Conceptions of Knowledge

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What is Contrastivism?

Jonathan Schaffer

> To know that x is A is to know that x is A within a framework of relevant alternatives, B, C, and D. This set of contrasts (…) serve to define what it is that is known (…).[1]

What is contrastivism? Contrastivism is a view about the *structure* of the knowledge relation. It is a view concerning the number of places in the knowledge relation, and what fits in these places. The orthodox view is that knowledge is a two-place relation, with one place fit for a subject and another place fit for a proposition. The contrastive view is that knowledge is a three-place relation, with an additional place fit for a contrast proposition, in addition to the place fit for a subject and the place fit for a proposition. In short: instead of the orthodox two-place Ksp structure ('s knows that p'), the contrastivist posits the three-place Kspq structure ('s knows that p rather than q').

Perhaps there are additional places in the knowledge relation, fit for neither the subject, nor the known proposition, nor a contrast. For instance, perhaps there is a place fit for the situation at issue. Whether or not there is such a place is neutral as between the orthodox view and the contrastive view. So an even more neutral construal of contrastivism would involve saying that the orthodox view posits a certain *baseline* number of places in the knowledge relation, with no place fit for anything like a contrast proposition; while the contrastive view posits an *additional* place in the knowledge relation, fit for a contrast proposition. For definiteness I will continue to speak of the orthodox view in terms of two-place Ksp relations, and of the contrastive view in terms of three-place Kspq relations, but the relevant aspect is the posit of the additional q place for a contrast proposition. What exactly q gets added to is by and large an orthogonal matter.

Why accept contrastivism? There are a number of potential motivations for thinking that the knowledge relation has an additional contrast argument. The contrastivist of course needs to provide some motivation for her deviation from orthodoxy, but there is no one particular moti-

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1   Dretske (1970), 1022.

vation that any contrastivist must endorse. But just to exhibit one natural motivation, consider a given normal subject Ann in a given situation of seeing a goldfinch in the garden, and ask whether Ann knows that there is a goldfinch in the garden. The contrastivist will say, *it depends on the contrast*: Ann might well know that there is a goldfinch in the garden rather than a raven, but yet fail to know that there is a goldfinch in the garden rather than a canary. And so it seems that specifying the subject and the proposition (and the situation at issue) is still insufficient to settle whether the knowledge relation holds. One must also specify the contrast.

So much for what contrastivism is, and what sort of motivations there are for it. But it is equally important to explain what contrastivism is *not*. First, contrastivism is not a view about how to analyze the K relation. The contrastivist is committed to the claim that the K relation has a contrast argument, but is not committed to any particular analysis of her contrast-supplemented relation Kspq. For instance, she might regard K as a primitive relation, or offer some sort of tracking account of contrastive knowledge.[2] That said, it is perhaps most natural for the contrastivist to work with something like a classical relevant alternatives conception of knowledge, on which knowledge requires (*inter alia*) the elimination of the relevant alternatives.[3] The contrast place q can then be understood as the place fit for the disjunction of the relevant alternatives, and contrastivism becomes the natural metaphysics of the relevant alternatives view. For instance, to return to the example above of Ann and the goldfinch, it might be that Ann has the ability to eliminate the alternative of the bird being a raven but lacks the ability to eliminate the alternative of the bird being a canary. Her abilities and disabilities would then explain why she knows that there is a goldfinch in the garden rather than a raven, yet fails to know that there is a goldfinch in the garden rather than a canary.

Second, contrastivism is not a view about the semantics of 'know.' The contrastivist could, for instance, even think that 'know' semantically expresses a two-place non-contrastive relation, but hold out for con-

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2   See Yablo (*manuscript*) for a version of contrastivism that works with a tracking requirement.
3   The classical relevant alternatives conception of knowledge traces back at least to Austin (1946). See Lewis (1996) for a contextualist version of this approach.

ceptual revision.[4] Or she might think that 'know' in English functions as an indexical expressing different epistemic relations $K\star_1$, $K\star_2$, … in different contexts, with each $K\star_n$ relation corresponding to a different value for q in the $Kspq$ relation. But the contrastivist might also claim that 'know' directly expresses her ternary contrastive $Kspq$ relation (this is the line I take). In defending this view, the contrastivist might appeal to ordinary language knowledge ascriptions with articulated "rather than"-phrases and to knowledge ascriptions with interrogative complements (compare: 'Ann knows whether there is a goldfinch or a raven in the garden' and 'Ann knows whether there is a goldfinch or a canary in the garden'). She will hold that in ordinary language knowledge ascriptions with no overt contrast phrase ('Ann knows that there is a goldfinch in the garden'), context supplies a value for some sort of covert semantic material, perhaps via the question under discussion.

