THE PSYCHOLOGY OF ATTENTION

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The Psychology of Attention

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Capturing attention used to be easy.

How it was:

How it is today:

Today, it's friggen tough.

That's why I dug through some academic research. I wanted to answer the question: *what captures attention*?

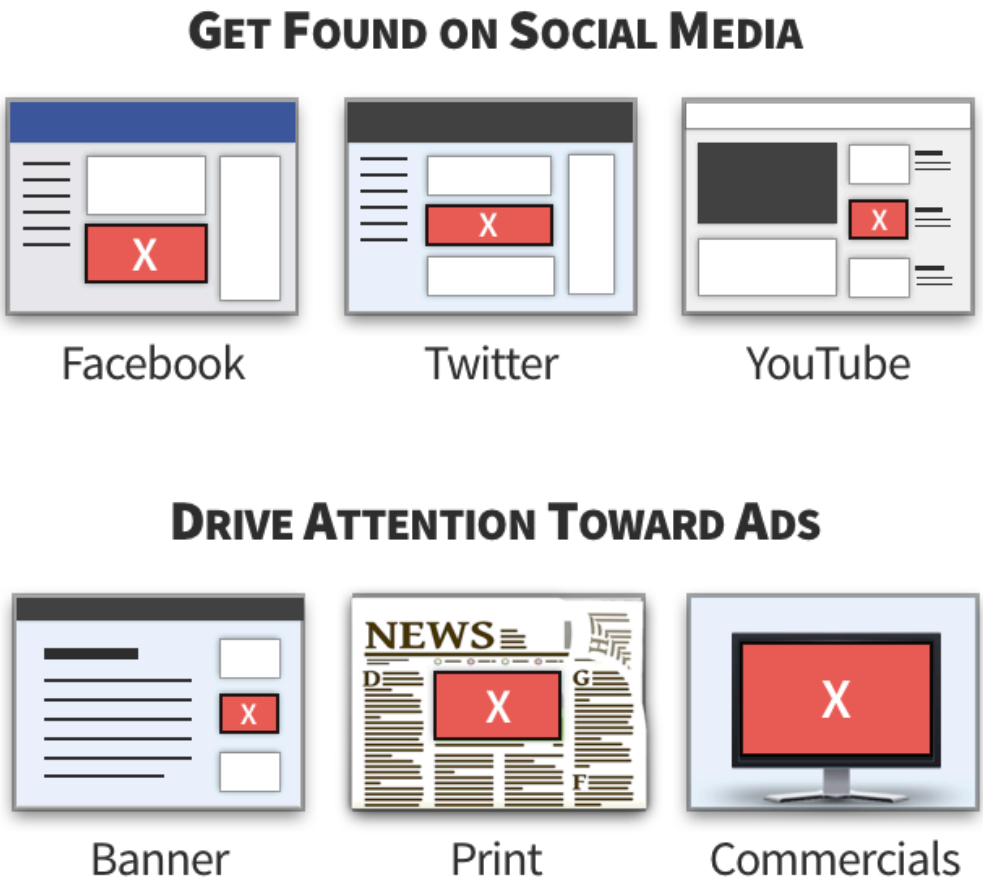
So I read 300+ journal articles on vision and neuroscience. **And I found 9 special stimuli**.

Why are they special?

These stimuli capture attention *immediately* and *automatically*. Even if we're not paying attention. Even in our chaotic world.

If you want to capture attention, simply incorporate one of these stimuli. Because of the underlying neuroscience, *people need to look*.

Think of all the benefits:



Guide Attention in Interfaces

Links Buttons Errors

Get People to Choose Your Product

Shelves eCommerce High ROI Items

Oh, and I guess there other applications:

Stay Safe During Transportation

Traffic Lights Brake Lights Stop Signs

But who needs safety? *We need to sell sh*t.*

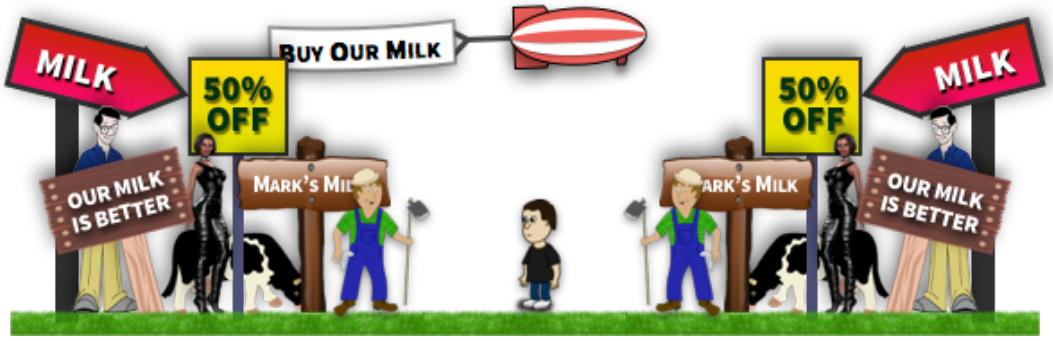
The next section will explain the science. Then I'll explain the practical applications. **Click here to view one visual summary of the 9 stimuli.**

WHY CERTAIN STIMULI CAPTURE ATTENTION

You're reading this section. Awesome. I'll be quick.

In order to understand this article, you need to understand three factors.

1. WE'RE SURROUNDED BY MORE STIMULI THAN WE CAN PROCESS



The world is vast, but our attention is finite.

As a result, we use *selective attention* (Moran & Desimone, 1985). Our eyes perceive everything, but only a fraction of those stimuli enter our consciousness.

In fact, that's the mechanism behind subconscious influence. Our eyes perceive more stimuli than we can process. Thus, some stimuli enter our brain without our awareness. *But they're still in our brain*. So they can influence our perception and behavior.

2. OUR ANCESTORS NEEDED TO IDENTIFY IMPORTANT STIMULI QUICKLY

Despite a plethora of stimuli, our ancestors needed to detect life-threatening stimuli very quickly:

> **"The reproductive potential of individuals, therefore, was predicated on the ability to efficiently locate critically important events in the surroundings." (Öhman, Flykt, & Esteves, 2001, pp. 466)**

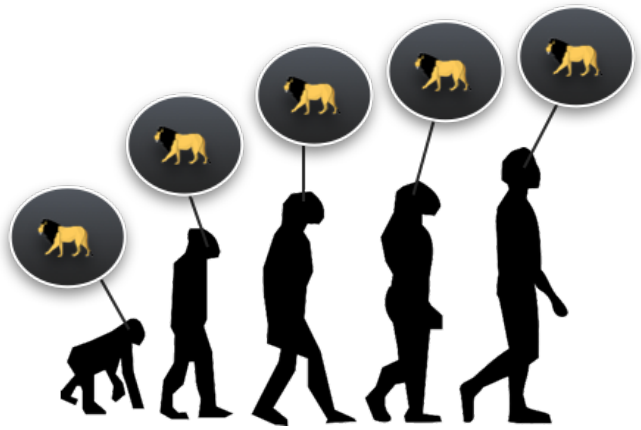
And that's what happened. Our ancestors developed specialized brain regions that nonconsciously monitored the surrounding environment for critical stimuli:

> **"...there should be systems that incidentally scan the environment for opportunities and dangers; when there are sufficient cues that a more pressing adaptive problem is at hand—an angry antagonist, a stalking predator, a mating opportunity—this should trigger an interrupt circuit on volitional attention..." (Cosmides & Tooby, 2013, pp. 205)**

When it detected a threat, it alerted our conscious attention.

Those mechanisms helped us survive.

3. WE INHERITED THOSE ATTENTION PROCESSES



Thanks to evolution, we inherited those neural processes.

Even today, if our brain detects an important stimulus, it triggers a response. *We can't help it*.

But here's the funny thing.

We developed that process millions of years ago. The stimuli that our ancestors considered "life-threatening" are much less important today.

Consider vehicles and animals.

Today, vehicles are deadly. And they threaten our survival more than animals. But we're wired to notice animals more than vehicles.

> **"We are more likely to fear events and situations that provided threats to the survival of our ancestors, such as potentially deadly predators, heights, and wide open spaces, than to fear the most frequently encountered potentially deadly objects in our contemporary environment" (Öhman & Mineka, 2001, pp. 483)**

If vehicles stick around for millions of years, then our brain would develop mechanisms to detect “vehicle” features. But we’ll be teleporting by then. Hopefully.

