



More than just principles: revisiting epistemic systems

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Abstract

Epistemic relativism rests on the existence of a plurality of epistemic systems. There is, however, no consensus on what epistemic systems actually are. Critics argue that epistemic relativism fails because its proponents cannot convincingly show the possibility of two mutually exclusive epistemic systems. Their accounts of epistemic systems are, however, highly idealized, conceptualizing them as sets of epistemic principles exclusively. But epistemic systems are necessarily inhabited by epistemic agents who negotiate these principles. Focusing on epistemic principles exclusively thus might abstract away too much from the actual dynamics within epistemic systems. Drawing from the sociology of scientific knowledge and the distinction between sociolect and idiolect in the philosophy of language, I aim to provide a richer account of epistemic systems and show that current arguments against epistemic relativism fail because they rest on an unrealistic conceptualization of epistemic systems.

Keywords Epistemic relativism · Epistemic systems · Epistemic principles · Sociology of scientific knowledge · Idealization

1 Introduction

When formulating epistemic relativist positions, epistemic systems (ES) are among the few necessary ingredients for epistemic relativism (ER). One core intuition characterizing ER is that certain things do not go together. And these things do not go together because they are situated in different contexts. The status of these things, whether they are good or bad, justified or unjustified, true or false, is relative to these contexts. These contexts are usually described as ES.

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The notion of an ES is central in both critique and acclaim of ER. Defenders of ER, for example, argue that ER – the position that there is no neutral basis to judge which ES is “better” or more justified – is the only reasonable position if one is confronted with a plurality of mutually exclusive ES (Kusch, 2017). In other words, the potential or actual encounter with different ES is a starting point on the road to relativism. Critics of ER aim to show that ES do not exist because there is a common core to all belief systems, that a neutral perspective on ES is attainable, or that it is possible to “transcend” a respective ES (e.g., Siegel, 2011). These arguments all hinge on whether we know what exactly an ES is.

On that matter, the epistemological literature is surprisingly thin, however. Defenders of ER have very little to say about ES systematically. This might be particularly because many members of the ER camp have employed a particularist, case-based approach towards ES that does not straightforwardly lend itself to extracting necessary and sufficient criteria (e.g., Feyerabend, 1975; Bloor, 1976).¹ Rather than defenders of ER, critics have undertaken more extensive attempts to characterize ES. In most recent writings on ER, we learn that ES might be collections of epistemic principles that sanction activities, utterances, and procedures within an ES (Boghossian, 2007; Seidel, 2014; Carter, 2016). If epistemic agents act by these principles, they have good chances of their utterances or actions being judged as justified or good.

Is the difference in one epistemic principle, however, enough for diagnosing two ES? How “fundamental” would this principle have to be? If principles were coextensive but differently ranked, would that be a case of conflicting ES? What determines how important such discrepancies in principles or ranking of principles must be to count as a case of “deep” disagreement, as a case of two ES? In other words, reference to epistemic principles does not unambiguously define what ES are and, consequently, how they could be told apart. But the epistemic relativist needs a way to tell ES apart, or else they would give way to the absolutist argument: if there are no fundamental differences between ES, then there might be no cases of different ES at all, and the epistemic relativist’s case would vanish since there is nothing to be an epistemic relativist about (Boghossian, 2007; Seidel, 2014).

While the current situation thus resembles a stalemate between friends and foes of ER, one aspect of ES has been neglected in the literature. ES exist in and through epistemic agents who, in turn, hold and advocate the ES’ principles. But when we conceptualize ES in an abstract way, by referring to epistemic principles exclusively, it is easy to overlook this very important fact. Take language as an analogy: on an abstract level, language is a particular grammatical system. In the concrete, however, language can only exist in and through a set of coordinated speakers. Similarly, an ES could be regarded as a system of epistemic principles in the abstract. In the concrete, it can, however, only exist in and through a set of coordinated epistemic agents. There is no ES without epistemic agents. I argue that it is time to take one central idea from the social studies of science – that when negotiating the epistemic, the social is always negotiated as well, and vice versa – and explore ES as necessarily social.

¹ Nevertheless, these particular examples can generate some more general intuitions about ES.

It is the aim of this article to develop this thought as a new line of argument against critiques leveled against ER. Drawing from the sociology of scientific knowledge (SSK), I will introduce an epistemic agent-based account of ES to address concerns against ER from a new perspective. This article proceeds as follows: Sect. 2 will survey three main arguments against the possibility of genuinely different ES made by critics of ER. Section 3 identifies idealization as a problem in current accounts of ES. Section 4 aims at de-idealizing ES: drawing on SSK literature, I will formulate an epistemic-agent based account of ES. With this account in hand, I will address the three criticisms leveled against ES in Sect. 5. Section 6 will offer some conclusions.

2 Three problems for epistemic systems: (Instance), (Derive), and (Anthropology)

As this article is not intended as a defense of ER per se but as an elaboration on ES, I will not spend much time defining or defending ER's central tenets. There have been many attempts to characterize ER in the literature (Kusch, 2020; Bloor, 2011; Baghrarian, 2015). For the sake of brevity, I propose Ashton's (2019) selection of three necessary criteria from a more extensive list by Kusch (2016)²:

(Dependence) a belief has an epistemic status only relative to either.

- (a) system of epistemic principles (REGULARISM), or.
- (b) a coherent bundle of precedents (or paradigms) (PARTICULARISM).³

(Plurality) there is (has been, or could be) more than one such system or bundle.

(Symmetry) different systems or bundles are symmetrical in that they all are.

- (a) based on nothing but local causes of credibility (LOCALITY); and/or.
- (b) impossible to rank except on the basis of a specific system or bundle (NONNEUTRALITY);

In what follows, I shall focus on two influential critiques of ER – Paul Boghossian's *Fear of Knowledge* and Markus Seidel's *Relativism – A constructive critique*. I do so because the two problems these authors have formulated – (Instance) and (Derive) – are still at the core of debates regarding ER, how to describe fundamental disagreement between ES, and whether ER is the correct position regarding such

² There are other important characteristics of epistemic relativist positions often found in the literature, such as e.g., (EXCLUSIVENESS) ES are exclusive of one another because they (a) provide opposite answers to certain yes/no questions, or (b) questions of one ES are not comprehensible in the other (Kusch, 2016); or (EPISTEMIC INCOMMENSURABILITY) There is no system-independent fact of the matter about what makes a belief have more epistemic support than another, incompatible, belief (Pritchard, 2011). I agree with Ashton (2019), however, that these follow from the criteria provided. For instance, (EXCLUSIVENESS) is caused by plurality – otherwise these different ES would collapse into one. Similarly (EPISTEMIC INCOMMENSURABILITY) is a consequence of (SYMMETRY-NONNEUTRALITY) plus (DEPENDENCE).