As the last paragraph should bring out, the relation between contrastivism and contextualism is a complicated matter, and I would now say that these two doctrines are best regarded as independent views of distinct subject matters. Contrastivism is a view about the metaphysical structure of the knowledge relation, whereas contextualism is a view (or perhaps a family of views) about the semantics of the word 'know.' And so one can be a contrastivist but not a contextualist, for instance by thinking that 'know' invariantly denotes a binary relation, but holding out for conceptual revision. And likewise one can be a contextualist but not a contrastivist, for instance by thinking that 'know' variantly denotes a plurality of binary relations.[5] My own preferred view is both contrastivist and contextualist. Or at least it is contextualist in respect of positing a third semantic argument position projected by 'know' which is evaluated by context when left implicit. My view is invariantist in respect of treating 'know' as invariantly denoting the one and only ternary K relation.

The underlying issues involving contrastivism concern the structure of the knowledge relation. There are of course further structures beyond

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4   I take this to be the view of Morton & Karjalainen (2003) as well as Sinnott-
     Armstrong (2004).
5   Moreover the variation might not involve anything to do with contrasts. The
     contextualist who is not a contrastivist might think that the variation involves
     some other factor, such as the degree of evidential support one needs to
     count as sufficiently justified. See Cohen (1988) for an articulation of such a
     view, and Schaffer (2005) for some further relevant discussion.

the binary and contrastive forms to consider, and there is the underlying deep question as to what factors are relevant to determining the structure of any given relation. In the end, discussion of contrastivism should be taken as an opportunity to go beyond simply *assuming* that knowledge is a binary relation, and to articulate *reasons* for imputing a given structure to the knowledge relation, whatever that structure might be.

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Contrastive Knowledge: Reply to Baumann

Jonathan Schaffer

Baumann raises three main concerns for epistemic contrastivism[1]. These lead him to a more complicated re-conception of knowledge, involving varying numbers of argument places for varying sorts of arguments. I will argue that these complications are unneeded. The more elegant and uniform contrastive treatment can resolve all of Baumann's concerns in a straightforward way.

1. Is there non-contrastive knowledge as well?

Baumann grants that the contrastive approach is plausible for perceptual knowledge, but questions whether it is equally plausible for mathematical knowledge. So he asks: "Why shouldn't there be some kinds of knowledge which are contrastive while others aren't?"[2] I offer two replies: (i) contrastivism is equally plausible for mathematical knowledge, and (ii) if some knowledge is ternary then knowledge is a ternary relation, and so all knowledge must be ternary.[3]

1.1 Contrastivism is equally plausible for mathematical knowledge

Baumann considers the proposition that $2 + 2 = 4$, and suggests that if someone knows this, then there "does not seem to be a plausible contrast proposition around."[4] But consider the following three people:

> Ann is a young child who has only mastered the numbers $1-9$ so far, and just a bit of addition. If you ask Ann what is $2 + 2$, and allow her to choose between the numbers $1-9$, she will get the answer. But if you allow her to

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1   Baumann (2008a).
2   Baumann (2008a), 192, fn. 4.
3   Schaffer (2005a), 243, fn. 11.
4   Baumann (2008a), 191.

choose between the numbers 1–20, she will get confused, and no longer know the answer.

Ben is a teenager who has mastered the natural number system, and can add any natural numbers. But he has yet to master the negative numbers. If you ask Ben what is $2 + 2$, and allow him to choose among the natural numbers, he will get the answer. But if you allow him to choose with negative numbers in the mix as well, he will get confused, and no longer know the answer.