Here’s the point. We’re wired to notice stimuli that helped our ancestors survive. Even today. Even with stimuli that don’t pose a threat to *our* survival. If you want to capture attention, you need to incorporate stimuli that posed a threat to evolutionary survival.

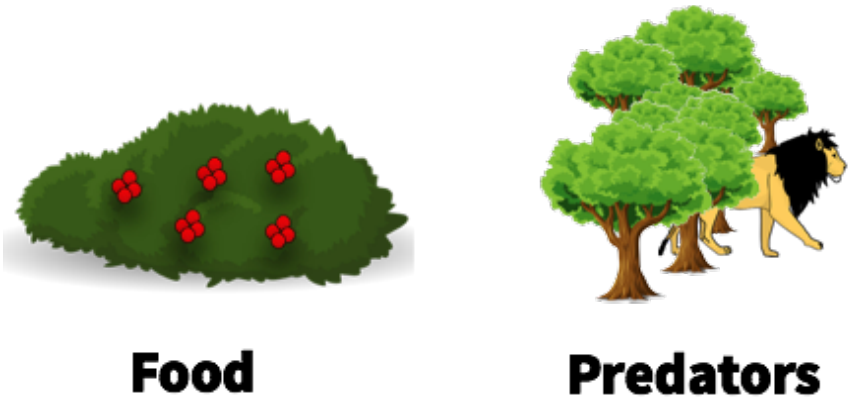
I know it sounds weird. But I’ll expand and clarify this concept along the way.

Here are the stimuli that helped our ancestors survive — and thus emerged in our attention system:

- **Stimuli 1**: Salience
- **Stimuli 2**: Motion
- **Stimuli 3**: People
- **Stimuli 4**: Animals
- **Stimuli 5**: Spatial Cues
- **Stimuli 6**: High Arousal
- **Stimuli 7**: Unpredictability
- **Stimuli 8**: Self-Relevance
- **Stimuli 9**: Goal-Relevance

STIMULI 1: SALIENCE

Our ancestors *needed* to detect salient stimuli.



Without that ability, we died. And that's no good.

If you want to capture attention today, increase the saliency of your stimulus through these dimensions:

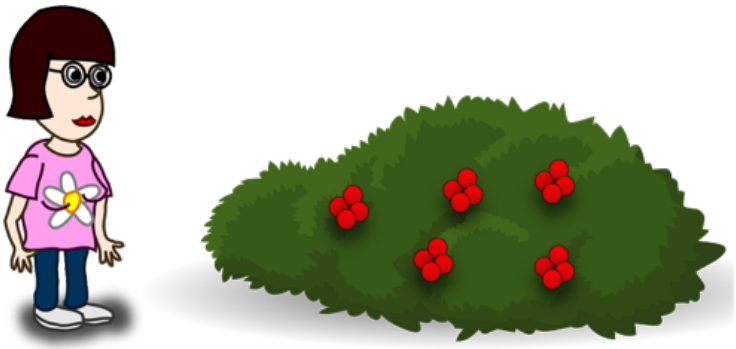
A) Color
B) Orientation
C) Size

These factors are additive (Nothdurft, 2000). *More* factors will grab *more* attention.

A) COLOR

Color might be the most salient dimension (Milosavljevic & Cerf 2008).

If you want the nitty gritty, females are more likely to notice *red* stimuli. Why? Females were the foragers. They needed to detect red stimuli among green plants (Regan et al., 2001).



Over time, that behavior reinforced a biological predisposition toward red:

> **"...color vision and, in particular the ability to discriminate red wavelengths, may have a greater adaptive significance for foragers (i.e., females) than for resource protectors (i.e., males) and so contribute to contemporary visual biases and object preferences." (Alexander, 2003, pp.11)**

For a deeper explanation, see my article on color psychology.

Tactic: Choose a Color That Contrasts With the Environment

Before uploading a YouTube video, look at the thumbnails of related videos. What are the prominent colors, if any?

Create a thumbnail with a *contrasting* color pattern.

You'll increase the saliency of your image, thus capturing more attention.

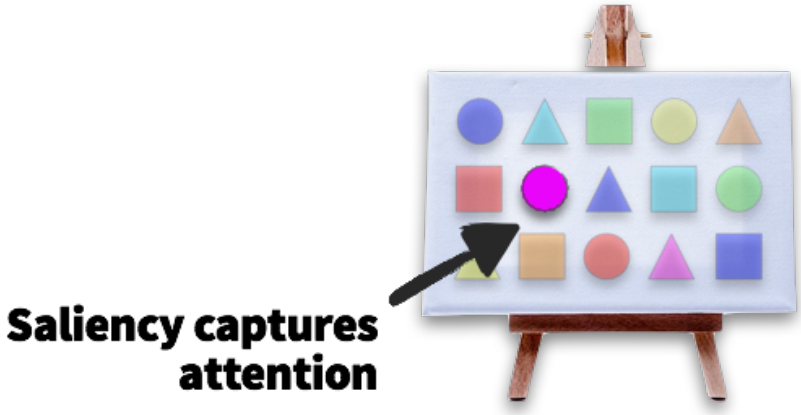
Tactic: Add an Entry Point in Your Graphics

Amateur designers often fill an *entire* canvas. And they make everything equally vibrant.

That's a problem. If everything is equally vibrant, there's no saliency. Nothing is *pulling* attention.

Instead, add a focal area.

Pinpoint the most important area of your design. Then increase its saliency (or reduce the saliency of surrounding areas).



In doing so, you'll add an entry point. You'll pull attention toward that area (and thus the overall design). Once they process that area, then they'll shift attention to the next most salient area.

Tactic: Add Visual Distinctions to High ROI Products

Attention is correlated with choice. People are more likely to choose an option if they spend more time looking at it (Atalay, Bodur, & Rasolofoarison, 2012).

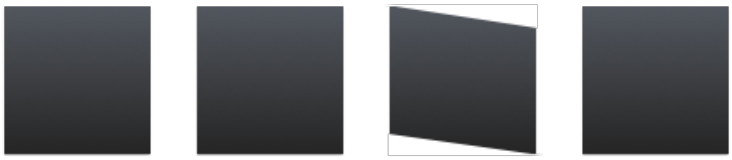
That's why some restaurants add color distinctions to high ROI items on the menu.

You should do the same with pricing plans. Watch my video for more tips.

B) ORIENTATION

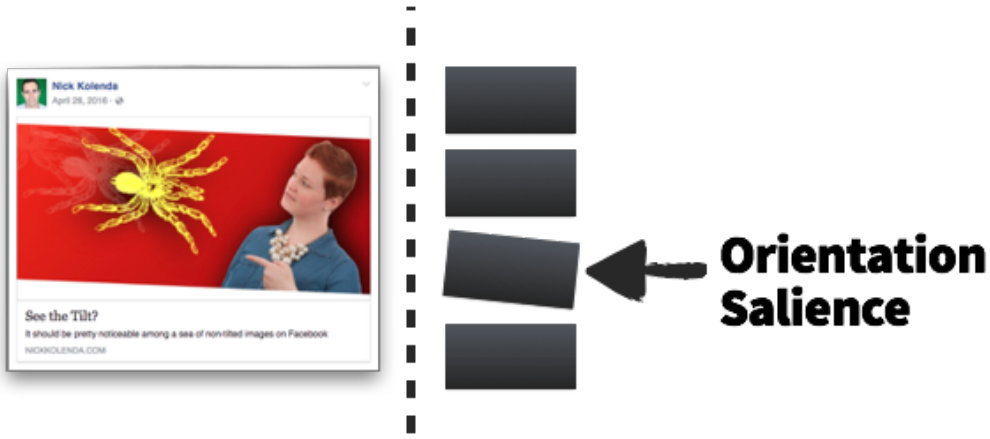
We also notice misalignment (Treisman & Gormican, 1988).

TACTIC: CREATE A TILT EFFECT



See that tilted square? It's not tilted. I just added white triangles on the top and bottom to make it *seem* tilted.

You could do this whenever you're competing with similar stimuli — like Facebook ads. In a sea of non-tilted ads, your tilted ad should capture attention.

