cornerstone for its warrant. In other words, this Counter-Closure-style principle, which entails that lack of evidential warrant for a cornerstone makes everyday propositions unknowable, should be deemed false by Wright's view:

Counter-Closure**$_{EW}$: Necessarily, a proposition p can be known only if any proposition q on which p depends for its own warrant is evidentially warranted.

Now, since knowing an ordinary proposition p entails having evidential warrant for it, the principle examined earlier, which essentially drives leaching, should also be expected to fail. Recall the principle in question:

Counter-Closure*$_{EW}$: Necessarily, a proposition p enjoys evidential warrant only if any proposition q on which p depends for its own warrant is itself evidentially warranted.

To see why Wright should deem Counter-Closure*$_{EW}$ false, consider that the falsehood of Counter-Closure$_{EW}$** means that there are possible circumstances where an everyday proposition p is known, but a relevant cornerstone q is not evidentially warranted. Such circumstances are also ones where p is evidentially warranted (since knowledge entails evidential warrant) but q is not evidentially warranted—circumstances which demonstrate Counter-Closure$_{EW}$* to be false.

Let's take stock. The leaching worry, once again, was expressed as the incompatibility of these claims:

(d) If S lacks evidential warrant for cornerstone C, then S lacks evidential warrant for everyday proposition p in that region
(e) S lacks evidential warrant for cornerstone C
(f) S has evidential warrant for p

Wright's first attempted solution rejected (d) on the grounds that it was an instance of the putatively false principle Closure$_{EW}$. Wright's more recent attempted solution accepts (d) and rejects (e) instead. I have argued that (d) is not essentially an instance of Closure$_{EW}$, that rejecting (e) is ultimately problematic, and that the leaching problem can be resolved by rejecting (d) on the grounds that it invariably instantiates Counter-Closure*$_{EW}$, a principle Wright's view should deem to be false, and where its falsehood is well-supported by independent considerations regarding Counter-Closure-style principles generally.

Resolving the leaching worry in this way ultimately means accepting (e) and (f)—accepting, that is, that evidential warrant for ordinary propositions can happily coexist with lack of evidential warrant for the cornerstone on which the former propositions depend for their warrant. It also means that insofar as evidence eliminates epistemic risk, accepting our evidentially unwarranted cornerstones carries some risk. However, this risk is something that (Wright can say) should be lived with, insofar as it does not prevent an epistemic subject from *permissibly* accepting the cornerstones, with Wright's arguments for strategic and cognitive-project entitlements grounding this permissibility. Accepting cornerstones is legitimate even though doing so carries some risk, and

this risk does not transfer to ordinary proposition in the relevant region of thought, since Counter-Closure*$_{EW}$ is false in the relevant circumstances. Or so, I believe, Wright can legitimately argue.

5. Concluding remarks

Where does this leave the relation between leaching and alchemy? As we saw, alchemy relies essentially on Closure$_{EW}$: its unwelcome result—evidentially warranted belief in cornerstones—only arises if one notices that an everyday proposition entails a cornerstone and carries out the relevant deduction. By contrast, leaching does not essentially rely on a potential attempted extension of our body of beliefs via Closure$_{EW}$ (although in the limited circumstances in which an everyday proposition entails a cornerstone, such a deduction can be used to press the leaching problem in a particularly vivid way). Instead, the leaching worry tries to impress upon us the point that, because of the foundational role of cornerstones and the attitude of mere acceptance they elicit, anyone who believes any ordinary proposition is already running the epistemic risk characteristic of leaching. The unwelcome result, in other words, is allegedly already there in the routine epistemic activity of ordinary subjects, prior to and independently of their drawing any deductive inference from an everyday proposition to a cornerstone. For this reason, to conceive of leaching and alchemy as 'dual' problems—as Wright does—is to misunderstand their true nature, and to overlook the necessity of distinct solutions to each problem.

Wright's best reply to the leaching problem, I have argued, is to address head-on and flatly deny the claim expressed by Counter-Closure*$_{EW}$: that lack of evidential warrant for the foundational cornerstones translates into lack of evidential warrant for everyday propositions. What of alchemy? As we have seen, Wright maintains that alchemy can occur, but that when it does, the evidential warrant one obtains in favour of a cornerstone via deduction from an everyday proposition does not exceed the antecedent non-evidential warrant one already had for the cornerstone. I will not assess this solution here, but will limit myself to noting that the solution to leaching I have proposed is perfectly compatible with Wright's solution to alchemy, resulting in an overall stable response to the two problems.[21]

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