Claire is an adult professor of mathematics. If you ask her what is $2 + 2$, and allow her to choose among any numbers whatsoever, she will get the answer. But she has never really thought about the philosophical issues arising with mathematical ontology. If you allow her to consider the radically skeptical idea that $2 + 2 = 4$ is literally false because there are no numbers, but is only true according to the fiction of mathematics, she will be flummoxed, and no longer know the answer.

I think there are plausible contrast propositions available for Ann, Ben, and Claire. Ann knows that $2 + 2 = 4$ rather than 5, she knows that $2 + 2 = 4$ rather than 6, and indeed she knows that $2 + 2 = 4$ rather than any other number between 1–10. But she does not know $2 + 2 = 4$ rather than 11, or rather than 1000, etc. Ben knows everything that Ann knows, plus he knows that $2 + 2 = 4$ rather than 11, and rather than 1000, and indeed rather than any other natural number. But he does not know that $2 + 2 = 4$ rather than -4, or rather than -11, etc. Claire knows everything that Ben knows, plus she knows $2 + 2 = 4$ rather than -4, and rather than -11, and indeed rather than any other number whatsoever. But she does not know that $2 + 2 = 4$ rather than nothing at all because strictly speaking there are no numbers.[5]

The $2 + 2$ example may be misleading just because the answer is so obvious. Consider a slightly more complicated example, such as $27 \star 513 \star -1$. If you ask me whether $27 \star 513 \star -1$ is –13851 or 13851, I can answer that question in a flash, just by seeing that the multiplication by –1 will yield a negative number. But if you ask me whether $27 \star 510 \star -1$ is –13851 or –13951, I can't immediately answer that question. So I might well know that $27 \star 513 \star -1$ is –13851 rather than 13851, without yet knowing that $27 \star 513 \star -1$ is –13851 rather than –13951. And note that the issue here is not a lack of understanding of any of the con-

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5 Baumann (2008a), 191, fn. 2 briefly considers a similar suggestion, that someone might know that $2 + 2 = 4$ rather than 5, but not know that $2 + 2 = 4$ rather than 1/4, "due to a lack of understanding of fractions". But I am afraid that I simply do not understand Baumann's response.

cepts involved. It is just that it is harder to rule out some alternatives (such as –13951) than others (such as 13851).

Perhaps there are problems lurking for contrastivism with respect to mathematical knowledge, but I must conclude that Baumann has not revealed any problems. For all that he has shown, contrastivism seems applicable to mathematical knowledge in a straightforward way.[6]

1.2 If perceptual knowledge is ternary then mathematical knowledge must be ternary

Baumann grants—at least for the sake of the argument—that perceptual knowledge is contrastive, but still maintains that mathematical knowledge is binary. I think this conflicts with the truism that perceptual and mathematical knowledge are both *knowledge*. If there is a single relation K, then we need only ask, *how many arguments does K have?* Does it have just two arguments (subject and proposition), or does it have a third (contrast) argument? If the perceptual case teaches us that K is a ternary relation, then instances of K arising in the mathematical case must also be ternary—otherwise it is just not K anymore.

Baumann considers the claim: "(A) If some kinds of knowledge are contrastive, then all kinds of knowledge are contrastive"[7], but merely says that he does "not see any good reason to accept (A)", adding in a footnote that there "are all kinds of differences between kinds of knowledge"[8]. I think this is way too quick. Here is why (A) is plausible:

1. Perceptual and mathematical knowledge are both instances of a single relation K

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6 Indeed, Baumann (2008b), 582, while spelling out his own contextualist view, says: "A contextualist who finds herself in a mathematics classroom might deny that a certain lay mathematician knows that Fermat's last theorem is true. At the same time, however, the contextualist has to accept that in a lay context it is true to say that our lay mathematician knows that Fermat's theorem is true, given that he has heard about Wiles' proof in the news." One would have thought that the same principle should apply to the 2+2=4 case as to Fermat's Last Theorem. In both cases, one can know the proposition in question via testimony, as long as there is no relevant alternative that raises, e.g, unresolved doubts about the accuracy of the testimony.