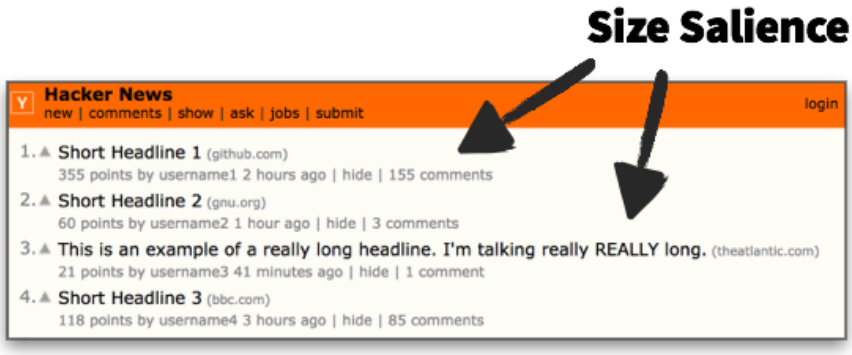


Does it work? Who knows. But it's worth a shot.

C) SIZE

Stimuli capture attention when the size is different (Huang & Pashler, 2005) — especially with lengths and numbers (Treisman & Gormican 1988).

Tactic: Adjust the Length of Headlines to Stand Out



If you're submitting to a content aggregator (e.g., Reddit, Hacker News), you want to capture eyeballs. So check the title length of recent submissions.

- If most titles are long, submit a short title.
- If most titles are short, submit a long title.

You'll create saliency from the size difference — which should capture attention.

STIMULI 2: MOTION

Motion shouldn't be a category. It's a form of saliency (and unpredictability, which we'll see later).

However, it IS powerful. So I created a separate category.

Here are 5 types of motion that capture attention:

A) Motion Onset

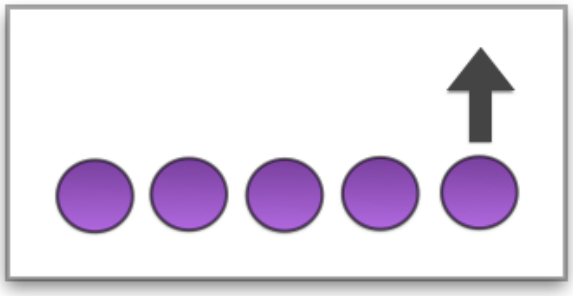
B) Looming Motion

C) Animate Motion

D) Dynamic Imagery

E) Biological Motion

A) MOTION ONSET



Motion onsets are changes from stillness to movement (Abrams & Christ, 2003).

Tactic: Add Motion Onset to Call-to-Action Buttons

Most buttons are static. Why not add a motion onset? With CSS3 animations, you can add various effects, like pulsing or changing the button color.

B) LOOMING MOTION

Looming motion occurs when stimuli get larger (see Franconeri & Simons, 2005). Thanks to evolution, it captures more attention than receding motion:

> **"...looming objects are more likely than receding objects to require an immediate reaction, we speculated that the potential behavioral urgency of a stimulus might contribute to whether or not it captures attention." (Franconeri & Simons, 2005, pp. 962)**

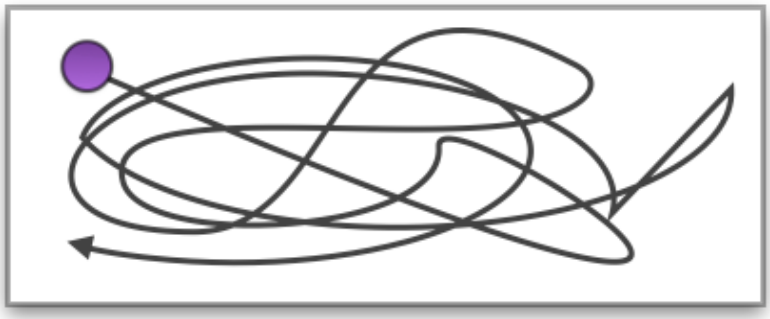
TACTIC: START FACEBOOK VIDEOS BY ZOOMING IN

People include motion toward the beginning of their videos — in hopes to capture attention. They might push in titles from the side. Or they might zoom outward.

That's nice. But try looming motion instead.

Expand your titles from smaller to larger. Or zoom *inward* to enlarge an object.

C) ANIMATE MOTION

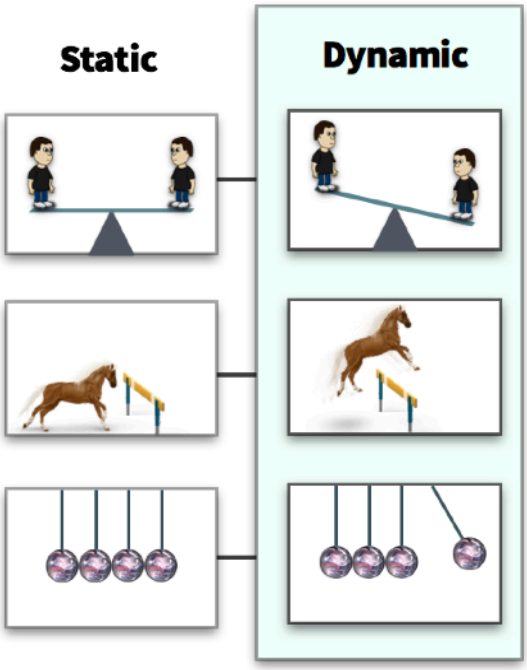


Animate motion is unpredictable motion. Similar to looming motion, it captures attention because of evolution:

> **"[animate motion was] detected and discriminated more quickly than targets that involved objects that had undergone the same motion changes after collisions with other objects or the surrounding frame (i.e., inanimate motion)" (Pratt et al., 2010, pp. 1728-1729)**

If a predator attacked without warning, we needed to be prepared. People died if they couldn't detect animate motion.

D) DYNAMIC IMAGERY



Abrams and Christ (2003) argue that motion ONLY captures attention if it suddenly appears (i.e. motion onset).

However, Franconeri and Simons (2005) disagree. In their experiments, motion — itself — captured attention. And I think they're right.

Why? Because motion doesn't need literal movements. Even *perceived* motion attracts attention.

For example, Cian, Krishna, and Elder (2015) tracked eye gaze and warning signs (e.g., crossing signs). They found a powerful effect from *dynamic iconography*:

> **"...static pictures evoking more (vs. less) perceived movement are able to draw attention more quickly, resulting in an earlier fixation." (Cian, Krishna, & Elder, 2015, pp. 1431)**

Tactic: Add Perceived Motion to Static Icons

For example...

You could also add motion to your logo (Cian, Krishna, & Elder, 2014). See my article on font psychology for ideas.

E) BIOLOGICAL MOTION

Finally, we're sensitive to biological motion (Troje, 2008). We seem wired to detect motion of our species — thanks to our neural underpinnings:

> **"...the right pSTS, revealed an enhanced response to human motion relative to dog motion. This finding demonstrates that the pSTS response is sensitive to the social relevance of a biological motion stimulus." (Kaiser, Shiffrar, & Pelphrey, 2012, pp. 1)**

However, biological motion requires *natural* body movements. For example, newly hatched chicks prefer natural body movements of a hen, rather than an artificially rotating hen (Vallortigara, Regolin, & Marconato, 2005).

Humans are the same.

Tactic: Add Biological Motion to the Beginning of Facebook Videos

Why not add body movements when starting your Facebook videos? When people are scrolling the news feed, biological motion should capture their evolutionary-based attention system.

STIMULI 3: PEOPLE

Biological motion is powerful. But you can also capture attention through static images of people.

Those images are social cues — thus activating our STS region (Allison, Puce, & McCarthy, 2000).

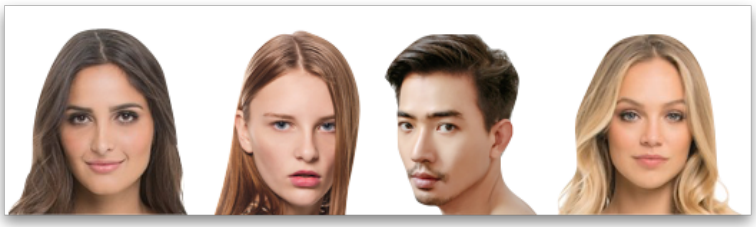
Here are the most important features:

A) Faces

B) Bodies

C) Body Parts

A) FACES



Faces activate distinct brain regions:

> **"Faces primarily activated the fusiform gyrus bilaterally, and also activated the right occipitotemporal and inferior occipital sulci and a**

> **region of lateral cortex centered in the middle temporal gyrus." (Puce et al., 1996, pp. 5205)**

Consider experiments on *change detection*.