³ Note that this distinction is borrowed from ethics and the question whether morality is best understood as following moral principles, or not (Dancy, 2017).

disagreements (e.g., Kusch, 2017; Ranalli, 2021). However, I believe that there is a third problem for ER in Seidel's work, which I shall extract from his writing and coin (Anthropology), which I believe has so far not garnered the same attention but is equally important when trying to determine whether two ES are fundamentally different.

To start, here are Seidel's definitions of (Instance) and (Derive):

(Instance) If an epistemic system contains an epistemic norm N' and a different epistemic system contains a different epistemic norm N'' and both N' and N'' are just instances of a more general epistemic norm N contained in both epistemic systems, then the epistemic systems containing N' and N'' are not – at least, not because of this fact – fundamentally different epistemic systems (167).

(Derive) If an epistemic system contains an epistemic norm N' and a different epistemic system contains a different epistemic norm N'' and the users of both epistemic systems are epistemically justified in believing N' and N'' or their outputs by the application of a fundamental epistemic norm N contained in both epistemic systems, then the epistemic systems containing N' and N'' are not – at least, not because of this fact – fundamentally different epistemic systems (170).

Both Boghossian and Seidel establish their arguments by using two famous examples: That of the dispute between Galileo and Cardinal Bellarmine and that of the anthropologist encountering the Azande. I shall focus here on the case of the Azande since both authors seem to agree that this case has greater potential of being a case of two genuinely different ES. Boghossian argues that according to Evans-Pritchard - whose treatise *Witchcraft, Oracles and Magic Among the Azande* (1937) is the primary source for most epistemology and SSK debates on the universality of rationality and logic - the Azande share many of our beliefs about the world on many ordinary matters. However, there are exceptions. For example, calamities are explained by invoking witchcraft. A witch is typically a man carrying witchcraft substance in their belly. The substance is transmitted to all descendants who are men and can be detected visually in post-mortem examinations. Some attacks by witchcraft are quite serious and require investigation. Such investigations are settled by asking a poison oracle: Poison is administered to a chicken while a yes-or-no-question is asked. Subsequently, the answer is inferred from how the chicken dies. Thus, a different epistemic principle might be at work:

(Oracle) For certain propositions p , believing p is prima facie justified if a Poison Oracle says that p .

Seidel argues that the principle involved in the Azande regarding the poison oracle as a good source could be an instance of a more general epistemic principle, such as:

(Source) If a source that you regard as epistemic speaks in favor of p , then you are prima facie justified in believing that p . (179)

The principle that sources are usually reliable is, however, so general that it would be question-begging to use it to establish that believing in the poison oracle is just an instance of following a more general, universal epistemic principle – it is not discriminative enough. Thus, Seidel admits, the Azande might be a case of real fundamental difference. In the case of the Azande, it is not only the difference in epistemic principles, but there might also be a difference in logic: the Azande only accept the premises but not the conclusions of an argument regarding the witchcraft substance of (all) patrilineal members of a lineage.

- (1) All and only witches have witchcraft substance.
- (2) Witchcraft substance is always inherited by the same-sexed children of a witch.
- (3) The Zande clan is a group of persons related biologically to one another through the male line.
- (4) Man A of clan C is a witch.
- (5) Everyman in clan C is a witch.

According to Evans-Pritchard, the Azande accept (1)–(4) but not the conclusion (5). Do the Azande thus have a different logic? This question can be addressed in several ways. Boghossian, for example, concludes from this case that we cannot even know whether logical terms like “and,” “or,” and “if” are universal in their meaning.

Seidel, in addition, raises another problem concerning the attestation of different ES, which I shall call (Anthropology):

If the epistemic system and the culture of the Azande are different to such an extent that it is possible to understand their epistemic and cultural practices adequately only in case we largely adopt their cultural background, then we are immediately confronted with the question of why the epistemic relativist, who is not an Azande, thinks herself to be justified that e.g. (Oracle) is a kind of epistemic norm – in the sense in which she thinks of epistemic norms – at all. (181)

Suppose we have reason to think that regarding the Oracle as a good epistemic source is a constituting epistemic principle of the ES of the Azande. In that case, we must have presupposed that the Azande roughly have the same criteria for what epistemic principles are: “There is a relationship of mutual dependency between the assumed extent of difference between epistemic systems and the possibility of users of these systems justifiably claiming that the others are using such a system epistemically.” (181) It would thus be a category mistake if we would treat the Azande oracle as a genuine epistemic principle:

In confrontation with the Azande, the issue would not be whether we or the Azande are using different epistemic principles and whether any of these is superior to the other, but the issue would be whether there is any reason that a principle that is reliable-to-their-framework and a contrasting principle that is reliable-to-our-framework can both be regarded as epistemic principles. (186)

Thus, we arrive at the question of what counts as epistemic and if any notion of what “epistemic” is to us should be used when describing practices foreign to us. If we take trusting the poison oracle to constitute an epistemic principle, we have to accept it as a case of (Derive): believing in the oracle requires more general norms about believing certain sources or using one’s eyes. Either, therefore, the system of the Azande does not constitute a *fundamentally different* epistemic system, or it does not constitute a fundamentally different *epistemic* system (190). Let me thus coin this problem (Anthropology) since it is inspired by concerns raised in anthropology about how to “understand” forms of living foreign to us (e.g., Winch, 1964). The problem is this: If we propose that a particular group (or society) is fundamentally different from us (in one or the other way), we cannot know that what we, for instance, consider a knowledge matter, a matter of aesthetics, or a matter of morals has the same status in this group. It follows that it is problematic, then, to argue that two groups are, epistemically speaking, fundamentally different but at the same time follow distinct and conflicting epistemic principles. It would never be clear whether a particular disagreement is really one about the justification of a belief (i.e., an epistemic matter), and thus, it is not straightforward to invoke ER as the correct philosophical position to address this situation.