7 Baumann (2008a), 192.

8 Baumann (2008a), 192, fn. 2.

To think otherwise would be to posit an extremely implausible ambiguity in the term "know", and would go against Baumann's own admission that these are all "kinds of knowledge".

2. If any relation is ternary in some of its instances, then it is a ternary relation, and thereby ternary in all of its instances

Premise 2 is just a truism about the nature of relations, which can perhaps most easily be grasped by thinking of a relation *in extension*, as a set of ordered *n*-tuples. A binary relation is thus thought of as a set of ordered pairs, and a ternary relation as a set of ordered triples. If you find a relation that has in its extension an ordered triple, then it must be a ternary relation. And so:

3. So if the K relation is ternary in some of its instances, then it is a ternary relation, and thereby ternary in all of its instances

And so if perceptual knowledge is ternary, then mathematical knowledge is ternary too.

Of course the argument 1–3 is reversible. If a relation is binary in any of its instances, then it is thereby binary in all of its instances. (In general, a relation has an adicity.) Baumann notes the prospect of reversal: "[G]iven the above point about mathematics, things would rather cut the other way around: Since not all kinds of knowledge are contrastive, none are."[9] But there is a key asymmetry which I think Baumann has missed. I argued, and Baumann granted, that contrasts are *needed* to understand perceptual knowledge. To reverse the argument, Baumann would need to argue that binarity is *needed* to understand mathematical knowledge. But the most he has even tried to argue for is the much weaker claim that the contrast slot is not useful here, on grounds that if there were no need to be specific about the contrast, "contrastivism would lose its point and attractiveness"[10]. So while the argument 1–3 is in principle reversible, Baumann himself has not yet done nearly enough to reverse it.

Overall I would conclude that Baumann has not established any problem for contrastivism with respect to mathematical knowledge. And I would suggest that the more elegant and uniform contrastive treatment should be preferred over Baumann's disunified disjunctive approach. By my lights, the critic of contrastivism should either defend the

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9   Baumann (2008a), 192.
10   Baumann (2008a), 192.

orthodox view that knowledge is binary, or at least aim for a unified alternative.

2. Should the third slot be opened to standards and other arguments?

Baumann also suggests—at least for cases of perceptual knowledge that he grants involve additional argument slots—allowing a range of arguments to fill the third slot, including not just contrasts, but also standards and practical interests: "[W]hy should only contrast propositions be able to fill the third argument place?"[11] I offer two replies: (i) Baumann's motivating case of Mary the meteorologist is easily handled by contrasts, and (ii) if some knowledge is contrastive then knowledge must be a contrastive relation, and so all knowledge must be contrastive.

2.1 Contrastivism can account for Mary the metereologist

Baumann gives the example of Mary the meteorologist, who sees the dark clouds in the morning sky and casually tells her friend that it will rain later that day (it will), but who refrains from such a claim when she arrives at the weather lab until she has conducted further checks. Baumann thinks that this is a case where "Mary knows that it will rain later that day" is true in the context of her casual discussion with her friend, but false in the context of the weather lab. I agree. He then asks: "How should one analyse this in terms of contrast propositions?" and with virtually no further discussion concludes: "What varies in the example above is not the contrast proposition but something else: standards relevant in particular contexts."[12]

    This is way too quick. Indeed I think it is relatively simple to handle the case with contrasts. Perhaps the easiest way forward is to start describing which worlds Mary can rule out and which she cannot, and recover the contrasts in this way. So let *w1-w3* be as follows:

w1: The sky is clear and it will not rain later that day

w2: The sky is cloudy but it will still not rain later that day, as further checks at the weather lab will reveal

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11 Baumann (2008a), 192.
12 Baumann (2008a), 193.

w3: The sky is cloudy but it will still not rain later that day, which further
       checks at the weather lab will not reveal

(Think of the clouds as a weak indicator of rain, and think of the further
checks at the weather lab as a strong but still imperfect indicator. Think
of *w1* as the sort of world in which the clouds properly indicate, think of
w2 as the sort of world in which the clouds do not properly indicate but
the weather lab checks do properly indicate, and think of *w3* as the sort
of world in which neither the clouds nor the weather lab checks prop-
erly indicate.) When Mary sees the dark clouds in the morning and
(using the weak indicator) casually tells her friend that it will rain later
that day, Mary is in a position to rule out worlds like *w1*, but not to
rule out worlds like *w2* or *w3*. After she has conducted further checks
(adding the strong indicator), she will be in a position to rule out worlds
like *w1* and *w2*, but still not to rule out worlds like *w3*. This is her un-
derlying epistemic situation.

