Attention and Perceptual Justification[*]

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Do change-blindness and inattentional blindness give rise to perceptual experiences that are so inattentive to be unreportable? Ned Block argues that they do, giving a powerful defense that has driven forward the debate about this central question in the philosophy and psychology of perception.[1] If Block is right, then we can ask whether the justificatory force traditionally accorded to perceptual experience really belongs to the subclass of attentive, reportable perceptual experiences. Your confidence that there's a hole in the ground, or a door in the fence, or a dog in your way often derives from the fact that you can plainly see these things. If you experienced these facts so inattentively that you couldn't report them, one might reasonably wonder whether your consciously seeing them still gives you reason to think they obtain. Does the reason you get from perceptual experience depend more on its attentiveness and reportability, or more on the mere fact that the experience is conscious? When phenomenal character comes apart from both attentiveness and reportability, does its justificatory force go with it? These are ways of asking what kinds of rational roles highly inattentive perceptual experiences can play.

Our main goal is to explore the tenability of the view that attention is optional for perceptual justification – so much so that even largely inattentive perceptual experiences can provide it. This view is worth exploring, because on a widely held picture, perceptual experiences provide justification, when they do, partly in virtue of their phenomenal character. Whether or not one accepts the traditional identification of perceptual experiences per se as a provider of justification, one might wonder whether the existence of inattentive, unreportable experiences counts against it or not. We think it doesn't.

After some preliminary clarification in section 1, sections 2-3 formulate two main theses about the rational role of highly inattentive perceptual experiences, and sections 4-5 defend the idea that such inattentive experiences are not disqualified from providing justification. We conclude in section 6 by discussing what positive epistemic roles attention might have. Throughout, our discussion of experience applies only to perceptual experiences.[2]

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[1] Block 1995, 2007, 2008, forthcoming.

[2] The term "perceptual experience" is sometimes used to denote experiences one has while perceiving external things. But in our usage, perceptual experiences include hallucinations. They need not be cases of perceiving external things.

1. Preliminaries

We can think of attention as a degreed notion. Highly inattentive experiences are either completely inattentive, or attentive to a very low degree. In addition, a single experience can be partly attentive and partly inattentive, for instance if you see two objects but attend more to one of them than to the other. In addition, one can attend to an object, the spatial region it occupies, or its properties, and these three destinations for attention are dissociable. Object-based attention differs from feature-based attention, and both differ from spatially directed attention.[3] One way for an experience to become more attentive is if it moves from being object-based to being both object-based and feature-based. For instance, you might start out attending to a house in the distance, and then attend to its color. Such an experience could start out being merely object-based, but end up being both object-based and feature-based.

In our usage, "inattentive experience" can denote an inattentive part of an experience that is partly attentive and partly inattentive, or an experience that is inattentive with respect to an object while being attentive with respect to its property. Another thing we mean to denote by "inattentive experience" is that such experiences (whether of objects, spatial regions, or features) is highly inattentive – even if it does not involve zero attention to the object, region, or feature. (As Block (2013) notes, the existence of experience with zero attention is experimentally difficult to establish).

Talking in our way can make it sound as if when you see a scene, you have lots of visual experiences. According to Tye (2003), this is false. The debates engaged here could be re-stated in terms of which parts or aspects of experiences provide justification, but at the expense of having a convenient way to denote those parts or aspects. We leave open whether our manner of speaking reveals the ontological structure of experiences or not.

In order to address the epistemological question that we began with, we focus on the consequences of the hypothesis that a largely inattentive experience of a red square in front of you provides reason for you to believe that there's a red square in front of you. For convenience, we say an experience E is attentive, just in case its degree of attentiveness is above the threshold (and its surrounding grey area) of being highly inattentive. And from now on we use "inattentive experience" to denote experiences that are at least highly inattentive. We sometimes leave open whether the inattentive pertains to objects, features, spatial regions, or just some of these things.

[3] Block (2013) has recently argued that some experiences involve zero attention to objects, even if they involve a non-zero degree of attention to the spatial region that the objects occupy.