In some studies, researchers make small changes to an image. And they measure if (or when) people notice the changes. Ro, Russell, and Lavie (2001) found that people can detect changes in faces more easily than in other objects (e.g., clothes).

However, faces need to be upright (Eastwood, Smilek, & Merikle, 2003). Thanks to the *face inversion effect*, we're slower to detect inverted faces (Epstein et al., 2006).

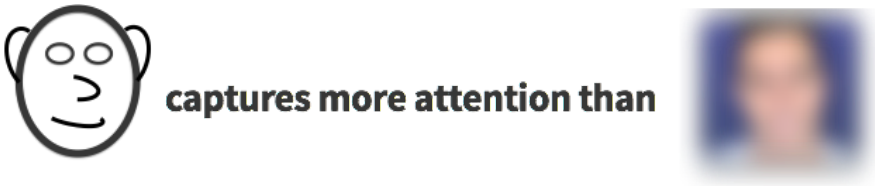
Also, here's a question. What makes a face…well…a face? At what point would our brain stop recognizing a face?

Turns out, our brain looks for underlying geometric patterns (Aronoff, 2006). That's how we identify emotions in other people:

> **"…our first study indicated that the overall geometric configuration provided by the facial features, rather**

> **than individual features, was how a culture defined the emotional representation." (Aronoff, 2006, pp. 85)**

That means we're be able to find schematic faces better than blurred faces:



We'll revisit that concept later.

B) BODIES

Similarly, we have specialized regions that detect the human body:

> **"...a distinct cortical region in humans that responds selectively to images of the human body, as compared with a wide range of control stimuli. This region was found in the lateral occipitotemporal cortex..." (Downing et al., 2001, pp. 2470)**

Just like faces, bodies capture attention through geometric composition. Downing et al. (2004) showed participants different blobs. The blobs captured more attention when they formed a human body.

However, we allocate more attention when faces AND bodies are present (Bindemann et al., 2010).

C) BODY PARTS

Finally, we also have regions that detect individual body parts:

> **"...body-selective regions, which can be dissociated from regions involved in face perception, have been implicated in the perception of the self and the 'body schema', the perception of others' emotions and the understanding of actions." (Peelen & Downing, 2007, pp. 636)**

For example, Desimone et al. (1984) found a direct relationship between brain activation and hand realism. Activation was greater when hands looked more realistic.

STIMULI 4: ANIMALS

You've probably heard the joke: if you want to go viral, you just need cute cats.

Well…*that might work*.

Our ancestors needed to detect animals for survival:

> **"Information about non-human animals was of critical importance to our foraging ancestors. Non-human animals were predators on humans; food when they strayed close enough to be worth pursuing; dangers when surprised or threatened by virtue of their venom, horns, claws, mass, strength, or propensity to charge…" (New, Cosmides, & Tooby, 2007, pp. 16598)**

In order to survive, they developed brain regions that detected animals in their periphery. And we inherited those mechanisms. That means — even today — animals capture a portion of our finite attention.

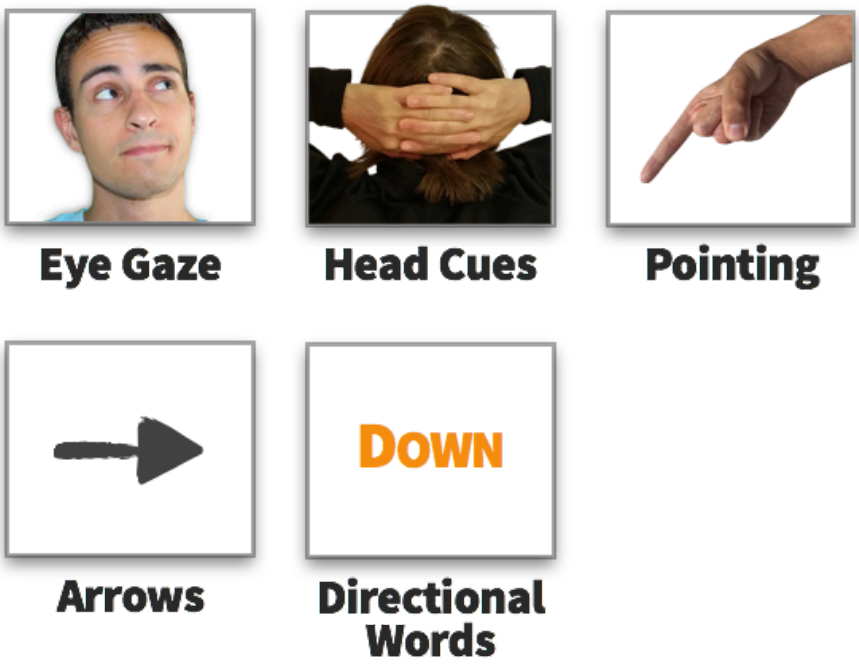
A) PROTOTYPICAL FEATURES

No specific animal captures attention. Just like faces and bodies, our brain detects geometric patterns:

> **"The monitoring system responsible appears to be category driven, that is, it is automatically activated by any target the visual recognition system has categorized as an animal." (Cosmides & Tooby, 2013, pp. 206)**

However, some animals capture more attention than others. I'll explain more later.

STIMULI 5: SPATIAL CUES



To survive, we needed to detect spatial cues. I'll explain why throughout these five spatial cues:

A) Eye Gaze
B) Head and Body Orientation
C) Pointing
D) Arrows
E) Directional Words

A) EYE GAZE

Did you read my articles on advertising or conversion optimization? Then you already know that eye gaze captures attention. However, I gave a shortsighted view. I'll explain more in this section.

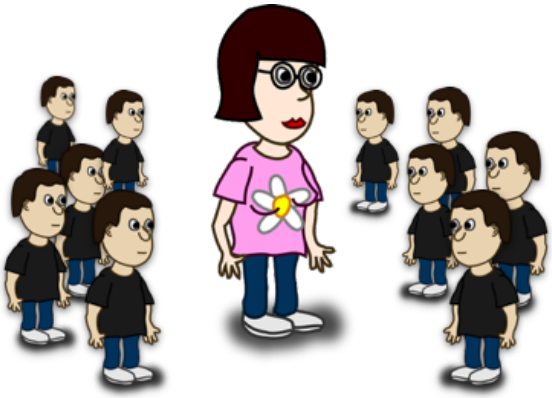
Our ancestors *needed* to detect eye gaze in order to survive. But WHY was it critical?

Sure, it helped locate objects and perceive emotions in other people (Emery, 2000). However, there's another factor: *social dominance*.

Each society — including animals — has a dominance hierarchy (Chance, 1967). Some creatures are more important than others. In order to survive, our ancestors needed to understand their position in a hierarchy. And they needed to identify the most dominant creature.

So how did they do it? They relied on social attention.

Everyone in a society allocates more glances toward the most dominant creature in the hierarchy.



Our ancestors analyzed those glances to identify the most dominant creature. Without that ability, they picked a fight with the wrong person. And they died.

Whoops.

Luckily, our ancestors could analyze eye gazes (see Emery, 2000). So they survived.

In turn, we inherited two possible mechanisms (Langton, Watt, & Bruce, 2000).

1. We developed the ability to detect eyes more easily

> **"...gaze following is "hard-wired" in the brain, and may be localized within a circuit linking the superior temporal sulcus, amygdala and orbitofrontal cortex is discussed." (Emery, 2000, pp. 581)**

That mechanism is called the Eye Direction Detector (EDD) (Baron-Cohen, 1995).

2. Our eyes may have become more salient

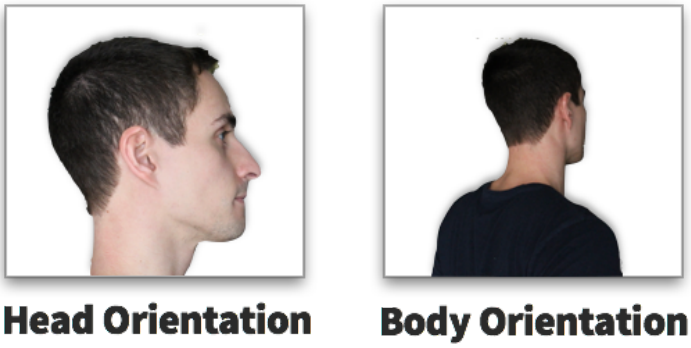
> **"...the physical structure of the eye may have evolved in such a way that eye direction is particularly easy for our visual systems to perceive. Indeed, recent work suggests that the output of simple cells found in the visual cortex can, in principle, signal the direction of gaze... (Langton, Watt, & Bruce, 2000, pp. 52)**

The takeaway: our brain has mechanisms that automatically detect and follow eye gaze.

