

Structuralism for Qualities

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Structuralism in Consciousness
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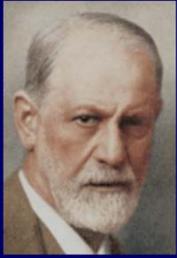


Overview

- I. Qualities vs.
Consciousness**
- II. Qualities on Their Own**
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I. Qualities vs. Consciousness

- How is mental qualitative character related to consciousness? Today the most widely accepted view is that consciousness is built into qualitative character. Many now hold that no other view is even conceivable.
- On this view, qualitative character cannot occur without consciousness; consciousness is an essential aspect of all mental qualities. Some even urge that we think of mental qualities as types of consciousness: Consciousness is a determinable of which the various qualities are just determinates.



- Such a view can occur in surprising places. Even Freud, who held that “[t]he mental, whatever its nature may be, is in itself unconscious” (S.E. 23, 283), nonetheless also flatly denied that feelings can occur unconsciously (14, 177-8; 19, 22).
- It’s often claimed that consciousness must be built into qualitative character because the only way to learn about qualitative character is from consciousness.
- And if consciousness really is the only way to learn about mental qualities, there wouldn’t be anything for mental qualities to be apart from consciousness. Here epistemology is held—surprisingly and just in this case—to determine metaphysics.

- But we also learn about mental qualities in third-person ways: e.g., from behavior that one is in pain. And the state we learn about that way is often a conscious state.

Consciousness is typically more reliable—but it is not infallible, as we'll see (in §III).

- Also, consciousness seems not to reveal any causal ties that qualitative states have with behavior or with stimuli.

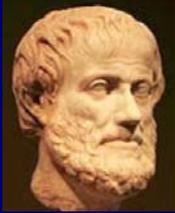
So consciousness does not reveal all the properties of those states—specifically, not those needed for third-person access.

- One might deny that those causal ties are part of the nature of qualitative states. But those ties are not accidental; so they are an aspect of those states' natures.



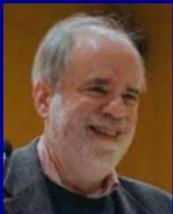
- The view that consciousness is built into qualitative character makes a mystery of mental qualities—a mystery expressed by the idea that there's an explanatory gap (Levine 2000) or a hard problem (Chalmers 1995), or the idea of undetectable quality inversion.
- If consciousness is not built into qualitative states, we can readily explain—for the nonconscious cases—why a particular brain state is associated with a particular mental quality, as opposed to a different mental quality or none at all.
- And if qualitative states aren't all conscious, we should be able to add consciousness to the nonconscious cases, and explain such consciousness independently (more in §III).

- Also: Undetectable quality inversion will seem possible—indeed conceivable—only if consciousness is built into mental qualities, thereby confining us to first-person access. Third-person access plainly could detect any inversion.
- Many today see no alternative to this view, and so acquiesce in the mysterious results. But that view is by no means obligatory—nor is it even straightforwardly traditional.
- Traditional writers—from Aristotle through Descartes, Locke, Hume, and Kant—never spoke of mental states' being conscious, but only of our being conscious of our own mental states—albeit conscious of them in a way that is subjectively unmediated.



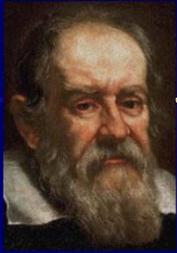
- And one is conscious of a mental state only in respect of its other mental properties. That suggests that the property of being conscious of a mental state is distinct from the state's other mental properties.
- So even if qualitative states were invariably conscious, as those traditional writers held, consciousness then need not be built into qualitative character—but can instead be just an accompanying mental property.
- And if a state's being conscious and its mental qualities are distinct properties, we may be able to explain each independently of the other—blocking an explanatory gap or hard problem. Also, consciousness may then not be decisive about a state's nature.

- And if being conscious is distinct from a state's other mental properties, it may be that not all qualitative states are conscious. That idea finally took hold in the second half of the 19th century, and it implies a need to rely in part on third-person access to determine a state's mental nature.
- The view that consciousness is built into qualitative character—widely held only recently and in any case optional—results in intractable mysteries. Why then is that view now so firmly held?
- Some just appeal to intuitions, which Kripke urges give us “more conclusive evidence ... about anything, ultimately speaking,” than any other consideration can (1980, 42).