Rather than focusing on whether inattentive experiences can justify introspective beliefs, we focus on beliefs about ordinary external things, and use "belief" as shorthand for those. We start with two big assumptions. First, contra Davidson and Rorty, experiences in general can provide reasons for external-world beliefs.[4] Second, some experiences are highly inattentive. Given the controversy over the relationship between consciousness and attention, putative examples of highly inattentive experiences are controversial. To fix ideas, here are some good candidates for inattentive experiences in our sense. You might suddenly notice stiffness in your knees, or the sound of a drill in the background, and realize that you had been feeling the stiffness or hearing the drill for a while without focusing on it.[5] While rummaging through the fridge, distracted by inner ruminations but looking for mustard, you might pass the mustard by even though you were looking straight at it. Later on, you remember seeing it.[6]

In addition to making these two assumptions, we join many epistemologists in talking as if the contents of experiences can be believed, without any transformation, often using the same 'that'-clause or propositional variable to denote both the content of an experience and a belief formed on its basis. For formulating the theses that interest us, the assumption that the contents of experiences can be believed is dispensable. Even if the assumption is false, there will be contents of belief that are more closely related to the contents of experience than others. Given an experience of seeing something red that looks red, a belief attributing redness to the thing will be closer in its content to the experience than a belief attributing the property of being an elephant. Dispensing with the assumption would needlessly complicate the formulation of the theses of interest here. We would have to say things like: "E justifies P, where P is included in E's content, or is closely related to it." So we stick with a pretense that what can be experienced can be believed.

2. Two theses

We can distinguish between two theses about the rational role of largely inattentive experiences vis-a-vis first-order beliefs. The Attention-Needed thesis denies that such experiences have any such rational role, whereas the Attention-Optional thesis allows that they do.

> **Attention-Needed**: One has reason from an experience to believe that x is F only if one attends to x to more than a low degree.

[4] Davidson (1980), Rorty (199x)

[5] Block 1995

[6] Compare Martin's cufflink example from 1992 "Perception, Concepts and Memory," reprinted in Y. Gunther (ed.), *Essays in Nonconceptual Content*, Cambridge: MIT Press, 237–250.

> **Attention-Optional**: One sometimes has reason from an experience to believe that x is F even if one either does not attend to x at all, or attends to x only to a low degree.

Just as attention comes in degrees, arguably justification does too. Whatever the exact relationship is between degrees of attention and degrees of justification, they are not perfectly correlated. Sometimes justification maxes out before attention does (staring more intently at the mustard would not necessarily increase justification), and sometimes attention maxes out while the experience is defeated. For instance, if you experience watery surface ahead, but know that you're in a desert where water is unlikely to be, then your experience is defeated by your knowledge. It could be so defeated, even if you were attending closely to what looks to you to be water ahead.

A natural view about the relationship between these two degreed notions is that paying closer attention often increases justification, and paying less attention often decreases it. The Attention Optional view (AO) can grant this much.[7] The question is whether at the limit, where attention runs out but consciousness persists, the (completely) inattentive experience still provides justification. AO says that a mustard-experience can provide justification for believing that the fridge contains mustard, even if you pay next to *no* attention to the mustard. Attention Necessary (AN) says it can't. Given the (substantial) assumption that the phenomenal character of experience is part of what makes experiences provide justification, when they do, is that rational role tied to attention? Does the phenomenal character of inattentive experiences provide justification, or doesn't it?

Propositional vs. Doxastic, Optional vs. Necessary

The Attention-Needed and Attention-Optional views could be formulated in terms of either propositional justification (PJ) or doxastic justification (DJ). A belief is doxastically justified (or equivalently, *well-founded*) iff it is formed and maintained epistemically well. In contrast, an experience provides propositional justification for P, if it provides some reason (or equivalently, evidence or justification) for P – whether or not the subject goes on to form a belief that P. To apply the notion of doxastic justification, you start with a belief, and look at how it was formed (and maintained).[8] The notion of propositional justification is applied differently: you start with a potential source of rational support, such as an experience, and ask what propositions if any it provides rational support for, and what factors it can be combined with to provide such support.

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[7] Further issues are whether increasing attention always changes the content of the experience, and whether it always changes its phenomenology. Another complication: paying closer attention to what you're looking at could give you more justification for believing proposition P while giving you less for believing proposition Q.

[8] Since we're mainly interested in which beliefs would be rational to form on the basis of inattentive, we focus mainly on norms governing initial belief formation rather than maintenance.

For an experience to be a basis for a well-founded belief, must it be attentive? Attention Necessary about doxastic justification says yes, Attention Optional about doxastic justification says no. For an experience with content P to provide justification for P, must it be attentive? Attention Necessary about propositional justification says yes, Attention Optional about propositional justification says no.