TACTIC: SHOW PEOPLE LOOKING AT YOUR CTA

This tactic is common. See Sajjacholapunt and Ball (2014) for empirical support.

B) HEAD AND BODY ORIENTATION



If we can't see the eyes, we *infer* people's gaze — based on the orientation of their head and body.

We also prioritize those cues (Langton, Watt, & Bruce, 2000). We place the most importance on eyes THEN head THEN body.

However, those effects are additive (Langton & Bruce, 2000). So try to incorporate as many cues as possible.

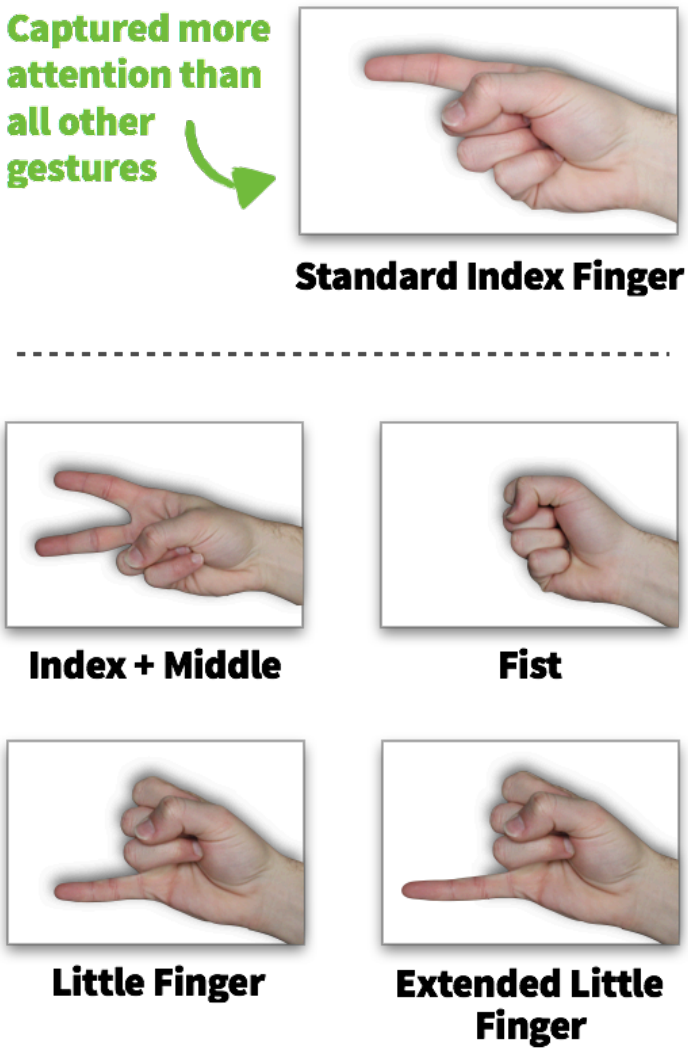
C) POINTING

Although it's not *directly* related to eye gaze, pointing is still a social cue. And thus, it captures attention automatically (Langton & Bruce, 2000).

The research is pretty interesting.

Not ALL pointing captures attention. It needs to be an *isolated index finger* (Ariga & Watanabe, 2009).

Ariga and Watanabe (2009) measured the effects of multiple hand gestures. The isolated index finger generated the strongest impact on attention.

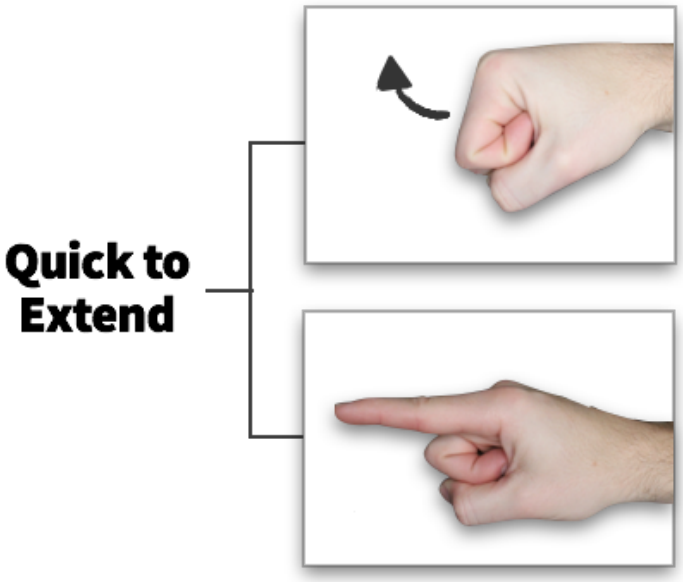


So what's important about the index finger? Here's my hunch.

When our ancestors directed attention toward a location, they eventually stumbled upon the index finger. It's the optimal combination of *ease* and *accuracy*.

Why?

The index finger has only one adjacent finger. So we can extend it faster than other fingers.



The little finger ALSO has one adjacent finger. However, the index finger is longer (and thus more accurate). So it's the best finger for pointing. And that's (probably) why we started using it.

Fast forward to today…

Parents are teaching their kids about the world by pointing to objects. From a young age, we start associating that gesture with spatial attention. Through enough exposures, the association becomes automatic. Whenever we see a pointing gesture, we need to look. It's a reflex.

If that explanation is correct— and if learned associations *can* capture attention automatically — then that means other symbols (e.g., arrows) should capture attention too.

Well, let's take a look…

D) ARROWS

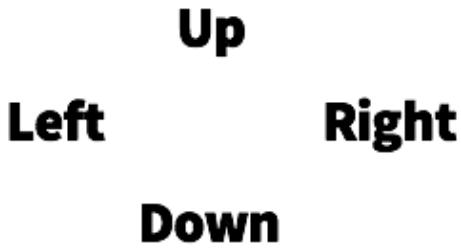
The evidence is pretty clear. Arrows DO capture attention automatically (e.g., Ristic & Kingstone, 2006). That finding reinforces the learned association of spatial cues.

Tactic: Point Arrows Toward Your Call-to-Action Buttons

If your CTA is salient, an arrow might seem redundant. However, thanks to the underlying science, it helps capture more attention (thus getting more clicks).

You can see evidence from A/B tests (e.g., ConversionXL).

F) Directional Words



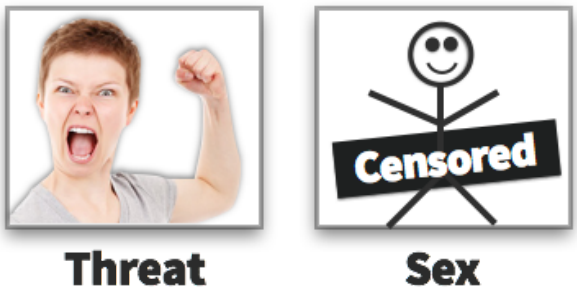
The word LEFT has no inherent meaning. For illiterate people, it has no impact. You might as well display XGJP.

Nonetheless, those letters — in that particular order — have acquired meaning for literate people. Same with UP, DOWN, and RIGHT.

Since we associate those words with spatial meaning, aren't they symbolic cues? Shouldn't they capture attention as well? They should.

And they do (Hommel et al., 2001).