- But intuitions are not pretheoretic common sense. Rather, they embody theoretical assumptions in appealing ways that disguise their theoretical nature. So theory can override them—as Kripke himself urges for the intuition that heat might not be MMKE.
- Indeed, if intuitions didn't covertly embody tacit theories, they'd be merely stipulative, since people notoriously differ about which intuitions are compelling.
To adapt Dennett's nice trope (1980, 1991), intuitions are simply theory pumps.
- So it's a theoretical claim that consciousness does not simply accompany many mental qualities, but is built into them all—an idea that calls for theoretical assessment.





- But if not intuitions—and no compelling theoretical reasons—why is the “built-in” view now so widely held?
- Galileo’s dictum that “the universe ... is written in mathematical language” (2008, 183) banishes from physical reality all properties, like colors, that are special to only one sense modality. A standard reaction is to relocate those properties to the mind.
- But it’s rarely noted that these properties are problematic only as we are aware of them. Unseen colors are simply surface reflectances. And this matters:
If we relocate properties only as we’re conscious of them, the relocated versions will have consciousness already built in.



- Indeed, since relocation is only of properties as we're conscious of them, the way we're conscious of them determines their nature.
- Hence Nagel's doubts about whether "it makes sense ... to ask what my experiences are really like, as opposed to how they appear to me" (1974, 448; Nagel's emphasis).
- But if we can develop an account of mental qualities that's altogether independent of consciousness, then there's no reason to hold that consciousness is built into, or an aspect of, qualitative character. And we can: We can give a revealing, full account—in psychologically relevant terms and independently of consciousness—of just what the mental qualities are.

➤ And consciousness itself may tell us little if anything about mental qualities. Those who think we know about them only from consciousness also acknowledge that we know virtually nothing about their nature.



➤ Thus Block, who holds that view, suggests we can say nothing about what qualitative character is other than Louis Armstrong's quip about jazz: "If you gotta ask, you ain't never gonna get to know" (1978, p. 281).



And proponents of Jackson's Mary (1986) are equally elusive about just what Mary learns from consciousness when she first sees red.



➤ By contrast, taking mental qualities to be distinct from consciousness enables richly informative accounts of both, as we'll see.

II. Qualities on Their Own

- Many experimental findings seem to point to mental qualitative character that occurs unconsciously. So a view on which that just can't happen should be surprising.
- Subjects guess with >80% accuracy about color stimuli that are masked, stimuli they report not seeing. But since these stimuli prime for downstream psychological effects, they were plainly seen (Marcel 1983).

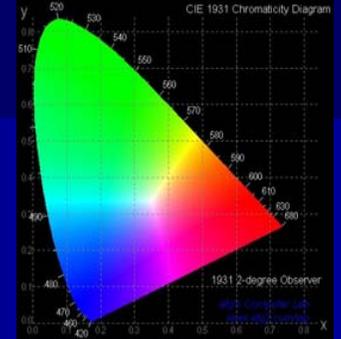
Similarly with blindsight patients for stimuli in their blind field—again with qualitative properties such as color (Weiskrantz 1986, 1997)



- And we'll see that there are compelling theoretical reasons to take these results to be about states that are qualitative, and not just neural or subpersonal, i.e., nonmental.
- But first: Perceiving involves discriminating among perceptible properties of stimuli—colors, shapes, sizes, sounds, odors, etc. Such discrimination occurs consciously, but also nonconsciously. We discriminate stimulus properties in subliminal perception no less than in perceiving consciously.
- By manipulating stimuli, we can test for just noticeable differences (JNDs)—differences between stimuli so small that were the stimuli any closer physically one would be unable to distinguish them at all.

- We can then use JNDs for a range of stimuli to construct a quality space (QS) that captures all the stimuli in that range that an individual can discriminate.

For color stimuli, the QS might be like this (just for hue and saturation):
(CIE—Commission Internationale d'Éclairage, 1931).