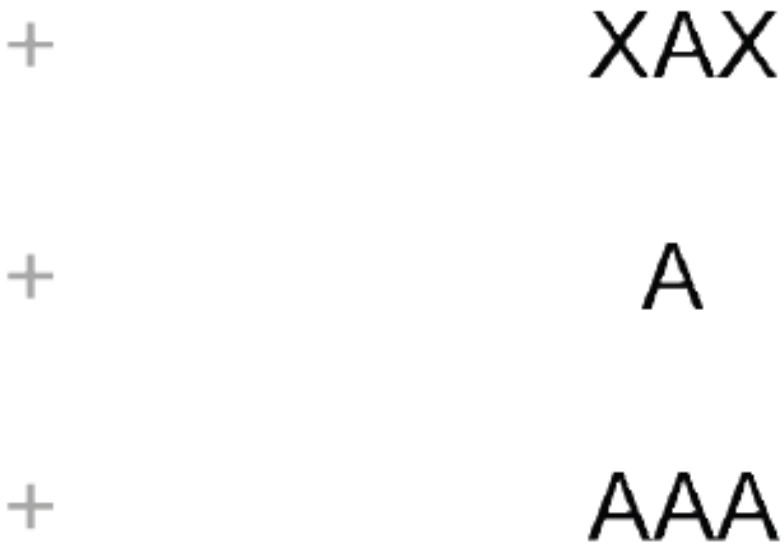
Against the background of our assumption that experiences provide justification, Attention Necessary and Attention Optional are duals when they're both attached to the same notion of justification, propositional or doxastic. But otherwise they can be mixed and matched. For instance, in principle, attention might be needed for experiences to be a basis for well-founded belief, while not being needed to provide propositional justification. The flipside of this observation is that one might try to argue for either thesis (AO or AN) about propositional justification, by taking as premises one of the corresponding theses about doxastic justification (or the reverse), along with a principle about the relationship between the two notions of justification. We consider such an argument later.

Note that Attention Necessary and Attention Optional concern conscious experience, not unconscious perception. They aren't theses about whether inattentive but unconscious *perception* can or can't contribute to doxastic justification. But here too, one might try to leverage considerations about the rational role of unconscious perception (or lack thereof) into support for one of the AN or AO theses. We use a strategy like this later to support both of the Attention Optional theses.

3. Motivating Attention Optional

A first motivation for both versions of the Attention Optional view is drawn from visual crowding, a phenomenon that Block has discussed. Consider the experiences you have when you fixate on the crosses in figure 1.[9]

[9] Whitney, D. and Levi, D.(2011)Visual crowding: a fundamental limit on conscious perception and object recognition. Trends in Cognitive Sciences 15, 160-168



In the case of the bottom middle A, we are able to consciously see it even when we fixate the cross in the same line. After all, (i) our experience differentiates what is in that region from its surroundings, and (ii) we are able to identify what is there as an A. In favor of this claim, consider the vivid contrast the case of the upper middle A, which we are unable to identify while fixating on the cross. Whether or not conditions (i) and (ii) are sufficient for our consciously seeing the bottom middle A, they are marks in favor of our seeing the bottom middle A. Further, given that we consciously see the A and are able to identify it as such, the case is plausibly one in which we are justified by our experience in believing that it is an A.

However, we are not able to attend to the bottom middle A while attending to the cross. While maintaining fixation on the cross, we are unable to make our attention step from each letter to the next. Compare the difficulty in doing so with this figure from Intriligator and Cavanaugh 2001:

The example of the bottom middle A is thus one in which our experience gives us reason to believe that it is an A, even though we do not attend to it. The example is a counterexample to Attention Needed.

In response, one might protest that you identify the middle A in the bottom row not just on the basis of the inattentive experience, but on the basis of that inattentive

experience plus your memory of the A that's the residue of a previous attentive experience of the A. If this response were on the right track, we should to be able to identify the middle A in the upper row as well, on the basis of our memory of (an attentive experience) of that A. But we are not able to do any such thing. So the objection fails.

In response, one might deny that we have reason to believe so strong a claim as [that is an A]. However, our objection to Attention Needed does not require that we have justification from our experience to believe such a specific claim. It is enough if our experience gives us reason to believe a weaker claim along the lines of [that is not a hippo] or [that is not a face]. This fallback position still supplies a counterexample to Attention Needed.