STIMULI 6: HIGH AROUSAL



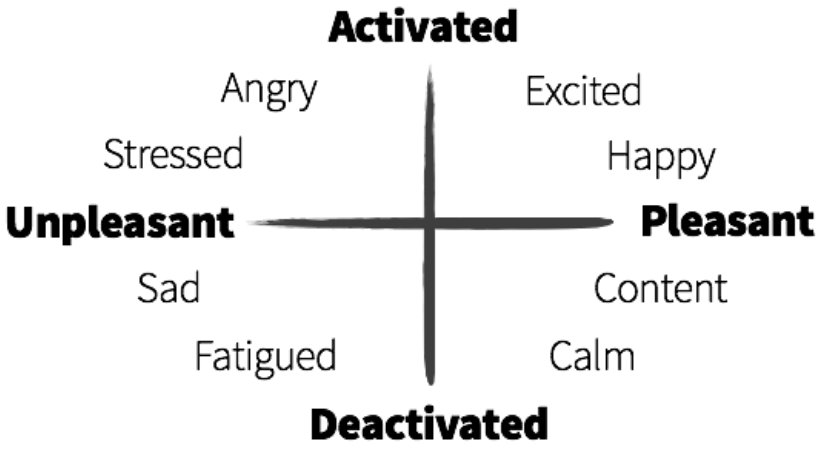
Today, emotional stimuli reach our amygdala before conscious awareness (Öhman & Mineka, 2001), among other mechanisms (see Carretié et al., 2004).

Marketers claim that emotion captures attention. And that's wrong. *Some* emotions capture attention. But not all. It depends on arousal.

Barrett and Russell (1999) argue that emotion has two dimensions:

1. **AROUSAL**: The level of activation
2. **VALENCE**: The level of pleasantness

You can position all emotions on those dimensions:



Anderson (2005) found that high arousal emotions — and ONLY high arousal emotions — capture attention. Those emotions occupy the top half of the structure.

Why those emotions? You guessed it…

> **"It would be advantageous if unexpected events, especially those with a particular emotional value (e.g. threat), could be monitored and detected at least to some extent independently of the current attentional goals." (Vuilleumier, 2005, pp. 587)**

…evolution.

And that's what happened. We developed neural mechanisms to immediately detect arousing events. *That behavior helped us survive*.

To measure the effects on attention, researchers use an *emotional stroop effect* (Algom, Chajut, & Lev, 2004).

For example, here are random words. **Don't read them**. Just mentally say the color of the text:

Turns out, we're slower to name a color if the word is emotional (e.g., fear). We nonconsciously devote attention to those emotional words. It's our neurobiology. We can't help it.

This section explains the two strongest emotions:

A) Threat

B) Sex

A) THREAT

This is a biggie.

Thanks to evolution, we developed a fear module (Öhman & Mineka, 2001). Our brain nonconsciously scans the environment, searching for threats. If it detects a threat, it triggers a defense *before* conscious attention.

And that's good. Imagine if we consciously evaluated every threat:


Oh, there's a lion.
Should I run?
Maybe I'll run left.
Should I follow the light?

Those people died. And rightly so.

Now, that leads to a question: *what constitutes a threat*? Since detection occurs without our awareness, what features do we nonconsciously monitor?

You probably guessed this one as well. Our brain monitors simple geometric patterns (Aronoff, 2006).

We need to detect threats quickly. *So we take shortcuts*.

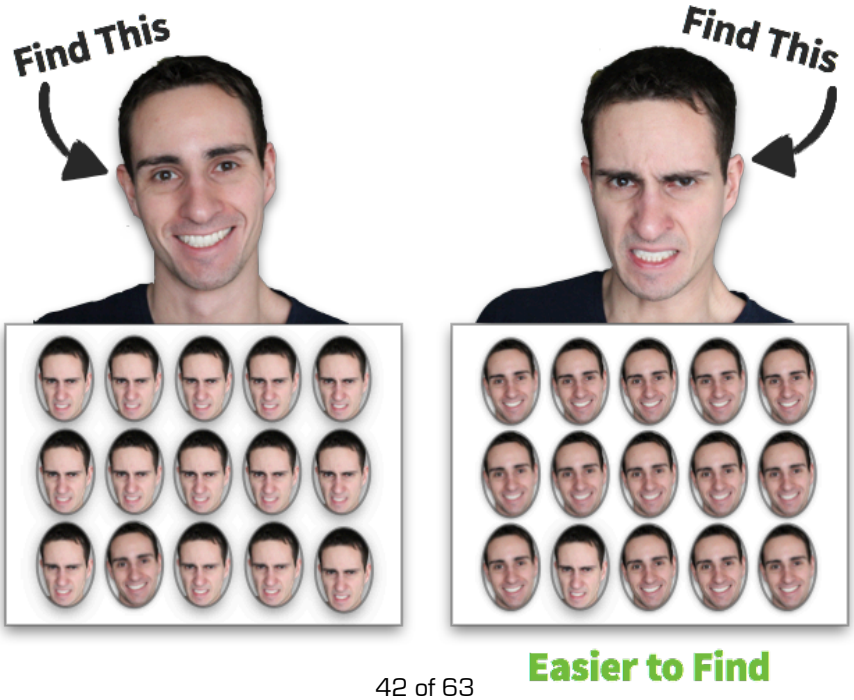
We don't analyze all features of a stimulus. We monitor the composition. If the underlying structure is associated with a known threat, then our brain triggers a defense.

Consider angry faces.

Our ancestors were more likely to survive if they could detect anger very quickly. With an immediate response, they could defend an attack.

And so we developed a neural mechanism. Today, we detect angry faces more quickly than friendly faces (Öhman, Lundqvist, & Esteves, 2001).

For example, you can find my angry face among smiling faces more quickly than the reversal.



Why does that happen? I mentioned that our brain monitors geometric patterns. But what feature grabs our attention?

The culprit is the downward V of the eyebrows (Aronoff, 2006).

It sounds weird. But hear me out.

With emotion, facial expressions are universal (Ekman, 1973). All angry faces exude a downward V.

To defend themselves, our ancestors needed to detect that V in a split second. And so we developed neural mechanisms that associate a V with threat.

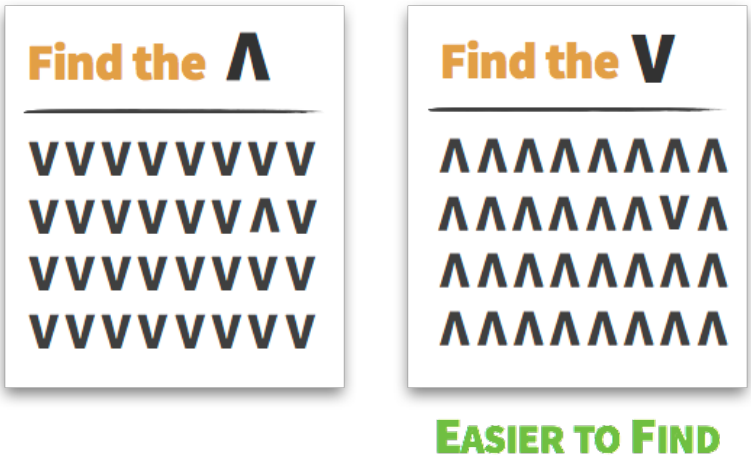
Even today, exposure to a V activates the amygdala, subgenual anterior cingulate cortex, superior temporal gyrus, and fusiform gyrus — all regions associated with threat detection (Larson et al., 2009).

> **"...a simple V-shape is capable of activating neural networks instantiating detection of threat and negative affect, suggesting that recognition of potential danger may be based, in part, on very simple, context-free visual cues." (Larson et al., 2009, pp. 1523)**

If our brain associates a V with threat — and if threatening stimuli capture attention — shouldn't V-shapes capture attention as well? Based on that research, they should.

And...they do (Larson, Aronoff, & Stearns, 2007).

For example, Larson et al. (2007) found that people can find a V among Λ's more quickly:



The takeaway: our brain constantly scans the environment, searching for geometric patterns associated with threat. When it detects a pattern, it alerts our attention system.

Tactic: Show an Animal Associated With Evolutionary Threat

As I mentioned, your attention system is based on conditions that existed millions of years ago. That's why animals attract more attention than vehicles — even though vehicles are more deadly.

That's also why you can capture attention by displaying an animal associated with *evolutionary* threat. There's a reason why so many people are afraid of snakes and reptiles — even though we rarely see them today:

> **"...the predatory defense system has its evolutionary origin in a prototypical fear of reptiles in early**

> **mammals who were targets for predation by the then dominant dinosaurs." (Öhman & Mineka, 2001, 486)**

Again, you don't even need to show the animal itself. You just need to show features that resemble the underlying geometry (Öhman, Flykt, & Esteves, 2001).

Consider spiders:

> **"...the reflexive capture of attention and awareness by spiders does not even require their categorization as animals. Performance was often comparable between identifiable spiders and stimuli which technically conformed to the spider template but that were otherwise categorically ambiguous (rectilinear spiders)" (New & German, 2015, pg. 21)**

The same is true with snakes. Our brain doesn't detect the snake itself. It detects the curvilinear shape (LoBue, 2014).