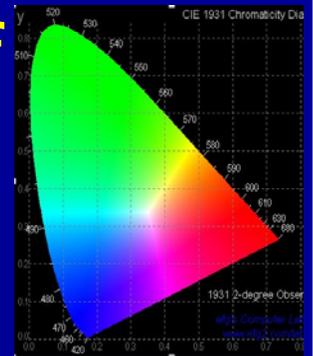


- But discriminating stimuli requires that one be in states that differ in ways that reflect how the stimuli differ for one.

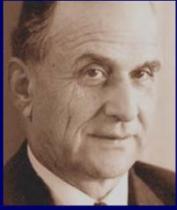
That's so independently of whether the discriminating is conscious.

- This doesn't show so far that nonconscious perceptual states are genuinely qualitative—as against subpersonal and nonmental. But there's more.

- Conscious perceptual discrimination plainly does work by differences in mental quality. We consciously distinguish stimuli by being in conscious states that differ qualitatively in ways that correspond to discriminable differences among stimulus properties.
- So in the conscious case, the QS of discriminable stimuli will also map the mental qualities that enable one to discriminate those stimuli:
- That gives us a theory—for the conscious case—of what the mental qualities are: They are those properties of perceptual states, mapped by a QS of discriminable properties, in virtue of which an individual can make conscious JND discriminations.



- On this QS theory, mental qualities in the conscious case are fixed by relative location in a QS built on JNDs—discriminative ability.
- If one thinks about mental qualities in terms of what it's like, this may seem unintuitive. Aren't conscious mental qualities fixed one by one, independently of all the others?
- No. Conscious mental qualities enable our conscious discrimination of perceptible stimulus properties. The best explanation of how conscious mental qualities enable comparisons of stimulus properties is that the qualities are individuated relationally. Indeed, we do fine-grained individuation of conscious mental qualities by comparing them introspectively. (More on that in §III.)



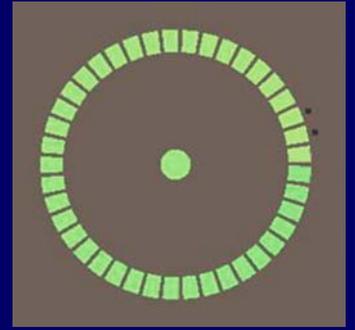
- JNDs aren't transitive—or even symmetric (Goodman 1951). Moreover, subjects vary in discriminative ability and are conservative in judgments. But all that can be handled.
- What matters is whether the qualities that figure in conscious perceiving and are fixed by location in a QS are also responsible for nonconscious perceptual discrimination.
- And there's compelling reason to think so. QS theory shows that taxonomizing conscious mental qualities requires no appeal to consciousness—just to the discriminative ability that JNDs reveal. So absent some compelling countervailing reason, we should assume that the qualities thus taxonomized need not be conscious.



- Also: Consciously discriminable stimuli can be degraded to be consciously detectable but not consciously discriminable—and forced-choice guesses still discriminate well above chance (Mealor et al 2012).
- This continuity between the conscious and nonconscious cases again points to the same properties' figuring for discriminating in both. It's mental qualities in conscious cases—so also in nonconscious perceiving.
- Also: In these degraded cases the mental qualities are conscious—but not in respect of the discriminable differences.
So there must be a nonconscious aspect of those conscious qualities that enables accurate forced-choice discrimination.



- Thus, in Raffman (2011) adjacent patches alternated different and same, but when different by less than conscious JNDs. Also, when different, wavelengths always increased.
- When subjects judged adjacent patches the same, a disk appeared with a hue randomly matching one of the patches, which subjects adjusted to match the two judged identical.
- Result: “[S]ubjects’ settings of the [central] disk progressed more or less systematically with the wavelengths of the patches, even though the members of the pairs in question had been judged ‘same’ ” (118).
Perceiving is conscious, but accurate fine-grained qualitative matching is unconscious.





➤ A related finding: Sperling (1960) presented subjects briefly with a 3 x 4 matrix of letters. After the letters disappear, subjects say they saw all 12 consciously—but they can identify only 3-4 of them.

But if a subsequent tone directs subjects to one row, they'll get 3-4 in that row!

K	S	M	R	← High tone
X	D	Q	G	← Medium tone
B	Z	O	H	← Low tone

➤ The tone occurs only after the letters have disappeared. So subjects must register and retain information about most identities.