In summary, we are presented with three problems when we postulate different ES:

- “(INSTANCE): Are different principles in ES 1 and ES 2 just instances of a more general epistemic principle?
- (INSTANCE-CONSTRAINT): What is the extent to which a more general principle needs to be discriminatory?
- (DERIVE): Do inhabitants of ES 1 and ES 2 justify their (derived) epistemic principles by the same fundamental principle?
- (ANTHROPOLOGY): If an ES is fundamentally different, how can we know it is epistemic?
- (ANTHROPOLOGY-CONSEQUENCE): What is epistemic? What does it mean to be epistemic across ES?”

Given the problems posed by the current literature on ER, the following questions need to be tackled: Are there fruitful ways to characterize ES without relying on epistemic principles or the propositional in general? How do the three problems operate in situations of an encounter between ES? Is there something about encounters between ES that the current accounts miss that helps address the problem of how we can tell that something is epistemic across fundamentally different knowledge systems while still avoiding identifying two seemingly distinct epistemic principles as instances of a more general epistemic principle or as derived from more general epistemic principle?

It is thus my first task to ask whether it is justified to only focus on epistemic principles when portraying ES. I shall argue that the ways ES are currently conceptualized are highly idealized. That is, they focus on the “clean” and “propositional” at the expense of the “muddy” but “practice-near” aspects of ES. A similar argument has been provided for the case of “disagreement” in the ER literature. In the next section,

I shall discuss Kinzel & Kusch's (2018) critique of idealizations in epistemology and will then extract consequences for the idealization of ES.

3 Idealizations and epistemic systems

Kinzel and Kusch identify three forms of idealizations pertinent to the ER literature: Wittgensteinian idealization – authors use only one (or a few) overcooked examples; Aristotelian idealization – authors strip away most of the involved (social/historical) factors because they deem them inessential; Galilean idealization – authors distort features of the target system deliberately;

Let me discuss these features for accounts of ES. They are subject to “Wittgensteinian idealization” since only a very small “diet” of examples is employed. Aristotelian idealization is also at play: When ES are described in the literature, they are usually only described as containing (coherent) sets of epistemic principles. All other possible features of ES are thereby deemed inessential or irrelevant. For example, the epistemic agents comprising the ES are left out. But wouldn't it be odd if every single inhabitant of an ES (and, when we are talking about ES, we are usually talking about systems that are the home to many, many proponents) would apply and rank principles in exactly the same way, so it does not matter who encounters who in a case of disagreement?⁴ Wouldn't there be a difference in the properties of the disagreement, and hence, which interpretations of which principles are brought forward, and with what emphasis, between Cardinal Bellarmine or a clergyman from rural Italy encountering Galileo? In addition, the “epistemic” is often treated as separable from metaphysics, politics, material cultures, and particular aims and goals.

In addition, the contents of ES are treated as if they were homogenous, a case of Galilean idealization. On the one hand, epistemic agents are left out. Leaving epistemic agents out, however, conveys a distorted picture of the ES since it suggests homogeneity within an ES. But it is exactly the epistemic agents that create heterogeneity: It is highly unlikely that every epistemic agent would have the same intuition regarding a certain epistemic principle and whether a certain, socially and politically configured situation is an instantiation of correct principle-following or not. If these local configurations of principle-following behaviors are not considered, epistemic systems are distorted since they are portrayed as if every epistemic agent would display the same principle-following behavior.

There is also a second and related distortion at play; namely, there is no difference between the boundaries/borders and the centers of an ES. Relatedly, ES are distorted because they are not treated as contingent. But metaphysics, politics, material cultures, and particular aims & goals shaped the ES, so it became the current ES. Accounts of ES are presented as if disputes about epistemic principles would not also renegotiate other realms, such as the social or metaphysics (Douglas, 1970; Bloor, 1978; Mol, 2002; Jasanoff, 2004). Second, epistemic principles are treated if they could be extracted and unambiguously represent an ES. Lastly, the current literature

⁴ Veigl (2023) argues that the outcomes of such encounters depends on the respective “epistemic repertoire” of epistemic agents.

distorts how beliefs are formed within an ES. The process of forming beliefs and following or applying rules within an ES is not treated as an activity, but a belief is treated as a fixed state. Thus, ES are portrayed as static, as if they were inert towards internal and external negotiations.

To illustrate the bearing of these idealizations, let me again entertain an analogy with language. Language is not a strict axiomatic system, such as the streets of a city like New York, where a few rules, e.g., “If streets cross each other, they cross perpendicularly,” determine the structure of the city. But rather, it resembles the streets of an old city such as Rome that grew over several thousands of years, where it would be hard to explain its structure by pointing to a few rules. And in the same way language is sometimes idealized as a strict axiomatic system resembling the streets of New York, epistemologists often idealize the components of ES into an axiomatic system of epistemic principles from which everything else follows. But who shapes an ES, and who shapes language? Is it the actors or the analysts, the grammarians or the speakers?

Boghossian and Seidel often ascribe the strict axioms to the inhabitants of ES. Inhabitants consciously, for instance, “use” epistemic principles. However, epistemic agents might, most of the time, simply have intuitions about particular cases without being able to point at a particular epistemic principle, similar to how native speakers who are not grammarians have intuitions about the use of certain tenses but might not be able to point to the exact grammatical rule justifying it. In a sense, there is no fact of the matter which ES epistemic agents “really have,” but there are facts of the matter about intuitions epistemic agents have. Every theory about this, every “principle” extracted from this, will be an idealization. But idealization is not only an analysts’ activity but also an actors’ activity: Members of ES only know a number of instances of applications of principles. In case of conflict, they have to idealize based on the instances they know. Thus, necessarily, ES are a theorization of epistemic activities.

