

# perpendicular angel design

organizing and simplifying, one illumination at a time

## **AN EVENT APART OT 2021: STYLING THE INTRINSIC WEB WITH CASCADE LAYERS AND CONTAINER QUERIES BY MIRIAM SUZANNE**

Next up: Miriam Suzanne explains cascade layers, container queries, and other CSS goodies. Note that I actually watched this video Tuesday even though it took place Monday night, so tweet dates might be misleading.

Because this year I used Twitter's threading / topics feature, it's giving me 2 tweets in each embed I do here. I'm embedding every other tweet for readability. There's a PDF at the bottom of the page in case this all collapses.



**Josh Tumath**  
@JoshTumath



I've just been at [@aneventapart](#). It was a fantastic Day 1 of the conference.

There's so much to think about with container queries and how it integrates with the existing Intrinsic Web Design patterns we see on e.g. [every-layout.dev](#).



**zeldman**  @zeldman

Next at #AEAOT, @TerribleMia extrapolates on @jensimmons's groundbreaking intrinsic design concept, showing how Cascade Layers give you control over your cascade, while Container Queries let your layout components respond to their contexts. Magical!

@AnEventApart #CSS #webdesign

5:49 PM · Oct 11, 2021

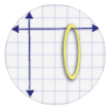


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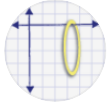
**Anne Gibson** @perpendicularme · Oct 12, 2021



Replying to @perpendicularme

CSS exists for two reasons:

1. makes styles responsive to the viewport, user preference, and device interfaces [#aeaot](#)



**Anne Gibson**

@perpendicularme

The mission statement for the web is “web for all. web on everything.” always with the end user in control of the outcome. We hand control over to the browser and the user and the device they’re on. Designing for the web is designing for change. [#aeaot](#)

2:51 PM · Oct 12, 2021

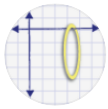


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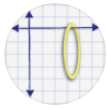
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The cascade accepts stylesheets from browsers, users, and our specific sites. These are the primary cascade origins, each representing different needs and concerns. They could be in conflict. In most cases user beats browser, author beats user.

[#aeaot](#)



**Anne Gibson**

@perpendicularme

If conflict arises the user should have the last word, which is what !important should be used for - user agent !important overrides user !important which overrides author !important

[i am going to sprain some fingers trying to keep up with this talk!]

[#aeaot](#)

2:53 PM · Oct 12, 2021

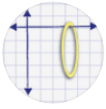


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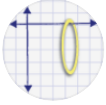
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2. make design objects reusable - use selectors for broad rules, class, and attributes, reusable objects, design systems, etc. It's object-oriented at its core.

Shout-outs to [@stubbornella](#) and [@natbat](#) for their hard work in this area! [#aeaot](#)



**Anne Gibson**

@perpendicularme

Responsive web design (hi [@beep](#)) is a really powerful approach, and while the idea of the responsive web is very important, the technology has changed dramatically. Flexbox, grid, etc. make it more responsive and more reusable. [#aeaot](#)

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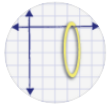


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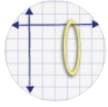


**Anne Gibson** @perpendicularme · Oct 12, 2021



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@jensimmons has a lot of information intrinsic web design - rather than stripping out the intrinsic size of every image, make designs responsive and reusable at a component level. #aeaot



**Anne Gibson**

@perpendicularme

1. Fluid and fixed
2. stages of squishiness
3. Truly two dimensional layouts.
4. nested content
5. expand and contract content
6. media queries as needed

#aeaot

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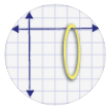


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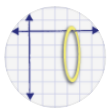
CSS is a living language still going through radical changes.

What's painful about intrinsic design?

CSS selectors and specificity. The cascade doesn't get a lot of updates.

multiple selectors can target the same element, using specificity.

[#aeaot](#)



**Anne Gibson**

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the most generic selectors paint in broad strokes with low priority defaults, then classes and attributes are higher priority, and IDs are highest priority but most specific.

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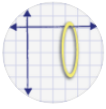


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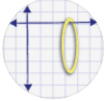


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This is meant to be a rough approximation of the layers of our code. Heuristics can fail. Everything "at scale" doesn't always work. Low priority defaults can be very specific and some generics could have more weight. #aeaot



**Anne Gibson**  
@perpendicularme

Classes and attributes are the only reusable level. Then someone throws an !importance grenade...

Cascade layers will allow us to create our own custom-named layers of the cascade, to represent our own specificity. #aeaot

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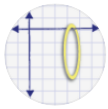
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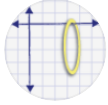
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The important flag still works as it was designed for origins. nesting styles under the new @ layer rule. This is all in progress work. [also wow this is going fast, grab the concepts not the details.]

[#aeaot](#)



**Anne Gibson**  
@perpendicularme

Specificity only matters inside of each layer, so a single menu item class will be overriding the things in another layer. This can help us do things like override bootstrap without writing wild selectors. [#aeaot](#)

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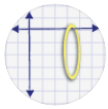


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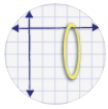
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One of the goals is to allow authors to decide how third party rules fit into our style layering. We can always override them without specificity hacks. Plus frameworks and component providers can expose internally used namespaces layers.

[#aeaot](#)



**Anne Gibson**

@perpendicularme

More cascade control, not totally reliant on specificity and code order. Fewer hacks, more clearly defined patterns. unlayered styles default to the lowest priority, the implied base layer.