➤ Block (2007) urges they do so consciously, since that's what they say when asked. But subjects likely have no idea how they do so, and just say what they think is expected—a so-called demand effect.

➤ And it's unrealistic to think most identities are registered or retained consciously. Even when perceiving is conscious, it takes in a lot of input unconsciously—as with Meador's and Raffman's subjects.

➤ Here the perceptions are all conscious as being of letters—but in respect of only a few specific identities. Most identities are registered and retained unconsciously.

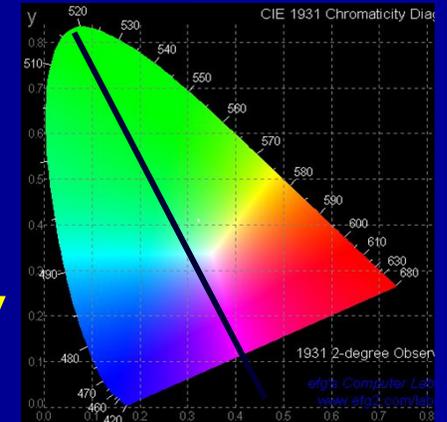
This is supported by subjects' taking all the items to be alphanumeric even when a few of them aren't (Kouider et al 2010).

➤ Block takes Sperling-like findings to show that phenomenal consciousness overflows access. It's rather just that unconscious perceiving overflows conscious perceiving.



- Some might still deny that the properties in unconscious discrimination are qualitative. But without some reason, that denial is just stipulative—i.e., merely verbal.
- Since mental qualities undergird conscious discrimination, why not in unconscious cases? The only difference is lack of first-person access to the relevant properties. And we have a solid theoretical grasp of the qualities independently of the first person.
- Also, if mental qualities weren't responsible for unconscious discrimination, some other properties would be—subpersonal, neural properties. Those properties could then be operative in the conscious cases, making the conscious qualities idle even there.

- QS theory explains only mental qualities; Subjective awareness is a wholly distinct matter. Again: Independent treatments prevent a hard problem or explanatory gap.
- Also, on QS theory undetectable inversion of mental qualities is inconceivable: If there were an axis around which a QS were symmetrical, stimuli on the two sides would have identical relative locations, and would be indistinguishable.
- Inversion around an asymmetric axis would be detectable. And there is indeed no known modality with a symmetrical QS. The properties imagined for undetectable inversion could not be mental qualities.



- A nice bonus: We can extend QS theory to provide an informative way to individuate the sensory modalities—which, unlike the traditional proposals, begs no questions.
- Call a sequence of JND stimulus properties that goes from one property to another a JND bridge. Then a set of mental qualities belongs to a single modality if, but only if, they correspond to stimulus properties all connected by some JND bridge.
- With fine tuning for some odd findings with olfaction and gustation, this works well. And it avoids the difficulties of traditional ways of differentiating the modalities, such as sense organs, the physical nature of stimuli or media, and phenomenology.

- We have competing theoretical stances—fixing mental qualities by perceptual role and fixing them by what it's like. Both have some tie with common sense; so “intuition” can't decide between them.
- But both also make theoretical claims—and so are subject to theoretical evaluation.
A perceptual-role approach fits better with empirical findings, and underwrites a rich theoretical elaboration in QS theory, with testable predictions and explanations.
- We rarely if ever get a deductive proof for competing theories. But the advantages of QS theory place it well ahead—including avoiding an explanatory gap, a hard problem, and undetectable inversion.

III. Conscious Qualities

- Explaining mental qualities independently of consciousness avoids mysteries about both the qualities and consciousness. And it fits well with empirical findings and with common sense.
- But if consciousness is not built into mental qualities, in virtue of what are some qualitative states conscious? And how does that fit with QS theory? Can a divide-and-conquer strategy of treating the two phenomena independently enable successful explanations of both?

- If one is in some mental state but wholly unaware of being in that state, that state is plainly not a conscious state.

That's how we understand—in both folk-psychological and scientific terms—what it is for a mental state not to be conscious.

- So if a state is conscious one must be in some way aware of it.

And that fits with the traditional view about consciousness mentioned earlier.

So all we need to settle is in what way one is aware of a state when it's conscious.

- I've argued elsewhere that we're aware of a mental state that's conscious by having a thought about the state—a thought one expresses when one says one is in the state.