Alternatively, one might charge that we are mistaking spatially-based justification for object-based justification. What experience gives us reason to believe, on the fallback position, is that some area on the right side of display containing the A does not contain a face. But if we can attend to this spatial area, there is no disconnect between attention and justification.

A key question is thus whether you can or can't have justification for attributing a property to the A, as opposed to an area containing the A, without object-based attention to the A. In favor of the position that you can, we seem to be able to visually differentiate the figure from its surroundings. The figure is not simply a blur – it has distinct elements that we can spatially distinguish from one another, and that (unlike cases of camouflage) have visibly salient boundaries. Once we get that far, we seem to have a case of attributing the feature to the A itself.

A different response to the example charges that we don't consciously see the A on the right side, but allows that we unconsciously see it. Although this position seems to sell the experience short, we can still indirectly reach our main point if it were correct. Even if we only unconsciously see the A, it still seems plain that we have reason to think it is not a face. If unconscious perception without attention of the A can provide justification for this belief, then that suggests that inattentive experiences can provide justification too.

A second motivation for Attention Optional comes from comparing inattentive experiences to a common type of inferential blindness involving beliefs. Suppose you have justified beliefs that:

> you have an appointment with X alone at noon,
> you have an appointment with Y alone at noon,
> $X \neq Y$,

…but you haven't noticed the conflict. When you don't notice the conflict, you don't thereby lack evidence to believe it's there. You still have justification to believe that you have conflicting appointments, despite not having noticed the conflict. Once you notice it, you'll have based your belief on the previously un-noticed evidence.

The conflicting appointments case illustrates a general point. Your memory can harbor evidence that you're not disposed to use in forming or adjusting your beliefs. If

you can harbor evidence with this feature by having beliefs, then barring a great disanalogy between belief and experience, you can likewise harbor evidence with this feature by having experiences. High levels of attentiveness in an experience may make it more easily used in forming or adjusting corresponding beliefs, whereas low levels of attentiveness may make these experiences less easy to use in this way (at a minimum, one usually has to shift one's attention first).

An opponent might challenge our reasoning from conflicting appointments, by disputing the analogy between belief and experience. In inferential blindness, when the subject simply fails to make an inference, no further cognitive processing besides inference is needed for her to use the justification that she has. According to the opponent, inattentive experiences are different, in that further processing is needed in order to use the inattentive experience as a basis for a well-founded belief. If attention is part of what's needed for further processing, the objector says, then it is a constitutive part justification for experience.

In reply, from the fact that a shift of attention is needed in order to use an inattentive experience as a basis for well-founded belief, it does not follow that the attention involved is a constitutive part of justification provided by experience. It could be merely an enabling condition under which experience can be used as a basis. More strongly, the case of visual crowding suggests that attention is not in general a constitutive condition for experience to provide justification. So there is no general reason to think that when shifts of attention are needed for experience to provide justification, the role of attention is always constitutive.

A third motivation applies to both the propositional and doxastic justification version of the Attention Optional view. Many candidates for inattentive experiences are also candidates for unconscious perception. For instance, people with visual hemi-neglect don't fully process information on one side of what they see. When shown houses arranged vertically, where the houses are the same except the neglected side of one of them is on fire, neglect patients say that the houses look the same. But some neglect patients also seem to take in information about the neglected (i.e., the unreported) stimuli, and to form beliefs about it. For instance, some of them, when asked which house they would prefer to live in, select the one that isn't on fire.[10] Their belief that this house is preferable seems justified by the information they take in, whether the intake has the form of an inattentive experience or an unconscious perception. If the patient was averse to selecting the burning house as a place to live, that choice would seem justified as well. And if an unconscious perception provides a basis for a justified belief, it seems plausible that an inattentive experience could do the same. In both cases, relevant information is taken in and guides the formation of belief, and in neither case is reportability needed to provide this basis. Both practical and

[10] Bisiach, E., Rusconi, M.L., 1990. Breakdown of perceptual aware-
ness in neglect. Cortex 26, 643-649, and Halligan, P.W., Manning, L., Marshall, J.C., 1990. Individual variation in line bisection: a study of four patients with right hemi- sphere damage and normal controls. Neuropsychologia 28, 1043-1051.

epistemic rationality seem to cross the divide between conscious and unconscious representation.[11]

In the rest of this paper, we defend the Attention Optional view further in two ways. First, we defend it against an initial challenge that links propositional justification to usability as a basis for belief or doxastically justified belief (section 4). Next, we defend a thesis that strongly suggests the propositional justification version of Attention Optional: experiences can be completely unreportable and still provide propositional justification for their contents (section 5). We conclude by discussing the rational roles attention might play, if either of the Attention-Optional theses is true (section 6).