It remains to describe the underlying epistemic situation in contras-
tive terms. Let *q1* be the proposition associated with the set of worlds
like *w1*, and let *q2* be the proposition associated with the set of worlds
like *w2*. Then what Mary knows all along is that it will rain later today,
rather than *q1*. And what she does not yet know—until she has con-
ducted the further checks—is that it will rain later today, rather than
q2. (And what she will never get to know is that it will rain later
today, rather than *q3*—where *q3* is the proposition associated with
the set of worlds like *w3*.) We only need to add the plausible assumption
that *q1* is the relevant contrast proposition in the context of Mary's cas-
ual discussion with her friend, and that *q2* is the relevant contrast prop-
osition in the context of the weather lab, and the contrastive account
handles Mary the metereologist exactly as Baumann demanded. Or at
least, if there is any real problem lurking for contrastivism, Baumann
has not yet established it.

Indeed I think that turning away from contrasts and invoking stand-
ards only makes matters harder. For it is plausible enough that, in the
context of Mary's casual discussion with her friend, the clouds are pre-
supposed to be properly indicative of rain, while in the context of the
weather lab such a claim is not presupposed. But why think there is
such a thing as a single epistemic standard in each context? Perhaps in
the context of Mary's casual discussion with her friend, claims about
politics receive heavy scrutiny, while in the weather lab everyone is
happy to presuppose various political views. Which context has the

'high standard' now, and which has the 'low standard'? The invocation of standards is, in my view, at best an oversimplification for the question of what range of contrasts are generally in play.[13]

2.2 If some knowledge is contrastive, then all knowledge is contrastive

If knowledge is sometimes a relation between a subject, a proposition, and a contrast, then it is in the nature of knowledge to be a contrastive relation, and so all knowledge must be contrastive.[14] Asking why we can't sometimes have a contrast argument and sometimes a standard argument is, to my mind, akin to asking, given that belief is just a binary relation between a subject and a proposition, why not open the second argument place for a standard (or for furniture, while we are at it)? Belief is not—we are supposing—just a binary relation, it is a binary relation between entities of a certain type (a subject and a proposition). A binary relation between a subject and a piece of furniture (e. g. the sitting relation that holds between me and this chair) is simply a different relation.

Baumann does consider the charge that opening up the third argument to all sorts of things would undermine the unity of knowledge, and replies that "there is no threat of theoretical disunity if one admits that the third argument slot has a disjunctive form"[15]. But I simply do not understand how going disjunctive does anything to avert disunity. Rather a mere disjunction seems the very mark of disunity. Consider what the conditions will be for knowledge, if the third slot can take various different sorts of entities:

  Ksp_ iff

(i)   the blank is filled by a contrast propostion, and … [*insert account of contrastive knowledge here*]

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13 Cf. Schaffer (2005b) for further arguments against the invocation of standards, and in favor of contrasts as a unified source of contextual variability in knowledge ascriptions. Though Baumann never says what he means by "standards", so it is possible that my arguments do not apply to his view.

14 In §1.2 I argued that if some knowledge is ternary, then all knowledge is ternary. This section makes the further claim that if the third argument is a contrast in some instances of knowledge, then it is a contrast in all instances of knowledge.