While I hope to have convincingly shown in the previous paragraphs that idealization is at play in discussions about ES, I do yet need to motivate my claim for de-idealization. In one sentence, my argument is this: Idealizations need to be fruitful to be justified – and this is not the case for idealizations about ES. Let me expand on that. As Kinzel and Kusch note, idealizing is common in the sciences and the humanities. In the sciences, idealizations are often used to make calculations of highly complex phenomena possible – and these idealizations can be assessed by how accurate the predictions they yield are. However, idealizations have a different purpose within philosophy – idealizations are mostly used as “intuition pumps” – to trigger, for a simplified scenario, the same intuitions in every (appropriately trained) philosopher (2018, 52). But idealizations fail here – despite being highly simplified scenarios, philosophers still disagree about them. For instance, Kusch (2017) and Seidel (2014) still disagree on whether relativism is the best philosophical account of disagreement between two ES. But there is also a second problem – in scientific practice, idealizations are typically de-idealized to increase predictive accuracy. De-idealization, however, does not happen in the case of the philosophical debate about ER (ibid.). How to de-idealize accounts of ES to reach conclusions about actual ES and conflict between them? Even if philosophers could agree that relativism is the correct account of con-

flict between two highly idealized ES, there is no straightforward route to deciding whether ER is the correct position about conflict between two ES in the real world. Thus, idealizations are problematic if they are not de-idealized in a consecutive step.

One might still argue that ER is, in the end, a philosophical thesis, and thus philosophers are entitled to take as ES whatever they like – in the end, ES are no “real things” out there but theoretical entities philosophers work with to motivate their positions. The problem here is that ER is, to a significant part, motivated by the encounter of positions, societies, etc., that radically differ from us. ER is a position that aims to make sense of such real-life encounters.⁵ In addition, many critics of ER are motivated in their critiques because they believe ER to be a deeply troubling attitude towards such real-life situations. For instance, they believe that ER is not the right theoretical rendering of a conflict between creationism and secular science.⁶ And thus, to be able to reason about these real world situations, it is unclear how it should be possible without de-idealization. I thus propose the following strategy for de-idealization: start with the actors to arrive at the ES, not the other way around. In so doing, I shall treat an ES as if it were an institution, a collective pattern of self-referring activity maintained through performative processes (Bloor, 1997, p. 33). I will thus query how social processes shape ES and how social processes are involved in cases of disagreement between ES. I will do so by drawing from SSK literature.

4 Towards an epistemic agent-based account of epistemic systems

To de-idealize ES, I will build my case from David Bloor’s (1976) interpretation of the Azande. There are two primary reasons for picking SSK literature for doing so. First, even though SSK practitioners usually do not insert into philosophical debates, they often use case studies central to the ER debate: Galileo vs. Bellarmine, Hobbes vs. Boyle, the Azande... Second, these case studies are often less idealized than their philosophical counterparts in that they emphasize the importance of political forces, social institutions, negotiations amongst actors, etc... as important factors. I, therefore, make strategic use of the fact that a less idealized account of the Azande-case is available. Particularly, I will show how Bloor’s account illuminates variations and negotiations when epistemic agents follow epistemic principles. After discussing Bloor’s arguments in detail, I will extrapolate to de-idealization in general.

One might argue that it is not strategic to use a type of scholarship considered “relativist.” Ultimately, I aim to convince both friends and foes of ER that de-idealization of ES is necessary. My response is this: Using Bloor’s work to de-idealize the theoretical rendering of ES does not entail accepting SSK, nor a particular version of ER (or any, that is). I simply use an available de-idealization of one of the central examples of two conflicting ES. While more “neutral” non-SSK alternatives are available, such as works in history or the social studies of science, both options would still display

⁵ Admittedly, real-life encounters of fundamental disagreements is not the only motivation for ER. Some card carrying epistemic relativists are also motivated by the incapability of imagining what it would mean for anything to be “absolute.” One could take, for instance, Bloor (2007) to be making such a point.

⁶ Boghossian (2007) is, for instance, very explicit about problems arising from these real-life scenarios.

certain features SSK has been critiqued for. For instance, the “symmetry principle” is alive and well within current science and technology studies (e.g., Lynch, 2017). Also within particular schools of the history of science, such as historical epistemology, relativist themes have been identified (Kusch, 2011). It might thus just not be possible to make use of less idealized work on the very examples epistemologists are interested in when it comes to discussing ER while at the same time securing these less idealized works to be neutral. But it is nevertheless important to situate the employed examples and explain how they will be used, as I have tried to do here. In what follows, I hope to demonstrate, in this spirit, that it is possible to employ Bloor’s rendering of the Azande case to focus on how epistemic agents “use” epistemic principles - without access to certain abstract, pre-determined meanings - as one means to de-idealize ES, without the need of adopting Bloor’s relativism or SSK.⁷

As argued in a previous section, the case of the Azande is one where one central question is whether an error (of logical deduction) has been made. Bloor also focuses on this occurrence and argues that we should respect that the Azande think that the whole of a witch’s clan cannot be witches. In their view, it is logical not to conclude that every man of clan C is a witch (5). Azande beliefs, with their boundaries, applications, and contexts, form a self-sufficient whole. Quoting Winch (1964), Bloor argues that what matters is that the Azande do not give up the idea of witchcraft when its logical implications and (5) are presented to them. That someone is a witch and that not every man in their lineage is a witch are stable and central to Azande life.

When confronted with the logical problem of the argument, Azande speakers introduce the idea of “cold witches.” Triplett (1988) argues that this proves that the Azande share our logic since this move is a form of a *reductio* argument. They reject premise (1). Also, they might deny the universality of premise (2) or question premise (4). If this were true, the case of the relativist would vanish as we would have a case were some particular logical adjustments are derived from some more universal logical maneuvers.

Bloor, however, calls introducing the concept of cold witches a “negotiation” (1976/1991, 141). Negotiations are widespread and also prevalent in the global north. An alien anthropologist, for instance, could observe that within many global north societies, a murderer is someone who deliberately kills someone else. However, bomber pilots are not considered murderers. While “we” see the point of the inference that bomber pilots are murderers (or why the alien anthropologist might think so), we resist the conclusion. However, institutions are never 100% stable: “In as far as we may feel the force of the anthropologist’s logical inferences it is because we are already critical of the institutions. Being critical means being seized of the analogy...” (ibid.). Epistemic principles are thus not predetermined, stable, and unnegotiable in all possible instances.