4. First challenge to Attention-Optional: propositional justification has to be usable

Consider the type of inattentive experience discussed in connection with inattentional blindness. In a typical inattentional blindness experiment (Most et al, 2001), subjects fixate the center of the screen. Some white squares and black circles move around and bounce off the sides. Subjects count the times the white squares bounce off the sides. A red cross moves across the screen for 5 seconds, right through the fixation point. It's visible, and easily seen when you're not busy with the counting task. But 28% of subjects do not report it. These subjects might even *deny* experiencing a red cross - just as in the conflicting appointments example, you might deny having conflicting appointments. The Attention Optional view about propositional justification allows that these subjects nonetheless might have justification to believe a red cross is on the screen, without having attended to it.

An objector might charge that the inattentive red-cross experience doesn't put you in a position to form any well-founded beliefs on its basis. Suppose you were blindfolded, but formed a red-cross belief about what was on the screen anyway, just on a hunch. That belief would be ill-founded. According to the objector, a red-cross belief formed in the experimental set-up is epistemically no better. The objection then exploits the plausible idea that doxastic justification and propositional justification are linked in the following way. If the subject can't form a well-founded belief that a red cross is present on the basis of her experience, she arguably doesn't have propositional justification from it to believe that a red cross is present.

As it stands, the objection does not address the possibility that the subject *can* form a well-founded belief that the red cross is present, by attending to the red cross. On this picture, attention plays the role of a *conduit* by which we can exploit the

[11] We assume that the hemi-neglect patient does not unconsciously attend to the burning house, although we do not rule out the possibility in general of attentive unconscious perception. For evidence that blindsighted subjects are capable of attending to stimuli they do not consciously experience, see Kentridge 2008. For evidence that ordinary subjects sometimes attend to erotic images they merely unconsciously represent due to interference with one of their eyes, see Jiang 2006. For a response, see Prinz 2010.

evidence that an inattentive experience provides. In attending to the red cross and then forming a belief that it is there, the subject exploits the evidence that was there all along. Compare Dretske's moustache case (Dretske 2007): you fail to notice that your friend shaved his moustache, and so answer No when he asks, "Do I look different"?. If you then suddenly notice the difference, you're not suddenly gaining evidence for the moustache-proposition for the first time. Instead you already had evidence for it, you just hadn't exploited it.

In order to block this response, one might insist that inattentive experiences are destroyed by shifts of attention. On this approach, experiences are individuated by what it is like to have them, and the post-attentive experience is distinct from the pre-attentive experience, since a shift of attention makes for a difference in what it is like to have each experience at each time. This approach can be formulated as an argument from the usability of justification:

Usability Argument

(Usability): An experience E gives you propositional justification to believe that a is F only if you can form a doxastically justified belief that a is F on the basis of E.

(DJ-Attention Needed): If at t you form a doxastically justified belief that a is F on the basis of an experience E, then at t you have E and attend to a.

(Attention Destroys Experience): If you have an inattentive experience E of a at t, and then attend to a at t', you no longer have E at t'.

Conclusion 1: You can't form a doxastically justified belief that a is F on the basis of an inattentive experience of a.
Conclusion 2: No inattentive experience ever gives you propositional justification to believe that a is F.

One might easily question the assumption in Attention Destroys Experience that no experience is ever inattentive at one time and attentive at another time, on the grounds that there are multiple ways to individuate experiences. But instead of questioning that premise, we question the other two premises, which are problematic in more interesting ways.

First, the Usability premise is too demanding. For example, it might wreak havoc on your self-conception as a neat-freak to use the sight of mud clumps on the rug as evidence that you've made a mess. Even though you accurately experience the dark splotches on the white rug, you might be unable to form a belief that you've made a mess. But that doesn't seem to prevent your experience from giving you evidence for that. Instead, you simply have evidence from your experience you are unable to use.

Second, as against DJ-Attention Needed, it seems doubtful that the experiential bases for well-founded belief are limited to attentive experiences. As we saw earlier, the hemi-neglect patients seem to have beliefs about which house in the display they would

prefer to live in that are based on either inattentive experiences or unconscious perception In visual crowding, experiences of crowded stimuli seem to be the basis of corresponding well-founded beliefs.