- But all that matters here is that a state is conscious if one has a suitable higher-order awareness (HOA) of that state—a HOA that seems subjectively unmediated.
- And QS theory tells us how a HOA must represent a qualitative state for that state to be conscious: One is aware of the state in respect of a relative location in its QS.
- Perception involves the discriminating of stimuli; so the mental qualities by which we do that are taxonomized comparatively. But we're also subjectively aware of mental qualities comparatively. An example of this is that our awareness of qualities is less fine grained when they occur in succession than when we can compare them together.

➤ Close hues presented in succession may be consciously indistinguishable from one another, though presented together the same stimuli are readily distinguishable.

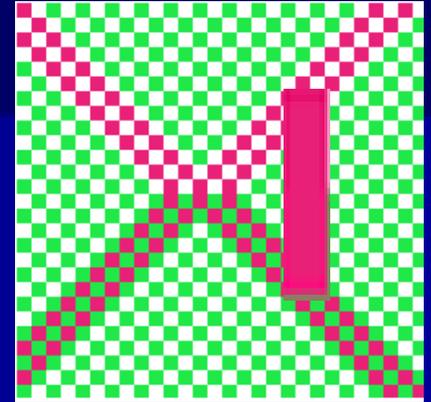
➤ Are these shades the same? Different?



➤ Our mental qualities here differ in ways that reflect the stimuli. Our experiences are hard to distinguish only because of how we're aware of those qualities.

We distinguish qualities by comparing them—in effect assigning a relative QS location to each. Successive occurrence impedes consciously comparing them—so we're then less good at consciously distinguishing the qualities themselves.

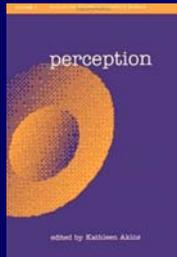
- Other comparative effects are due to the mental qualities themselves, independently of how we're subjectively aware of them.
- Though there's dispute about simultaneous contrast, it likely occurs very early—well before subjective awareness, and may even be retinal (e.g., Soranzo 2016). So the upper and lower red squares register as different prior to subjectivity.
- The comparative way our HOAs represent the qualities of our conscious qualitative states is due to the comparative nature of the mental qualities we're aware of.
That's how perceptions can be conscious in respect of some but not all mental qualities.



- The independence of qualitative character and subjective awareness means subjective awareness could misrepresent qualities—though it does not imply that it ever does.
- Levine thinks it can't. If there were a red sensation but a HOA of a green sensation, then, he urges, if what it's like were red, the HOA would do no work, but if what it's like were green the quality would do none.
- That ignores the division of labor. The HOA determines what it's like, and the mental quality independently determines perceptual processing—how we react perceptually. So in the case in question the person would sincerely report seeing green—but would be primed for red.

I have a sensation of green.





- And striking change-blindness work by John Grimes (1996) provides robust evidence that a subject's mental quality can actually differ from what it's like for that subject.
- Grimes switched displays during saccades, when virtually no retinal input reaches V1. Many subjects missed the change—18% for a salient change from green to red!
- Post-change, red retinal input must reach visual cortex. So the mental quality on its own will then be of red.

But when subjects report no change, their subjective awareness must have remained an awareness of seeing green—a decisive disparity between subjective awareness and actual mental quality.





- HOAs make one aware of oneself as being in particular qualitative states. That's what it is for a qualitative state to be conscious. And that's indeed what it is for qualitative states to be "lighted up"—in the way the phrase 'what it's like' is meant to capture.
- A perceptual qualitative state is "lighted up" when one consciously sees or hears or otherwise perceives something. So a perceptual state's being lighted up is simply its subjectively seeming to one that one perceives that thing—i.e., its appearing to one that one is in the relevant perceptual—i.e., qualitative—state.
- There is nothing more to being "lighted up"—or to there being something it's like.

- Representationalism also holds that there being something it's like is simply one's consciously perceiving a stimulus property.
- But representationalism rejects mental qualities; perceptual states just represent stimulus properties. Still, the qualities it rejects have consciousness built in, and QS-HOA theory rejects those too. And the unconscious qualities also represent stimuli.
- The way representationalism differs is in having no explanation of what consciously perceiving a stimulus property consists in. And the QS-HOA view readily explains that: Perceptual states register perceptual input and HOAs make one aware of oneself as being in those states.