Does this mean that Azande Logic and Western Logic are not that different? Given that such operations or negotiations likely occur in any society, isn’t there something universal, absolute about how people reason that would prevent claiming plurality of ES? Bloor argues that logic can never threaten institutions since a piece of logic can always be met by another. The user of the logic, not the logic, is the threat. We

⁷ To put my cards on the table, I am sympathetic to both.

think to conclude (5) is allowed because we do not feel the social pressure against the conclusion. We do not have to resist it (142). It is not the logical contradiction that results in the unacceptability of the argument. Rather, the unacceptability results in contradictoriness. Bloor sides with Wittgenstein in that use determines meaning. The problems with contradictions lie in the practices they involve, not logic.

This is not to say that operations such as rejecting certain premises do not occur. “But these are individual responses, not socially instituted responses – they do not constitute Zande logic but are, rather, natural responses of individuals – they are manifestations of natural rationality.” (Jennings, 1989, p. 232). Reductio arguments are in the minds of those replying, but because they are not institutionalized, they do not result in a revision of belief – institutionalizing the reduction:

“They are, rather, temporary elaborations of belief offered as an alternative to a different but unacceptable Western elaboration of Zande belief. If any of the temporary elaborations were generally accepted, and the appropriate revisions of belief were instituted, then that would constitute a change in Zande logic. And then Zande logic would, in this respect at least, approximate more closely to our own Western logic. (282)”.

To fully understand the difference drawn, it is necessary to follow up on Bloor’s differentiation between logic as psychology and logic as institutions:

The Azande have the same psychology as us but radically different institutions. If we relate logic to the psychology of reasoning we shall be inclined to say that they have the same logic; if we relate logic more closely to the institutional framework of thought then we shall incline to the view that the two cultures have different logics. ([1976], pp. 129–30)

Our “natural” proclivities to infer cannot form by themselves an ordered and stable system. Instead, impersonal structures are needed to draw boundaries and to “allocate each tendency to a sphere deemed proper for it.” (Bloor, 1976, 145).

Bloor thus assumes that people are born with similar psychological makeup. In Barry Barnes’ terms, this is “natural rationality” (1976): the processes by which people actually reason rather than how they would reason ideally. Induction is an example of natural rationality (1976, 115). There are many lines of thought our minds are naturally inclined to move along. However, not all are equally acceptable – rationality must be tailored to suit our needs. The social framework provides a suitable structure – through “culturation,” one learns which lines of thought are acceptable. Barnes proposes “psychic unity” (Barnes, 1976, p. 121) based on the fact that human brains might be wired a particular way.⁸

⁸ The role and meaning of „psychology” in SSK musings is sometimes hard to wrestle with, since there are two distinctions at play: that between psychology and sociology and that between the individual and the collective. The role of the psychological is ambiguous: sometimes it means the individual, but sometimes it refers to what is even more general than the sociological – the psychological is what all humans share qua being human. The psychological is therefore both “over” and “under” the sociological.

The distinction between logic as institution and logic as psychology comes in handy because it seems to answer concerns raised by critics of ER. And it also provides an answer to the objection that the exemplar ES are not fundamentally different. It provides, furthermore, an answer to why exchange between inhabitants of ES is possible, even though certain principles might be exclusive or unintelligible for one side or the other. It distinguishes any principle of the ES (the institution) and abiding by these principles and the capabilities of individuals during encounters. In conclusion, encounters can be successful not because ES are not that different but because humans are not that different. In a sense, Bloor's distinction invokes a disciplinary separation – issues about the fundamental difference of ES pertain to sociology, and issues of how encounters work pertain to psychology. Thus, “natural rationality” and the distinction between logic as institution and logic as psychology are a way to address the question of how it is possible to call something “epistemic” if it is radically different to one's own epistemology (the problem I coined (Anthropology)).

There are, however, at least two problems with this distinction. One is the distinction in itself – between institutions and brains, collectives and individuals, sociology and psychology. Whether natural and social kinds are straightforwardly distinguishable has been problematized from different sides (Hacking, 1999) – take the question of whether “woman,” “race,” or “ethnicity” is a natural or a social kind as an example (Haslanger, 2008; Bettcher, 2014). There is also another reason why Bloor's dichotomy needs an update. This issue pertains to “natural rationality” and “psychic unity.” That we are all wired the same way, or at least, wired sufficiently similar to produce the same types of natural rationality – e.g., favoring induction over other types of inferences - is a very strong assumption that immediately also prescribes what is “normal.” Someone who would not favor, e.g., induction or not respond to the challenge of the poison oracle with a *reductio* would be labeled “abnormal.” Disability studies scholars that argue for perspectives that do not pathologize neurodiversity have, in recent years, pushed back against such labeling (Michalko & Titchkosky, 2009). Thus, also in this second way, the dichotomy creates a demarcation that should not be upheld, in this case, one between the natural and the unnatural.

Can we salvage the distinction without maintaining a harmful dichotomy? How can we preserve both the institutional forces acting upon epistemic agents while still admitting there is something special about epistemic agents of two different ES encountering each other that goes beyond pointing out (fundamentally different) epistemic principles to one another? While others, such as Paul Feyerabend, have worked much on the conditions of a successful exchange (1978), I shall focus on a different aspect: How is the institutional represented in such encounters? I take the key inspiration from my discussion of SSK literature to lie in the emphasis on how epistemic agents employ, negotiate and create variability with regard to the meaning of principles in particular contexts on which I shall now expand.

My main notion is this: Epistemic agents always represent their ES incompletely. They can never represent all principles to their fullest. Epistemic agents will, as a consequence, resist certain inferences more than others. This has several reasons. On the one hand, there is no empirical evidence of principles but just intuitions (about principles). And such abstract, idealized principles are always underdetermined by the instances of intuitions about them. Representing principles “completely” is, there-

fore, impossible since there is no predetermined meaning to them, but only negotiations qualifying certain principle-following behaviors as correct or not.