Taken together, these considerations suggest that inattentive experiences provide propositional justification for certain beliefs, whether using them to form the beliefs requires a shift of attention or not.

5. Is propositional justification from experience limited to low-grade reportability?

We have been focusing on inattentive experiences that seem to be unreportable by the subject, without a shift of attention. In the inattentional blindness case, if the subject stopped counting boxes and continued fixating the dot, she probably would have an attentive red-cross experience that she could easily report. In our earlier examples, you could attend to the drill, the pain, or the mustard - you just don't. But if you did attend to them, then not only could you form standard perceptual beliefs about them, you could also (typically) report both those beliefs and your experience. This fact gives the red-cross, drill, pain and mustard-experiences *low-grade reportability*. Because they are merely potentially attentive, their reportability is low-grade. In contrast, experiences that can be reported (even if only in a rudimentary way) without having to shift attention are reportable in a high-grade way.

We now consider experiences that are not even low-grade reportable. They are just plain unreportable. More exactly, they are subexperiences that are jointly unreportable. These experiences are elicited by experiments in Sperling's partial report paradigm, according to an interpretation of them that is defended by Block, and that we take on board. We can use the contrast between low-grade reportable and unreportable to probe whether reportability (even the low-grade kind) is needed for experiences to provide justification. If not, then the Attention Optional position may be fallout from a stronger thesis. If reportability of experience per se is optional, then high-grade reportability of the sort that typically accompanies attentive experiences is optional too.

Sperling subjects see a display like the one below for 15-500ms.

S S N A
W N B E
V G A N

Within 300ms of the display disappearing, subjects hear one of three tones selected at random – pitched either high, medium or low. They are then asked to recall the letters they saw in the row indicated by the tone (top row by high tone, etc).

No matter which row is cued, subjects typically report 3-4 letters of the cued row, but cannot report letters in un-cued rows. The facts that subjects say they see all the letters, and that they can report *any* of the rows that is cued suggests that they experience all (or nearly all) of the letters in the display (as the letters they are).

Here we assume that Block's (2007) 'overflow' thesis is right: Sperling subjects experience all the letters in the display, this experience morphs into a visual phenomenal memory of all 12 letters that persists at least 300ms after the display disappears, and hence its capacity is larger than the capacity of non-iconic working memory.[12] To avoid distracting controversies over the exact nature of the non-iconic working memory, we'll just call it a halfway-house. It's a halfway-house between experiences and reports.

In the Sperling experiment, the twelve letters are not *jointly* reportable. You can only remember 4 letters in the display. You may attend to the letters diffusely, but 500ms isn't long enough to put them all into the halfway house that sits between large-capacity phenomenal memory and reports.

Does the Sperling subject's experience of 12 letters provide propositional judgments for a 12-letter belief attributing those exact letters to the display? (This is the belief that display contains S-S-N-A-W-N-B-E, etc.)[13] If the Sperling subjects' experience provides justification for this 12-letter belief, there would be a disconnect between propositional justification and reportability. We will defend the *12-letter position*, which says that you have propositional justification for the 12-letter belief, even though you can't form a reportable 12-letter belief on its basis. The disconnect with reportability isn't all that radical, since for any row in the display, you can form a reportable 4-letter belief on the basis of the Sperling experience.[14] But it's a disconnect nonetheless.

The opposing position says that the propositional justification provided by experience is limited by low-grade reportability. On this position, your experience doesn't provide propositional justification to believe that the display contains S S N A – W N B E – V G A N. We can then ask: according to this position, for which propositions does the experience of the display provide propositional justification? We argue that if the experience of the Sperling display provides any justification at all for beliefs about the letters contained in the display, there is no way for it to stop short of providing justification for the (specific) 12-letter belief.

To defend this conclusion, our argumentative strategy is to consider options that deny this position, and make the case that these options are less plausible than the 12-letter position.

A first option is that the experience of the display does not provide any propositional justification at all. This option is extreme. You saw all the letters, and cue or no cue, you have a justified perceptual belief that you saw some shapes (whether or not you have any justified perceptual beliefs in more specific claims).

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[12] Block gives extensive arguments for this interpretation in (2007), some of which are summarized in (2011). He draws on results from Victor Lamme's group (see Lamme 2003 for a summary) which extends the partial report paradigm producing results that seem to support Block's position.