Tactic: Show an Angry Face From an Outgroup Member

I explained that we're more likely to detect angry faces (Larson et al., 2009). However, the effect is more pronounced with outgroup members (Ackerman, 2006). Our ancestors were more cautious toward outsiders.

If you need to capture someone's attention, incorporate an image of someone who is:

(A)Demographically different, and

(B)Expressing an angry emotion

B) SEX

I didn't want to include a "sex" category. The last thing we need is more sex in advertising.

Unfortunately, it *does* capture attention. Our ancestors were more likely to reproduce when they found a mating partner. So sexual stimuli are hard-wired into our attention system (Most et al., 2007). *Thanks, evolution*.

STIMULI 7: UNPREDICTABILITY

Taboo

Novelty

If stimuli don't help people reach their goals, they stop noticing them:

> **"...people can intentionally focus their attention on what they perceive as being relevant and can ignore that which they consider to be irrelevant. In addition, this control behavior may even become an automatic process when it occurs frequently enough." (Sun, Lim, & Peng, 2013, pp. 50)**

Banner ads are a great example. To overcome banner blindness (or other forms of habituation), you need something unpredictable.

Unpredictably activates the amygdala, thereby capturing attention (Herry et al., 2007)

Here are two solutions:

1. Taboo
2. Novelty

A) TABOO

TABOO	NEGATIVE	NEUTRAL	POSITIVE
incest	suffer	card	beauty
AIDS	unhappy	planet	fun
nipples	guilt	glove	joyful

Captured the most attention

Taboo words capture more attention than emotional words (Mathewson, Arnell, & Mansfield, 2008). This category includes sex, profanity, or expletives.

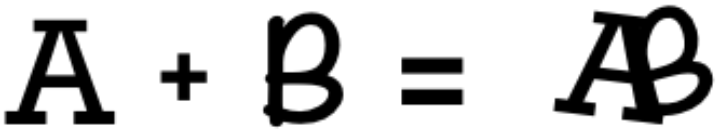
This language might work best for speakers. Some speakers (e.g., Tony Robbins) sustain the audience's attention by cursing.

B) NOVELTY

Today, infants look at novel patterns more than familiar patterns (Fantz, 1964). Our ancestors were more likely to survive if they detected novel stimuli:

> **"...novel popout would appear to have a great deal of survival value because it would allow organisms to quickly perceive and prepare to deal with novel intrusions into their familiar surroundings." (Johnston et al., 1990, pp. 3)**

Tactic: Combine Familiar Stimuli to Create a New Stimulus

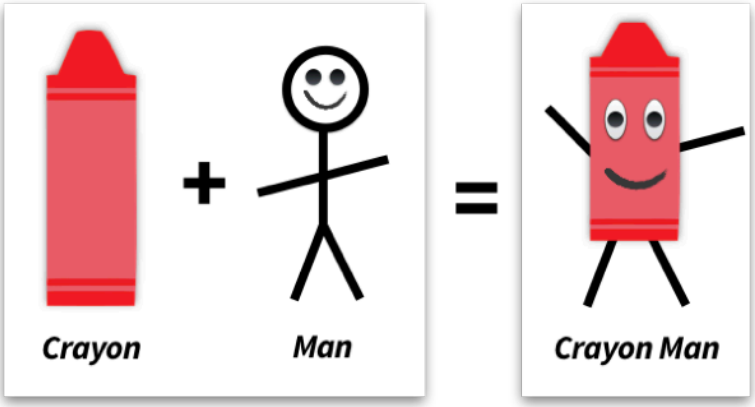


Novelty is a double-edged sword.

- On one hand, novelty captures attention.
- On the other hand, people don't like novelty. They like familiarity (see Winkielman et al., 2003).

So what should you do? Try combining familiar stimuli.

Consider *anthropomorphism*. This concept gives human qualities to inanimate objects or animals.



The end result is a novel stimulus, thus capturing attention. However, the underlying components are familiar, thus retaining a favorable evaluation.

Tactic: Move Banner Ads to New Locations on a Page

People experience banner blindness because they develop implicit memory for stimulus locations (Chun & Jiang, 1998). People recognize typical locations for a banner ad. And they mentally block those locations.

That's why you should periodically move your banner ads:

> **"...the dishabituation of a banner location could enhance a viewer's attention to the ad banner." (Tangmanee, 2016, pp. 69)**

Tactic: Use the Pique Technique to Overcome Popup Blindness

Habituation also occurs with requests. Over time, we develop a standard refusal. If a passerby asks for money, most people immediately decline. *It's a reflex*.

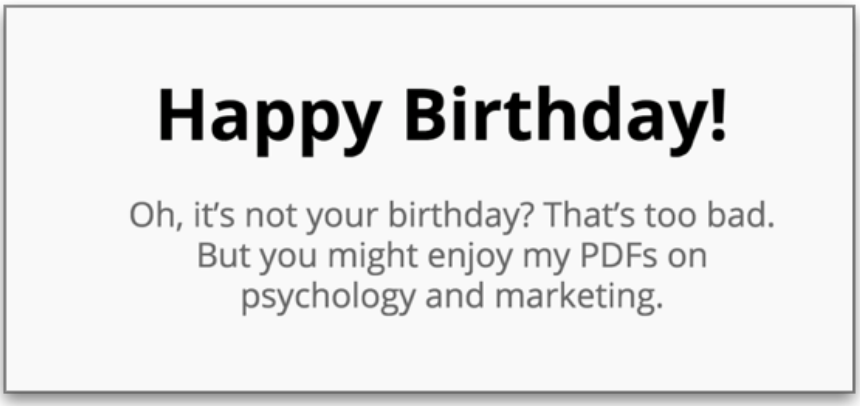
However, Santos, Leve, and Pratkanis (1994) found a solution: *the pique technique*.

The researchers received more money when they asked for an unusual amount (e.g., 37 cents), rather than a typical amount (e.g., 25 cents, 50 cents).

Because the request was novel, it prevented a mindless refusal. It forced people to *consciously* evaluate the request.

You could use that technique to prevent popup blindness. At the moment, when you leave my site, you see this lovely popup:

But that wording is typical. *Yawn*. I should probably make it novel:



That headline — because its novel — is more likely to capture attention. Visitors will be more likely to stop and evaluate my request. Might be worth a test.

STIMULI 8: SELF-RELEVANCE

You probably experienced the *cocktail party effect* (Moray, 1959). You could be engulfed in a conversion. But if someone nearby mentions your name, your attention system slaps you in the face.

That's the power of *self-related stimuli*.

> **"...automatic attentional capture ensures that self-related information is not missed and it is effectively encoded when present in one's nearby environment" (Alexopoulos et al., 2012, pp. 777)**

Here are three ways to trigger self-relevance:

A) Your Name

B) Your Face

C) Mental Interaction

A) YOUR NAME

Hearing our name activates the medial prefrontal cortex (Perrin et al., 2005). Babies develop that ability at roughly 4.5 months (Mandel, Jusczyk, & Pisoni, 1995).

And it's not just auditory stimuli. We experience the same effect with subliminal exposures to our written name (Alexopoulos et al., 2012).

Tactic: Personalize Your Marketing (in a Non-Creepy Way)

Thanks to self-relevance, personalization is powerful. I think it'll get more popular over time.

But you need to be careful. Too much personalization is creepy:

> **"Participants reported being more likely to notice ads with their photo, holiday destination, and name, but also increasing levels of discomfort with increasing personalization." (Malheiros et al., 2012, pg. 1)**

Researchers don't have a name for it. But I call it the *how-the-f*ck-did-they-know-that effect*.

B) YOUR FACE

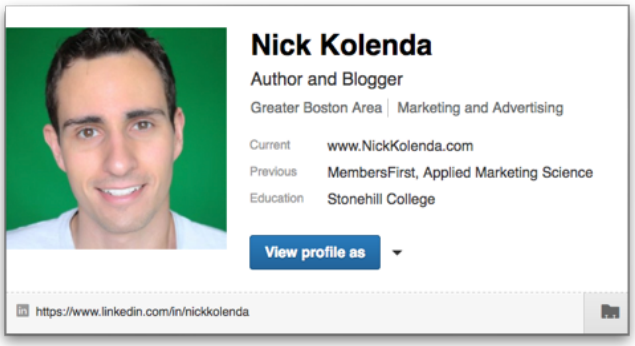
Our brain also developed mechanisms to identify our own face:

> **"A complex bilateral network, involving frontal, parietal and occipital areas, appears to be associated with self-face recognition, with a particularly high implication of the right hemisphere." (Devue & Brédart, 2011, pg. 2)**

In terms of strength, faces and names are equally powerful (Tacikowski & Nowicka, 2010).