But it is exactly because of these incomplete representations that dialogue and exchange are possible because imprecisions are allowed, notwithstanding fundamental differences and exclusivity (or incommensurability) of epistemic principles. This has little to do with a strict demarcation between psychological and sociological processes. Institutions are amenable to change. Change, however, can only happen if actors can be imprecise and if rules need not be followed 100% all the time - else, there could not be any source for variation. Variation is the source of potential change. It is possible to effect slight changes in principles within an ES (that is, change patterns of their use). But the same or even a higher degree of flexibility is at work when one (incompletely) represents one's ES to epistemic agents outside one's ES (see Veigl, 2024).

To illustrate my point, let me return to an analogy with language and the distinction between sociolect and idiolect. Epistemic agents, even though they might know what the sociolect, their epistemic principles, require them to think or speak, are capable of modifying, using, and adapting their idiolect, representing principles only incompletely. For instance, it is possible to understand someone inadvertently using a malaprop. It is as possible to understand humorous uses of malaprops. In such situations, we are prepared to not insist on our intuitions about principles while still needing them to understand what is going on (Hacking, 1986). Therefore it might also be possible to exchange with fundamentally different ES without change in intuitions about principles.

Of course, not every person is as far from or as close to the center of the ES. Epistemic agents incompletely represent the norms of their ES to different degrees. A university professor, a union leader, and a social worker might diverge in different proportions (and different ways) in their idiolects. Lovers, as Hacking notes, are the most extreme example since their duet-like languages make correctness and error disappear (1986) and thus create highly divergent idiolects. Not every epistemic agent of an ES will be as willing, prepared, or able to guarantee the required flexibility regarding epistemic principles - similar to how not everyone will be equally delighted or annoyed by a malaprop. Composing an unheard-before phrase or using a known phrase in a new context might be applauded for its creativity or corrected for its wrongness, depending on current flexibility constraints and the community of speakers who hear it.⁹ This concerns another idealization regarding ES mentioned before: epistemic agents are believed to be a homogenous group. They are believed to have incorporated epistemic principles in the same way. Idiolects are not considered.

This points toward another important aspect of ES that has not been addressed so far. An ES might be able to accommodate (relatively) different positions regarding, for example, a particular principle within. Also, Seidel argues that it needs to be admitted that epistemic agents within a system come to different conclusions or judgments concerning the application or status of a particular epistemic principle (2014). The only alternative to this admission is to grant that everyone lives in their own ES (in our analogy, to claim that there is no such thing as language (Davidson, 1986)).

⁹ Many thanks to Richard Husanica for inspiration.

From my vantage point, this has to be rejected in the following way (and the rejection is different from Seidel's).

If we regard ES as essentially social, as collectively agreed-upon principles for what counts as knowledge, then it is impossible that everyone has their own ES. Rather, everyone might have their own intuitions about applying epistemic principles. What we can extract from these intuitions as instances of applications of epistemic principles is an idealization – the ES. But an epistemic principle can at no time be “subjective.” If there were only the subjective and the individual, there would not be anything that could be called a principle and it would be impossible to correct certain uses of epistemic principles.

These ideas are based on the notion that social and epistemic order produce each other: “Solutions to the problem of knowledge are solutions to the problem of social order.” (Shapin & Schaffer, 1985, p. 332). During episodes of crisis, we cannot ask questions about facticity, credibility, or knowledge without redrafting the rules of social order. This aligns with Kinzel and Kusch's account of disagreement, who argue that during disputes, the hierarchical orderings of several issues (metaphysics, knowledge, methodology, politics...) can be elastically used – only a specific question will produce a particular ordering (2018, 54). Note that also ontologies become important. Questions of what exists are necessary to negotiate what is justified or not. They feed into our epistemic principles. We have to have, for example, a notion about what it means for an oracle to “exist” and what properties it has to formulate epistemic principles that justify beliefs by referring to an oracle. To formulate epistemic principles about evidence, we invoke ontologies about how evidence can relate to belief. Thus, it is necessary to consider that ES generate both social order and natural order. And natural order, classifications, and ontologies are part of the negotiations when epistemic agents of two distinct ES encounter each other. I will expand on the dynamics between epistemic principles and (natural) classifications in the following section.

5 Confronting the three problems for epistemic systems through practice

Having introduced an account of ES that focuses on epistemic agents, I shall now return to this article's initial question: how can a less idealized notion of ES help address common criticisms of ER? While Kusch (2017) has addressed two of the problems elsewhere and argued that neither that principles are instances of a more general principle or that principles are derived from more general principles helps make sense of cases that have motivated ER, I shall extend his arguments while weaving them together with the third problem – the question of what it means to be epistemic across ES.

To me, the main problem with conflicting epistemic principles being instances of or derived from more universal epistemic principles is that they cannot help explain the epistemic friction (Medina, 2011) felt during encounters with alternative ES. Friction is a force that occurs when two things come into contact. Experiencing epistemic friction – when two perspectives come in contact - is jarring – it can be challenging to be

confronted with alternative beliefs and modes of world-making. No matter whether two particular principles in conflict, call them P' or P'' , are instances of a principle P we consider “more general” or can be justified by the same fundamental principle, the dispute might not resolve just because of this analysis. It is quite likely that there are cases where P' or P'' might be radically different from the analyst’s point of view but cause zero epistemic friction because they present no practical problems or, more generally, epistemic agents do not care about or do not realize the problems they cause. On the other hand, there might be two principles that the analyst considers as instances of or justified by a more general epistemic principle, or, even more trivially, actually be a paraphrasis of the same principle, but still, they cause substantial epistemic friction. Because, maybe, it causes substantial troubles in practice.

These issues concern the core of ER: dependence and the symmetry principle. From what perspective is the assessment that two epistemic principles are instances of or justified by a more universal epistemic principles made? It is necessarily based on the assessment of an epistemic agent within an ES. This is either an epistemic agent in ES’, an epistemic agent in ES”, or an epistemic agent in ES”” who analyzes the conflict (for example, the anthropologist, the historian, or the philosopher of science). Thus, realizing that a particular principle is an instance of or justified by the same more general principle is system-dependent. There are good chances that it cannot resolve a dispute in practice. What justifies what and how things relate to each other might depend on the cosmologies that operate in the background of each ES but which are nevertheless – as argued at the end of the previous section – linked to knowledge matters.