[13] In contrast to the specific 12-letter belief at issue, a generic 12-letter belief would be a belief that the display contains twelve letters, without specifying which letters those are.

[14] More exactly, subjects in general can report 3-4 letters from each cued row. We are rounding the number up.

A second option is that the partial reportability of the letters imposes a structure on the justification provided by experience. For any 4 letters you end up remembering, the belief that the display contains those 4 letters is justified by the experience. If you ended up believing that the display contained the 5 letters S S N A W, or the 6 letters S S N A W N, however, then on this option, your experience wouldn't provide propositional justification for this belief, because justification runs out after 4 letters.[15]

This result generates dependencies where intuitively there are none. Suppose you formed the well-founded belief that the display contains S S N A on the basis of the experience. Now consider the next row down, W N B E. If propositional justification and doxastic justification ever come apart, then whether your experience provides propositional justification for believing that the display contains W N B E is insensitive to whether you actually form any belief at all about the display, a fortiori the belief that the display contains S S N A. The option we're considering makes these facts depend on one another. It makes the status of W N B E as rationally supported by experience conditional on whether you form a well-founded belief that the display contains S S N A, and it makes the status of your S S N A belief as well-founded conditional on whether your experience provides propositional justification for W N B E. But however well-founded belief and propositional justification might be connected, having propositional justification from your experience to believe that p does not require that you actually have a well-founded belief that p.

According to a third option, from your experience, you have propositional justification for every 4-letter belief, but you don't thereby have propositional justification for all of the rows, so you lack propositional justification for the 12-letter belief. Justification doesn't run out at 4 letters, the way it did in the previous option. But it doesn't yield propositional justification for the 12-letter belief either. Here, the propositional justification you get from your experience of the Sperling display is analogous to the justification that the author of a book can have for believing the many sentences in the book that they have authored, given that they also have reason to think that some of those sentences are false. Taken individually, the author might rationally endorse each sentence, yet still lack any reason that the book is free of mistakes, and therefore lacks reason to belief the conjunction of all its sentences.

In reply, the epistemic situation of the Sperling subject differs in an important way from the author's epistemic situation. In the author's case, part of their reason for thinking that the book contains a mistake is that it contains many sentences. If the book were half a page long and contained only a few sentences, it would seem more plausible to hold that justification is possessed for the conjunction as well as the conjuncts. In the

[15] A variant position would hold that for some quadruple of letters, you have justification from your experience to believe they are there, with no further restriction of which letters they are. This position is absurd. It predicts that even if you remembered S S N A, and formed a belief that they were there on the basis of your experience, you might instead have justification only to believe that W N B E were present, despite your failure to remember them.

Sperling case, the conjunction of 4-letter groupings is so small that it is more like a very short story than a voluminous tome.

By elimination, we think the Sperling subject has perceptual justification for the 12 letter belief.

We can also make a slightly different case for our conclusion:

> **Sperling Result**: For any row of four letters, you could have formed a well-founded belief that the display contains those letters.
> **Premise**: Forming a well-founded belief that a given row of letters is present does not alter the character of your experience.[16]
> **Premise linking DJ to PJ**: If you can form a well-founded belief that p on the basis of your experience, without changing the character of your experience, then your experience gives you reason to believe that p.
>
> **Conclusion 1**: For any row of four letters, your experience gives you reason to believe that the display contains those four letters.
> **Conclusion 2**: Your experience gives you reason to believe the 12-letter proposition.

Stepping back, if unreportable experiences provide propositional justification for their contents, then that's a reason to think that low-grade reportable experiences do too. This conclusion would provide direct evidence for the Attention Optional positions, if the categories of low-grade reportable experiences (=those that can be reported only with a shift of attention) coincided exactly with inattentive experiences. As it stands, these categories do not coincide exactly. Some inattentive experiences might remain unreportable, even with a shift of attention, and others might already be reportable, without having to shift attention. But they do overlap. Since some inattentive experiences are low-grade reportable, our reason to think that low-grade reportable experience provide propositional justification for their contents indirectly supports the Attention Optional view about propositional justification.