15 Baumann (2008a), 193, fn. 6.

(ii) the blank is filled by an epistemic standard, and … [*insert account of standard-relative knowledge here*]

(iii) the blank is filled by practical interests, and… [*insert account of interest-relative knowledge here*]

(iv) …

Actually things are even less unified for Baumann, since he allows that there are also knowledge relations with two, three, four, and more argument places[16]. So it will look more like:

   K*sp*_ _ _ _ … iff

(i)   none of the blanks are filled, and … [*insert account of binary knowledge here*]

(ii)   the first blank is filled by a contrast proposition, none of the remaining blanks are filled, and … [*insert account of contrastive knowledge here*]

(iii)   the first blank is filled by an epistemic standard, none of the remaining blanks are filled, and … [*insert account of standard-relative knowledge here*]

(iv)   the first blank is filed by practical interests, none of the remaining blanks are filled, and … [*insert account of interest-relative knowledge here*]

(v)   …

(vi)   the first blank is filled by a contrast proposition, the second blank is filled by an epistemic standard, none of the remaining blanks are filled, and … [*insert account of contrastive and standard-relative knowledge here*]

(vii)   the first blank is filled by a contrast proposition, the second blank is filled by practical interests, none of the remaining blanks are filled, and …[*insert account of contrastive and interest-relative knowledge here*]

(viii) …

(ix)   the first blank is filled by a contrast proposition, the second blank is filled by an epistemic standard, the third blank is filled by practical interests, none of the remaining blanks are filled, and … [*insert account of contrastive, standard-relative, and interest-relative knowledge here*]

(x)   …

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16 Baumann (2008a), 193, fn. 6.

If ever there was a disunified and inelegant approach, here it is. And merely disjoining all these conditions seems of little help. Again, the contrastivist is offering an elegant and uniform picture of a single ternary relation, receiving a single unified account. Surely this is preferable.[17]

3. Should we worry about 'defeating' and 'undermining' possibilities?

Baumann finally suggests—at least for those cases of knowledge that he would allow involve a contrastive relation—that a fourth argument needs to be added, to handle what he calls 'defeating' and 'undermining' possibilities. He concludes that adding such a fourth argument would be bad news for the contrastivist, since: "The [price] to pay for this is a re-markable loss of simplicity (and elegance)"[18]. I find this charge astounding given Baumann's own massively disjunctive position, but will let this pass. I offer two more substantive replies: (i) Baumann's motivating case of Sue at the zoo is not compelling, and (ii) The case of Sue at the zoo can be accommodated within a ternary, contrastive theory, should this be desired. Though it will pay to first spell out Baumann's worry in more detail.

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17 It may be that Baumann no longer holds this massively disjunctive view. Or at least, when spelling out his own positive contextualist view elsewhere, he (2008b), 589 claims to "take 'knowledge' as referring not to a binary but to a ternary relation between a person, a proposition, and a standard (or whatever else is responsible for the context-dependency)." Here he is halfway to contrastivism. Contrastivism just adds the specific claim that what is responsible for the context dependency is (not a standard but) a contrast. Baumann notes that at this point he is in agreement with me about ternicity, but without further elaboration adds (2008b), 589, fn. 20: "I do not want to endorse Schaffer's 'contrastivism' here, though." At this point the *only* remaining difference Baumann's more considered view and my own is whether what is responsible for context dependence is a standard or a contrast. I would just add that I defend the use of contrasts over standards in some detail in Schaffer (2005b), which arguments Baumann does not consider.

18 Baumann (2008a), 197.

3.1 What Baumann is worried about

Baumann introduces us to Sue, who has a hard time distinguishing between small dogs like dachshunds and terriers, but has no trouble distinguishing a small dog from a cat. Sue sees a dachshund, and—by contrastivist lights—is in a position to know that the beast is a dachshund rather than a cat, but not that the beast is a dachshund rather than a terrier. Then she sees a terrier, and—again by contrastivist lights—is in a position to know that the beast is a terrier rather than a cat, but not that the beast is a terrier rather than a dachshund. All this sounds reasonable enough to me, but according to Baumann it is "abominable and incorrect"[19], since: "It seems false to say that [Sue] knows out of the contrast class [dachshund; cat] that there is a dachshund.

Baumann then adds that an analogous issue arises on the contrast side of the ledger. Imagine that Sue also cannot tell a cat from a mountain lion. Then he thinks it false to say that Sue knows that the beast is a dog rather than a cat—at most what is true is that Sue knows that the beast is a dog rather than either a cat or a mountain lion.

He takes all this to suggest that we add the following condition for knowledge:

> (Distinguish⋆) If S knows that p rather than q, then there are no defeating propositions r for p and no undermining propositions s for q.