Is it, for instance, a necessity that “books” are a more general epistemic source than “bible” and “science book” – an argument that is used to dispel ER about disagreements between creationism and secular science. It would, in theory, be possible to consider the Bible the book of all books, with all other books being instances of it. Similarly, is it a necessity that perception justifies revelation and science? It would, in theory, be possible that certain cosmologies treat revelation as an experience that comes before perception or is radically distinct from perception. In addition, it seems similarly possible that principles such as “revelation” and “science” or “oracle” and “science” seem in some ES so disparate that it does not make sense to classify them as instances of or derived from the same more general epistemic principle. These musings are similar to cases where the dolphin is not classified as a fish, bats are classified as birds, or the cassowary is not classified as a bird: There is no ultimate fact of the matter that tells us what groups with what and what is different to what. Some classifications might consider dolphins to be very similar to trout and salmon. Others might consider dolphins to be very similar to hippopotamuses and human animals. Similarly, some classifications might consider “revelation” and “science” similar activities. Others might consider them radically different so it makes not even sense to consider them instances of a more basic epistemic principle.

My point is this: It comes down to judgments about the similarity of certain epistemic principles. Based on my argument on how classifications and ontologies might be differently linked to epistemic matters in different ES, I argue that whether some epistemic principles are declared instances of or justified by more general epistemic principles rests on certain classifications, classifications (of what is similar to what)

that are situated within one particular ES. But such classifications are not eternal or capture essences about natural (yet, contingent) orders. But such orders must be accounted for since they are part of negotiating the epistemic. Thus, similarly to how the relativist argues that there is no system independent way of adjudicating which epistemic principle is better or more justified, there is no system-independent way of declaring two epistemic principles as instances of or justified by the same more general epistemic principle.

One could argue now that my argument is itself only situated within a particular ES and thus also cannot attain the status of a general or even absolute rule. What is, thus, the status of my claim? One could take my claim, for instance, as a methodological guideline, similar to a methodological reading of SYMMETRY: ES should be approached symmetrically to ensure a successful social-science or anthropological examination (Veigl, 2021). Similarly, to guarantee a successful examination of an ES, it will be wise not to assume that the epistemic and the ontological are similarly linked as in the analysts' ES and that similar judgments about similarities and differences will be the rule. This is not to exclude the possibility. It is just to say that the analyst or anyone wanting to engage with a foreign ES would be in an epistemically worse position assuming this similarity and declare certain relations between epistemic principles just because that particular relation makes sense in their ES.

Dupré (1993) has described the flexibility of classification by the term “promiscuous realism:” While it is the case that classifications tell us important things about the objects and processes we classify, the same objects and processes are promiscuous – they go together well with several different classifications, relative to, for example, purpose. To illustrate, Dupré uses the example of garlic and onion: If I aim for a classification based on phylogeny, I will group both garlic and onion very close. However, I will produce something quite ghastly if I use garlic instead of onion for onion soup. Culinary classifications will group garlic and onion quite differently, and there is no common denominator or grander, further-down, more general scheme that can account for both endeavors simultaneously. Or, even if there is (Dupré does not make this point about this example explicitly but in his discussion of reductionism), it is then on a level that does not make explanatory sense. For example, consider the complex procedures, theories, and aims that come together when investigating a particular molecular process involved in cancerogenesis. I might well believe that, in the end, there is a way to account for these biological processes by referring to their chemical components, their atoms, or even subatomic parts. But providing a quantum explanation of cancerogenesis will not be aligned with the aims of molecular biology, and it will also not be possible to cure cancer by influencing a particular quantum state. Thus, the fact that we can reduce something to something else or find grander, unifying schemes does not mean that we should apply them or that it would make sense (for everyone involved).

This also is reflected in Seidel's worry mentioned in Sect. 2: while there might always be a more general principle that can be found to account for P' and P'' , the question is whether, at a point, it is not discriminatory enough anymore. But a question Seidel omits is whether this point is also bound to the respective ES – what is general and what is specific, what discriminates too much or just appropriately might

also have to do a lot with the ES and its cosmologies, and thus, might again, not be something that can be stated in absolutist terms.

Furthermore, it is unclear why the question of whether a more general epistemic principle is discriminatory enough should not also be a problem for epistemic principles being justified by more fundamental epistemic principles (cases of (Derive)). This is, I believe, also dependent on the respective ES. And it will also be dependent on Wittgensteinian idealization, that is, the diet of examples we use. Maybe it seems possible for the analyst to find a more general epistemic principle that is discriminatory enough – according to their perspective. But this does not exclude cases where these two epistemic principles can only be justified by a more general epistemic principle deemed not discriminatory enough.

Attesting certain relations of similarity to two distinct epistemic principles can also be problematic from another perspective. Melanie Bowman (2020) describes instances where a marginalized perspective is expressed, but the more privileged counterpart negates difference and argues that “we are all the same and want the same.” They fail to “recognize testimony, narrative, or experiences” (2020, 480) and thus fail to experience epistemic friction. Similarly, imposing certain relations on epistemic principles such as being instances of or justified by more fundamental epistemic principles might also mean to epistemically or ontologically expand onto someone else’s realm without considering difference. Just because some might not detect epistemic friction does not mean it is not there or that there is no fundamental difference. Maiana Ortega calls such ignorance

arrogant perception that involves self-deception and the quest for more knowledge about the object of perception—the perceiver believes himself or herself to be perceiving lovingly even though this is not the case, and the perceiver wishes to make knowledge claims about the object of perception, even though such claims are not checked or questioned (Ortega, 2006, p. 63).

Finally, I have to discuss the problem I coined (Anthropology) – the problem of how we can know that something is epistemic if it is fundamentally different. A broader account of what it means to be epistemic (and how the epistemic is interwoven with the social, political, methodological, cosmological...) might partly alleviate this worry: even if what we encounter is not purely/traditionally epistemic but to a degree social or political, there is no reason to doubt its epistemic character. If an ES is not about rationality and reasonableness entirely, this does not mean that the system is any less epistemic (Dotson, 2018). But a full answer to this question can again only be given if we look away from epistemic principles and focus on epistemic agents and their skills.