6. What are the rational roles of attention?

If the Attention Optional position is true, it is natural to ask how attention impacts the rational features of perceptual beliefs and inquiry. In the discussion of the red cross case, we saw that attention could exploit propositional justification that is already there, serving as a conduit to form a well founded belief. In this scenario attentive experiences play a privileged role in inquiry. When the subject looks at a stimulus attentively, she is already in a position to use her experience to address any questions she might ask herself (or others might ask her) about what color the object is. Her attentive color experience, compared to her inattentive color experience, makes her

[16] For potential dissent to this premise, see Stazicker (2011) and Philipps (2011).

more poised to contribute to inquiry about color. This is a role for attention that need not involve the increase of propositional justification. Instead, its role is to use what propositional justification one has. Further, when the subject looks at the stimulus attentively, she is in a better position than an inattentive subject whose experience has the same color content to notice any changes in the color of the stimulus. Of course there is no guarantee that changes in color will be noticed (as the change-blindness data show). But if you want to notice changes in the color of an object, a good strategy is to pay attention to it. These plain facts are compatible with the idea that you could have inattentive color experiences that justify beliefs about the attended stimuli.

A somewhat different role for attention is to help select concepts that apply to what you see, even when this doesn't change the content or phenomenology of your experience. For instance, suppose someone is wearing a shirt of an unusual shade of green. If you look attentively, you're better placed to assess whether the square is chartreuse or lime green. Even if paying attention sometimes slightly changes the fine-grained color phenomenology or content of your experience (as Carrasco 2006 suggests), the attention may help select which coarser grained concepts to apply to the properties experienced.

A related role is to increase the determinateness of what experiences represent, by bringing further information in the form of new contents, and replacing indeterminate old contents. The epistemology of such cases plausibly involves degrees of belief, rather than just outright belief. Suppose your initially inattentive experience does not deliver a precise verdict about whether the road you're on is flat. Here we take it that your inattentive experience provided you with justification to increase your degree of belief in the proposition that the road is flat, compared to the justification you had for this proposition before you even looked at the road. At the same time, your experience also gives you justification to increase your degree of belief in other possibilities in the vicinity – that the road is slightly inclined, or that it is slightly declined. Now suppose that shifting your attention to the road brings your experience now to represent that the road is flat. By ruling out the other possibilities, the attentive experience provides you with justification for an even greater degree of belief in the proposition that the road is flat whether or not you end up with enough justification to believe outright that the road is flat. The Attention Optional approach can grant that attention sometimes make a difference to the amount of propositional justification experience provides, without making attention a necessary condition for experience to provide propositional justification at all.

All that said, it seems doubtful that attention always increases the degree of propositional justification one has. Consider the disjunctive proposition that the road is either flat or slightly inclined or slightly declined. Compare the amount of propositional justification one has for it before and after attending to the road. Here one need not gain propositional justification by a shift of attention for the disjunctive proposition, even if one does gain propositional justification for the specific disjunct that the road is flat. Your degree of justification for the disjunction might remain constant, even though your degree of justification for one disjunct has gone up and for the other disjuncts gone

down.

A further question is whether attention ever increases the degree of propositional justification one has, without increasing the determinacy of experience. Consider here the debate about intentionalist views of perceptual phenomenology, according to which experiences which are phenomenally different must also be representationally different (Byrne 2001). According to a common objection to intentionalism, shifts of attention can sometimes make for a phenomenal change without any representational change, for example when you shift your attention between locations in a ganzfeld of color (for discussion see Chalmers 2004, Nickel 2007, Speaks 2010). Or for a shift of attention of attention without an increase of determinacy, attend covertly to the side while fixating on a point in front of you. Here it could be that you need an overt shift of attention for any gain in determinacy.[17] If there are indeed such phenomenal changes without representational changes due to attention, or at least without boosts of determinacy due to attention, we are skeptical that they make for any difference in propositional justification. In such cases we are inclined to say that your perceptual evidence remains the same, with no difference in how much propositional justification you have from it.

In conclusion, if the Attention Optional views are false, then the traditional formulations of the phenomenal approach to perceptual justification systematically misdescribe it. It wouldn't be any old conscious character of perceptual experience per se that contributes to justification, but rather its attentive character. On the assumption that many (or even most!) perceptual experiences are largely inattentive, the justificatory role of such experiences would vastly overestimated.

On our view, the Attention Optional view is true, and experiences outside of attention do play a justificatory role. We have presented a variety of considerations in favor of the view. This is not to say that the phenomenology of inattentive experiences suffices for justification. For all Attention Optional says, further conditions other than attention must be in place. Consciousness may or may not suffice for justification, but attention is not necessary.

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[17] Thanks here to Frank Jackson. For further discussion and references, see Stazicker (ms).

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