TACTIC: DISPLAY THE USER'S PICTURE ON THEIR PROFILE PAGE

Do you have a main login page with account settings? Make it personal. Show the user's face to increase their perceived ownership and involvement.



You'll also spark more mental interaction, which is next…

C) MENTAL INTERACTION

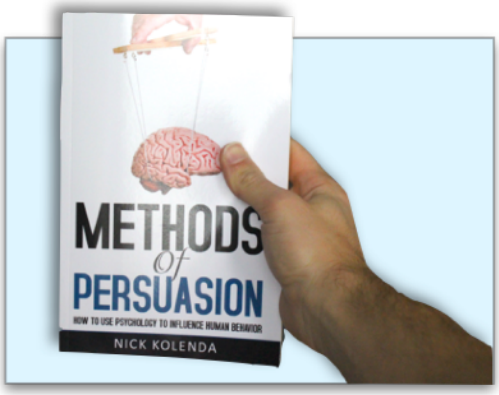
This one is cool. I describe the research in my article on advertising psychology.

Essentially, people prefer an image when they imagine themselves interacting with it.

For example, Elder and Krishna (2012) found that people were more likely to buy a mug when the handle was position toward the right — toward the dominant hand of most people.

The effect disappeared when participants were holding something in their right hand (because they couldn't mentally interact with it).

TACTIC: USE 1ST PERSON PERSPECTIVES IN IMAGES



How's that for product placement? Pretty slick.

Nonetheless, protruding forearms are great. They trigger a 1st person perspective, thus sparking mental interaction (and enhancing preferences).

Those images won't fit every context. But they might work in Facebook ads.

Tactic: Let Users Upload Their Picture on eCommerce Websites

Do you sell clothing online? Forget the sexy models. Create an interactive fitting room.

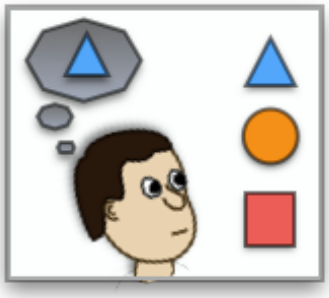
Let users upload their picture to see how the clothing looks on *them*.

That dress looks fab on me.

Customers could evaluate the clothes more accurately (which might lower return rates). And it also increases mental interaction. Customers will imagine themselves interacting with the product — which should nudge them to buy.

STIMULI 9: GOAL-RELEVANCE

No Goal



Goal-Directed

Attention is extremely complex. I tried to simplify this article as much as possible However, I need to address *two types of attention* (Itti & Koch, 2001).

This article focused on *bottom-up attention*. This attention is passive, where people don't have an active goal.

But there's also *top-down attention* — where people DO have an active goal. This changes some of the previous tactics.

You should consider these conditions:

A) No Goal

B) Goal-Directed

A) NO GOAL

People are more likely to notice your stimulus when they don't have a current goal. That's because their cognitive load is lower, leaving spare room for attention:

> **"...task-irrelevant stimuli are perceived in situations of low perceptual load when the relevant task leaves spare capacity for their processing..." (Cartwright-Finch & Lavie, 2007, pp. 17)**

For example, Resnick and Albert (2014) found that online shoppers are less likely to notice a banner ad when searching for specific products. They're more likely to notice an ad if they're just browsing.

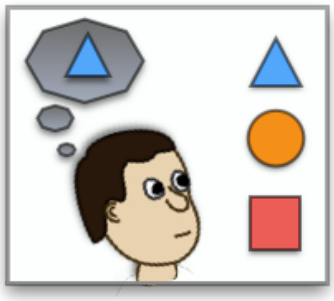
What does that mean for you?

To capture attention, you should place your stimulus in a context where people have low cognitive load.

Tactic: Display Ads in Fun or Entertaining Contexts

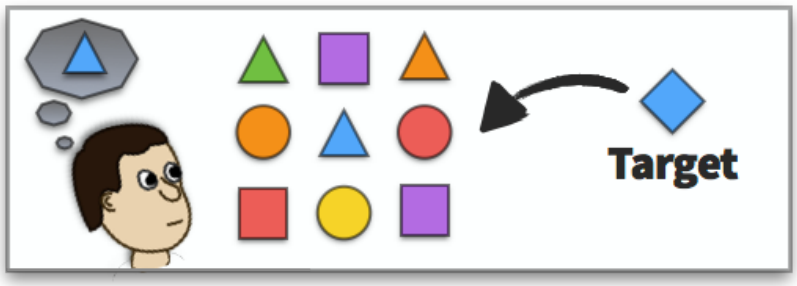
With display advertising, choose websites that are semantically relevant, yet fun or entertaining. Those visitors are less likely to have a goal (and thus more likely to see your ad).

B) GOAL-DIRECTED



When using top-down attention, we only see goal-related stimuli (Folk, Remington, & Johnston, 1992). When searching for a green stimulus, our attention searches for green. Red stimuli go unnoticed.

If someone is searching for XYZ, then your stimulus should resemble XYZ.



With top-down attention, visual saliency can backfire. For example, when ads are very distinct, they shout: *Hey, I'm an ad*. So we're quicker

to identify those stimuli as irrelevant. And we use top-down attention to block them from our attention.

Always consider the *type* of attention people are using:

- If people aren't searching for a stimulus, then they're using bottom-up attention. Use visual saliency to capture their attention.
- If people are searching for something, they're using top-down attention. Make your target similar to their goal (Duncan & Humphreys 1989). That's why you might want to *reduce* the saliency of banner ads (Neo & Chua, 2006).

Tactic: Place Your Target in Their Focal Area

People visit web pages for content. *That's their goal*.

However, most ads appear on the top, bottom, or side — *outside* the core content. Those locations are less effective. People can block those spatial areas — including the ads — from entering their top-down attention.

Ideally, you should place ads *within* the content. If your ad seems like part of the article, it'll be more likely to penetrate their top-down attention.

CONCLUSION

Here's a quick summary. The following image contains ALL the stimuli from this article. Can you find them?

Here's where they are.

Stimuli 1: Saliency

The background is a saturated red. It's salient against the white background of this page. Plus, my body and the yellow spider are salient *within* the image.

Oh, and I also tilted it.

Stimuli 2: Motion

I tried adding a motion blur to the spider. Clearly, my design skills need some help.

Stimuli 3: People

My body and hand are present. Pretty straightforward.

Stimuli 4: Animals

I'd argue that this category is the least prevalent. And yes, I realize the image has a giant spider. I chose the spider to illustrate a point.

Spiders have a unique shape. Their bodies are different from most creatures. In other words, they don't have *prototypical features* of an animal. In a quick glance, your brain might not categorize a spider as an animal.

However, a spider DOES capture attention because your brain recognizes that shape in threat detection.

Stimuli 5: Spatial Cues

I'm pointing to and looking at the spider.

Stimuli 6: High Arousal

The spider captures attention because of the evolutionary basis that I described in the article.

Stimuli 7: Unpredictability

The image — itself — makes no sense. Because the semantic meaning is unrelated, it conveys novelty and unexpectedness.

Stimuli 8: Self-Relevance

I positioned my body facing forward, while pointing with my right hand. That composition increases mental interaction. You place yourself in my shoes.

Stimuli 9: Goal-Relevance

You were already reading this article. So you already had top-down attention. This was a gimmie.

Final Thoughts

To capture attention, you just need to include the image above in your marketing materials.

…I'm kidding. Obviously.

Just think of simple ways to incorporate one or a few stimuli from the article.

Seriously, don't go overboard. When you add too much stimuli into one image, you destroy the most important trait: *salience*. Simpler is usually better.

And if you want more help with psychology and marketing, check out my other articles:

- 42 Pricing Tactics Based on Psychology & Neuroscience
- 31 Negotiation Tactics Based By Science
- 31 Copywriting Tips Based on Psychology & Linguistics