This may be extended in the future! [#aeaot](#)

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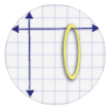


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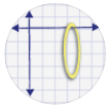


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We should be able to polyfill all of this and may add an @ support features test. Chrome and Safari are both working on implementations. [#aeaot](#)



**Anne Gibson**  
@perpendicularme

Firefox has released cascade layers in the firefox nightly - you need to turn it on to use it. Chrome Canary has a runtime flag, it's more work. [#aeaot](#)

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**Josh "The Vax" Vickerson**  
@joshvickerson



.@TerribleMia talking about CSS Cascade Layers - a means of explicitly defining our own layers of the cascade for increased control over which style rules win! This is really, really cool.

[#AEAOT](#)

5:07 PM · Oct 11, 2021



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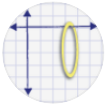


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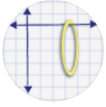


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Layers are designed to impact entire site architecture but we can see simple tests to see it working. Miriam shows a great demo in the presentation. [#aeaot](#)



**Anne Gibson**  
@perpendicularme

How do changes happen?

Working drafts in the working group GitHub suggest the problems and how we could fix them.

That leads to a lot of conversation in the threads and on calls which are transcribed and put back in the threads.  
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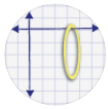


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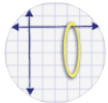
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A smaller group takes it and goes back with a formal proposal.

once everyone's happy with where it's going, they write it up in specification language and into an editor's draft, which becomes a working draft. Iterations occur.

Any remaining issues are in the drafts.

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**Anne Gibson**

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engineers create web-platform-tests which all the browser manufacturers use to determine whether they are building what's in the spec. there's other details as well [#aeaot](#)

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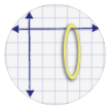


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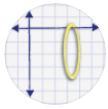


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“One of the best ways a developer can truly help make websites work the same way in every browser is to help create more tests for WPT. We all want interoperability. Testing is a way to get there... But we need more tests written to check on more things.” @jensimmons #aeaot



**Anne Gibson**

@perpendicularme

2. Scoped styles: scope problems cause using BEM syntax, etc. Scoped names can express ownership and membership. A title inside a post isn't the same as a post title. not all titles inside this post, just the one that belongs to this post. #aeaot

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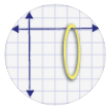


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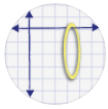


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Another way to think about this is to say that some components have lower boundaries. We should be able to style a tab component or a media object without worrying that we'll style everything inside it by mistake. This is similar to but different from shadow DOM issues. [#aeaot](#)



**Anne Gibson**

@perpendicularme

Scoped styles with an @ scope rule with both a root selector and a lower boundary selector. Anything inside the at rule only apply between the two boundaries.

[#aeaot](#)

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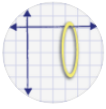


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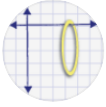


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Lower boundaries can keep themes from bleeding into each other. When specificity is equal we default to the closer scope root. There's also talk of a lower boundary selector. #aeaot



**Anne Gibson**

@perpendicularme

Container queries are super-exciting. Media queries allow us to respond to the viewport. They allow us to define containers and have each card respond to the container that it's in. #aeaot

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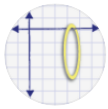
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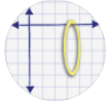


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But trying to measure containers and then respond to the container provides a paradox. measure the container getting smaller & make the content larger which makes the container larger & you're back where you're started. #aeaot



**Anne Gibson**

@perpendicularme

The containers must be sized without referencing whatever's in it.

the contain rule helps with this.

Size containment is not great in most cases.

WE need 1 axis to remain fluid so our content doesn't have accidental overflow. #aeaot

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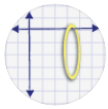


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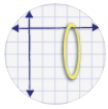
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This is definitely “here there be dragons” territory. the current prototype in chrome sidesteps the issues a bit, but it’s a proof of concept not a finished product.

block-size containment also causes new problems. [#aeaot](#)



**Anne Gibson**

@perpendicularme

container queries are absolutely not a stable spec and the syntax in the slides is still in active development.

Container query looks like a media query with @ container instead of @ media. Containers can’t query themselves. [#aeaot](#)

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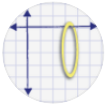


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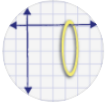


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We can nest containers as much as we want, and each one can respond to the one above it. if you don't want to rely on the nearest ancestor, you can name containers and query those specific named containers. lots of prototypes and code pens going on for this. #aeaot



**Anne Gibson**

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There will be container relative units, like viewport sizes but specific to the containers. These are supported in the chrome prototype. They use the q prefix. (The character unit, ch, stopped them from setting ch to mean container height) #aeaot

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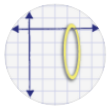


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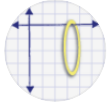


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if you don't use container queries, the qw (container width) will default to the vw (viewport width) as the nearest ancestor. same with the other container sizes. [#aeaot](#)



**Anne Gibson**

@perpendicularme

we might be able to query an actual value of a property and look at the state of a container. we haven't worked out all the details yet. if we can solve the inline containment issue and they're working on a polyfill.

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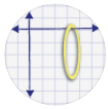


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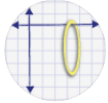


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**Anne Gibson**  
@perpendicularme

the web isn't done and css isn't static. we're all an important part of the process. come up with solutions, show everyone your pain points. keep playing, keep filing issues, keep giving the spec groups feedback.

[#aeaot](#)

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