(Where a 'defeating' proposition *r* is an alternative to *p* that *s* cannot rule out, and an 'undermining proposition' *s* is an alternative to *q* that *s* cannot rule out.) To my mind this move is completely misguided, especially for someone who (like Baumann) has already endorsed a contrastivist treatment of perceptual knowledge. For *Distinguish⋆* effectively requires *s* to eliminate every single alternative to *p*, whether or not that alternative is relevant. *Distinguish⋆* effectively takes us back to Unger's skeptical idea that knowledge requires that elimination of every possible alternative[20].

Baumann then notices that there is "a huge fly in the ointment"[21] with skeptical hypotheses, and suggests that the contrastivist should invoke context to restrict the range of 'defeating' and 'undermining' propositions in play, as per:

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19 Baumann (2008a), 194.
20 Cf. Unger (1975).
21 Baumann (2008a), 195.

(Distinguish) If S knows that p rather than q, then the classes of potentially defeating or undermining propositions are restricted in such a way that there are no defeating propositions r for p and no undermining propositions s for q.[22]

Distinguish is effectively a standard version of contextualist relevant alternatives theory. Effectively Baumann has undone all the work of contrastivity via the fully skeptical *Distinguish*★, and then tried to recover epistemic sanity through the contextualist approach found in *Distinguish*.

Indeed I would have thought that Baumann should, by his own lights, reject *Distinguish*. *Distinguish* licenses—in certain contexts—the very claim about Sue that Baumann had earlier disparaged as "abominable and incorrect". If we are in a context in which the beast's being a dachshund is the only relevant small dog possibility, then "Sue knows that the beast is a dachshund rather than a cat" will come out true.[23]

3.2 Is there a worry with Sue at the zoo?

I do not wish to quibble over intuitions, but I must say that nothing here sounds "abominable and incorrect" to me. Consider Sue on the first occasion when there is a dachshund in front of her, and consider the question: "Is the beast a dachshund or a cat?" Clearly Sue can get the right answer, and clearly she can do so in an epistemically proper way (on the basis of her evidence, without any guessing). So I think it is plausible to say that she does know the answer to the question— she knows whether the beast is a dachshund or a cat. And that is just to say that she knows that the beast is a dachshund rather than a cat. Now consider Sue on the second occasion when there is a terrier in front of her, and consider the question "Is the beast a terrier or a cat?" Again Sue can get the right answer, in a proper way. So likewise I think it is plausible to say that she does know the answer to the ques-

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22 Baumann (2008a), 196.
23 Baumann (2008a), 196 sees the worry: "What if only 'There is a dachshund' is included in |R? Isn't it then correct to say that she knows that there is a dachshund rather than a cat?" But his (2008a), 196 response seems non-responsive: "Yes but in many if not most or all contexts we would not want to restrict |R in this way." Why does it matter if in many contexts we do not restrict the relevant alternatives in this way? Isn't Baumann's theory still delivering a verdict he had previously pronounced "abominable and incorrect" in the contexts where we do restrict the relevant alternatives in this way?

tion—she knows whether the beast is a terrier or a cat. And that is just to say that she knows that the beast is a terrier rather than a cat. I think this is all perfectly fine. Baumann offers nothing to buttress his intuitions, so I do not think he has established any problem for contrastivism.

If there is a problem here, I think it is what I had earlier called *the problem of the giveaway question*[24]. Consider Sue's brother Tom, who cannot tell any small animals apart whatsoever, but at least can tell that the beast in front of him (which happens to be a terrier) is not an elephant. Does Tom know that the beast is a terrier rather than an elephant? Alternatively, given that the beast is in fact a terrier, does Tom know whether the beast is a terrier or an elephant? Some have the intuition that Tom does not know that the beast is a terrier rather than an elephant, because Tom lacks positive evidence for the beast being a terrier, having only negative evidence against the alternative that the beast is an elephant.

But I am not convinced. Consider the following parallel example, given by Johnsen[25]. Imagine that—unbeknownst to Tom—Milan Kundera is now in Ventimiglia. Might Tom at least know that Kundera is in Ventimiglia rather than *sitting on Tom's lap?* My intuitions line up with Johnsen's. Tom is at least in a position to know this. I don't mean to insist that this is the right verdict, only that it is not obviously wrong.