All examples of ES in the literature involve encounters between epistemic agents who represent different ES. And they involve the experience of epistemic friction. The idea that something is either fundamentally different or not is underdetermined in such situations of encounter. During conflict, communication can arise – but not because the allegedly two ES are the same or not fundamentally different – but based on, for example, the epistemic virtues interlocutors cultivated. Encounters can happen because of creativity, imagination, playfulness, flexibility, and using everything

in one's "epistemic repertoire" to manage the exchange (see Veigl, 2023). It can happen because we might be able to extrapolate from our skills when dealing with inconsistencies in our own ES – e.g. when intuitions about epistemic principles differ from someone else's. In the analogy with language, we cultivate such skills when we understand inadvertent or playful malapropos.

Epistemic principles and ES as collections of epistemic principles (and other things) are always idealizations because the only thing we can empirically access are intuitions of epistemic agents about these principles. And, as argued before, they can diverge from what epistemic agents at the center of ES hold as epistemic principles. But it is exactly this type of flexibility, playfulness, plus the skill to deal with epistemic friction, that makes encounters of radically different ES not pointless. Epistemic agents can make accommodations through what we might coin "epistemic repertoires." Thus, fundamental difference is not negated through the possibility of dialogue and hence, the problem of (Anthropology) does not force the relativist into a stalemate: Fundamental difference is possible, while epistemic agents might still be able to interact.

One could, however, argue that my move to focus on epistemic agents alone does not solve the problem: How do I know someone is an epistemic agent if they engage in fundamentally different activities? Shifting this question from epistemic principles to epistemic agents requires great care: It has been a practice of global north colonizers to revoke "rationality," "reasonableness," "logic," etc., from agents who engage in activities that are fundamentally different to global-north ways of addressing knowledge-matters. For instance, many important aspects of a knowledge system will be missed if one presupposes that epistemic resources are only propositional and could not involve activities such as singing, dancing or crying (Bailey, 2014; Shotwell, 2017). How to best address the problem of what it means to be fundamentally different in an epistemic way from an actors' perspective, then?

I believe that one has to accept that knowledge might remain an analysts' category. Thus the analyst might label certain practices knowledge practices even if agents within that system would not consider them knowledge practices. A practice we interpret as a knowledge practice could, in the ES it is situated in, be understood as art or as a wholly different category that does not translate (is incommensurable) to our system. Finally, also judgments from within our ES might vary, given, for instance, debates within (political) epistemology on what to include as knowledge practices. "Epistemic" is a category we use to interpret activities within another ES (e.g., principle-following) – but it might not be native there.

But I contend that we are nevertheless justified in using the term "epistemic agent," for instance, when we engage in certain activities with representatives of other ES – e.g., disagreeing about an issue that is a knowledge matter in our ES. If we can engage in these activities, then there are certain competencies on both sides (e.g., pointing to prior rules, explaining consequences, identifying impossibilities...) in play, and thus, by our classifications, this activity is (at least partly) epistemic. And we can interpret that agent as an epistemic agent (even though such a category might not have any sense in their ES) because of the activity we are engaging in together, no matter whether they are pointing to principles that are (by our standards)

not epistemic or not recognizable as epistemic (by our standards) because they are fundamentally different.

6 Conclusion

In this article, I outlined current criticisms of ER that are based on a particular understanding of what an ES is. I have then problematized idealizations in such accounts and have aimed at a characterization of ES that focuses on epistemic agents. Through this exercise, I have tried to show that three problems identified in the literature as problems for ES - (Instance), (Derive), and (Anthropology) - can be addressed with a less-idealized and more dynamic notion of ES.

Focusing on epistemic agents and the skills in their epistemic repertoires illuminates how encounters of inhabitants of two ES are possible, even though those ES are “fundamentally different.” The key point lies in considering not only ES but also epistemic principles as idealizations, of which individual epistemic agents have only intuitions about instances, and thus, they represent what could be idealized as a principle only incompletely. Thus, there is variation in these representations. And encountering such variations within an ES might very well train the skills of dealing with epistemic friction between ES.

While the approach proposed here might seem to resemble the particularist/naturalist approach proposed by Sankey (2012, 2013) - and not contested by Seidel (2013) - I believe my approach is preferable since it is not in danger of taking individual cases of epistemic agents applying a particular epistemic principle as means to extract “the” epistemic principles of the ES. Sankey’s particularist/naturalist approach follows Chisholm in that epistemology should start with particular instances of knowledge and distill, from there, more generalized principles and criteria (Chisholm, 1973). Based on how these particular instances of epistemic principles fare regards conducting certain epistemic aims, they should be judged justified or unjustified (Sankey, 2012).

While Sankey’s approach is preferable to a generalist or methodist approach where epistemic principles would be proposed prior to empirical investigation, it has two significant drawbacks: (1) as it emphasizes extracting one particular epistemic principle from particular instances of knowledge generation, it lacks the conceptual tools of dealing with variation (within an ES); (2) it also overlooks the dynamic processes between epistemic agents and the ES by installing individual instances of applying a particular principle as the basis of analysis. Sankey’s particularist/naturalist approach thus runs the risk of idealization and abstracting away variation by aiming to extract a fixed, stable epistemic principle from a limited number of instances. Alternatively, the particularist/naturalist approach would have to qualify each variation as an instance of a different epistemic principle and thus, miss the dynamic within an ES. It is exactly, however, these dynamic processes that are required to understand encounters between ES.

While I have primarily addressed encounters between ES and, thus, an outward-looking perspective, I believe more work is to be done to characterize ES in a less idealized way. That means, for instance, turning to the inside, and understanding how

different representations of epistemic principles within the ES affect the ES, might lead to small changes within an ES but also affect power structures within the ES. In the last section, I used some notions developed in the epistemic oppression literature to understand better processes between ES. However, it will be necessary to develop more on power structures within an ES and, thereby, also aim for new connections between political queer-feminist epistemology and the epistemic relativism debate (see Veigl, 2023 and 2024).

A further future task would be to explore in detail how less-idealized versions of ES affect characterizations of ER, given that ES occupy such a prominent position in formulations of what ER is. Agent-based formulations of ER could, in turn, advance the debate regarding epistemic relativism or relativism about the sciences in epistemology and philosophy of science, respectively. What I hope to have shown here, however, is that two prominent and one less prominent worry concerning the possibility of fundamentally different ES can be addressed by developing an epistemic agent-based perspective on ES.

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