IV. Methodological Considerations

- Some deny that mental reality and mental appearance can differ, as appearance and reality do in nonmental cases (Nagel, p. 444). But such a difference is methodologically pivotal to any study of consciousness. Consciousness consists in how a stream of mental occurrences subjectively appears to one. What consciousness tells us is how that stream of mental reality appears.
- And we've just seen empirical findings that make it difficult to avoid distinguishing that mental appearance from mental reality.

- Rejecting that distinction is just an oblique way of denying that consciousness and qualitative character are distinct properties. That denial may seem unavoidable if one assumes that consciousness alone tells us about the nature of mental qualities.
- But first-person access to mental qualities relies not just on consciousness, but also on perceptual discriminative ability—as the content of first-person access makes clear:
- We describe what it's like to see a particular color, e.g., by comparing the experience to experiences of other colors. As with the third person, our first-person perspective represents conscious qualitative experiences in terms of relative location in a QS.

- Some deny that QS-HOA theory captures what first-person access tells us. But that lacks force without some other description of what such access does deliver. A closed curve—from what it's like to points of view to subjectivity and back (Nagel)—is no help.
- Relying on JNDs means that relative similarity and difference are not basic in QS theory. Those relations are constructed from discriminability—which is far more fine grained and far less impressionistic.
- Relative similarity, as with multidimensional scaling (MDS), is not fine grained enough to taxonomize mental qualities. MDS is a useful shortcut to generate a QS, but can't support the theoretical goals of QS theory.

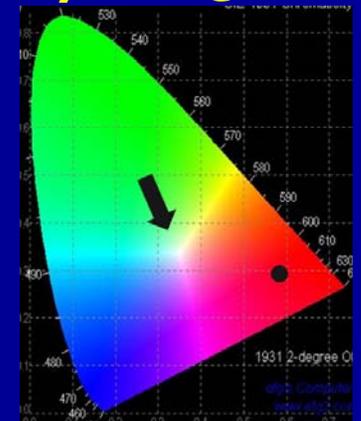
- Jackson's Mary may seem to cause difficulty for the use of JNDs to construct QSs.
- Mary, having been restricted to achromatic color stimuli, is presented with a novel red stimulus.

(Achromatic stimuli—the shades from black to white—are totally unsaturated with respect to any hue.)

- How can we locate that red in Mary's QS?

Stimuli are JND when they would be indistinguishable if they were any closer physically.

But her new red could be closer to the achromatic stimuli and still distinguishable from them. How can JNDs fix the location of a new red in Mary's QS?



- The QS we would construct from Mary's JNDs would, according to the theory, fix the nature of all her mental qualities.
- But Mary's new red stimulus is not JND from any she's ever seen.
So perhaps QS theory can't locate the new red relative to Mary's prior achromatic colors. (MDS might be able to, but only impressionistically—and so not reliably.)
- Having seen only achromatic stimuli, it's not clear what it would be like for Mary to see the new red stimulus. Might it be so unlike her prior visual sensations that it wouldn't seem to her like a visual experience at all—but like a new modality? Is that what we should say given the issue about her JNDs?

- No. We should seek to treat it as a visual color experience, and to handle the issue about locating it among the others.
- And the extreme result is avoidable. Mary's new red differs from her earlier achromatics in being saturated. So there's a path of stimuli from Mary's achromatics to her new red, each differing slightly in saturation from the one before.
- And neural pathways that subserve Mary's vision would allow her to discriminate some, though not all, of the stimuli in that path. So the theory can use these potential JNDs to fix the location of the new red. That red isn't at all close to the achromatics, but the theory's resources can still fix its location.

- QS theory offers a sound way to explain the nature of qualitative character and to distinguish the types of mental quality—all grounded in discriminative ability.
 - Because the theory makes no appeal to consciousness, it avoids problems that arise when consciousness is construed as built in. Instead, a qualitative state is conscious when there's a HOA in virtue of which one is aware of being in that state.
 - And since consciousness is independent of qualitative character, we get an informative explanation of consciousness that appeals only to psychological phenomena that are not themselves conscious.
- The independence benefits both accounts.

**Thank you for
your attention**

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