3.3 If there is a worry, can it be resolved within a contrastive theory?

If your intuitions are like mine, you won't think that there is any real problem arising for contrastivism with Sue at the zoo. But if your intuitions are like Baumann's, there are still at least three modifications you might consider to the account I offer of contrastive knowledge, all of which would preserve the elegant and uniform K*spq* structure, while providing a better fit for your intuitions.

First, the contrastivist might seek to expand the contrast argument q, by allowing that there can be more to the contrast argument than is made explicit in the "rather than" clause. One plausible implementation of this idea is to treat the contrast argument as disjoining the material explicit in the "rather than" clause with contextually implicit material. Then Baumann's claim "Sue knows that the beast is a dachshund rather

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24   Schaffer (2005a), 257.
25   Cf. Johnsen (2001), 405.

than a cat"—expressed in a context in which the beast's being a terrier has evidently been made relevant—will require K <Sue, that the beast is a dachshund, that the beast is a cat or a terrier>. And since by hypothesis Sue cannot tell a dachshund from a terrier, the contrastivist will thereby get the result Baumann demands: the claim will be false. Likewise "Sue knows that the beast is a dog rather than a cat"—expressed in a context in which the beast's being a mountain lion has evidently been made relevant—will require K <Sue, that the beast is a dog, that the beast is a cat or a mountain lion>. So the mountain lion possibility will come into play after all.[26] And likewise Johnsen's claim "Tom knows that Kundera is in Ventimiglia rather than sitting on Tom's lap"—expressed in a context in which locales all over the world are evidently relevant—will require K <Tom, that Kundera is in Ventimiglia, that Kundera is on Tom's lap or in any other locale>. This too will be false.[27]

Second, and relatedly, the contrastivist might achieve the same effect, not by expanding the contrast argument but instead by expanding what knowledge requires. The idea is to say that the subject must not only eliminate the contrast but must also eliminate further possibilities in some (perhaps contextually variable) halo surrounding the contrast. This is a second strategy for getting a wider range of error possibilities into play, differing from the first only in the details of implementation.

Third, the contrastivist might require more from the subject, evidentially speaking, than just eliminating the contrast. The contrastivist might additionally require some level of positive evidence in favor of the known proposition p[28]. Then for Tom to know that Kundera is in Ventimiglia rather than on his lap, Tom would not merely have to eliminate the prospect that Kundera is on his lap, Tom would also

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26 This has the result that the original claim ("Sue knows that the beast is a dog rather than a cat") comes out true, which strikes me as the right result.

27 Baumann ultimately suggests—albeit for different reasons—that the contrastivist appeal to contextual factors to resolve these cases. Thus he (2008a), 197 concludes the section with: "A contextualist story seems needed here. This would make contrastivism 'impure'." I am afraid I simply have no idea what the problem is. The contrastivist all along appealed to contextual factors to set the contrast for simple binary knowledge ascriptions like "Moore knows that he has hands". So if the only price of resolving Baumann's worries is to include a contextualist aspect, this is a price the contrastivist has already paid in full.

28 Cf. Schaffer (2005a), 258.

need some positive evidence for thinking that Kundera was actually in Ventimiglia—which he by hypothesis lacks.

Overall, it is essential to separate the general contrastivist idea that knowledge is a ternary relation with a contrast argument, from any more specific account of what contrastive knowledge would consist in. Consider the following foolish argument against the idea that knowledge is a binary relation: the account of binary knowledge as justified true belief fails, therefore knowledge is not a binary relation. The argument from the failure of a specific account of contrastive knowledge to the denial of contrastivism would be equally foolish. The preceding three ideas illustrate that there are a wide range of options open to the contrastivist, with respect to Sue at the zoo. The critic of contrastivism should seek an *in principle* problem for any account with a contrastive form.

I conclude that Baumann has not yet established any problem for contrastivism, on this or any other point. I do not mean to suggest that contrastivism is problem-free, but only to encourage the critic of contrastivism to push further.[29]

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