

# A NEW THEME LAYER FOR DRUPAL 8

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WHO ARE WE?

I AM c4rl  
(Carl Wiedemann)

working with Drupal (since D5)  
training instructor (since D6)  
drupal.org redesign team

I care a lot about \_?\_



I AM      jenlampton  
(Jen Lampton)

working with Drupal (since D4.7)  
training instructor (since D6)  
conrib maintainer (youtube, more) since D5

I care a lot about usability & learnability

WHO ARE YOU?

# YOU ARE:

Theme developers?  
(D7? D6? D5?)



# YOU ARE:

Theme developers?  
(D7? D6? D5?)

New to Drupal?  
(just want to know what the heck is going on in D8)

# YOU ARE:

Theme developers?  
(D7? D6? D5?)

New to Drupal?  
(just want to know what the heck is going on in D8)

Drupal Experts?  
(also want to know what the heck is going on in D8)



# DRUPAL 8 : A NEW THEME LAYER

# DRUPAL 8 : A NEW THEME LAYER (probably)

WHY?



# DRUPAL 7

(remember how some of you said that you had  
built themes for Drupal 7?)

# DRUPAL 7: POSITIVE



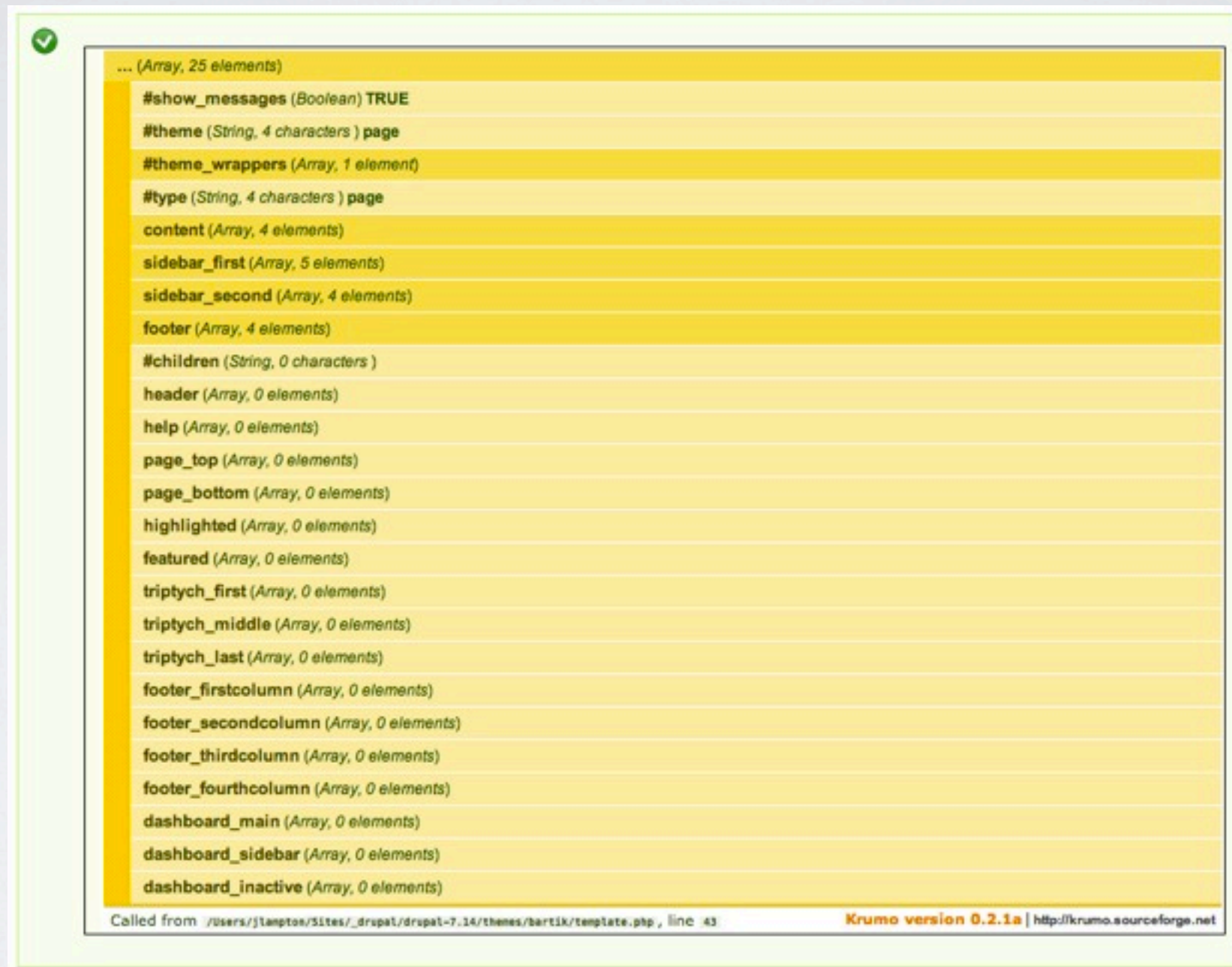
# DRUPAL 7: POSITIVE



flexible



# DRUPAL 7: POSITIVE



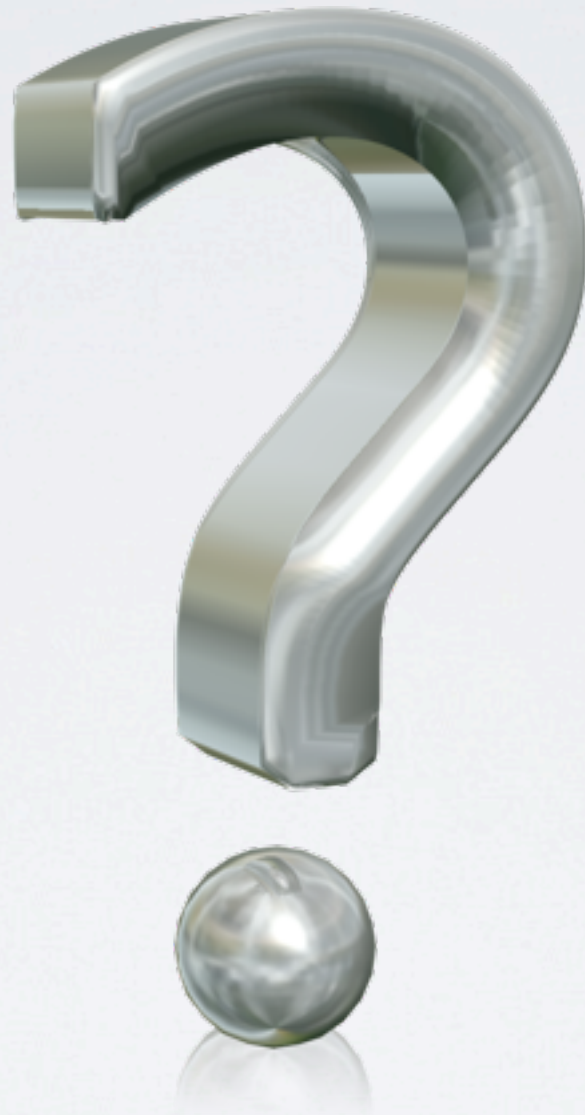
The screenshot displays a Krumo debug output window, which is a tool used for inspecting data structures in Drupal. It shows a large array with 25 elements. The elements are listed in a structured manner, with each element's name, type, and value displayed. The elements include:

- #show\_messages (Boolean) TRUE
- #theme (String, 4 characters) page
- #theme\_wrappers (Array, 1 element)
- #type (String, 4 characters) page
- content (Array, 4 elements)
- sidebar\_first (Array, 5 elements)
- sidebar\_second (Array, 4 elements)
- footer (Array, 4 elements)
- #children (String, 0 characters)
- header (Array, 0 elements)
- help (Array, 0 elements)
- page\_top (Array, 0 elements)
- page\_bottom (Array, 0 elements)
- highlighted (Array, 0 elements)
- featured (Array, 0 elements)
- tritych\_first (Array, 0 elements)
- tritych\_middle (Array, 0 elements)
- tritych\_last (Array, 0 elements)
- footer\_firstcolumn (Array, 0 elements)
- footer\_secondcolumn (Array, 0 elements)
- footer\_thirdcolumn (Array, 0 elements)
- footer\_fourthcolumn (Array, 0 elements)
- dashboard\_main (Array, 0 elements)
- dashboard\_sidebar (Array, 0 elements)
- dashboard\_inactive (Array, 0 elements)

At the bottom of the window, it indicates the source of the data: "Called from /Users/jlampton/Sites/\_drupal/drupal-7.14/themes/bartik/template.php, line 43". The Krumo version is 0.2.1a, and the source is <http://krumo.sourceforge.net>.

unified data structures everywhere

# DRUPAL 7: POSITIVE



anyone?



# DRUPAL 7: NEGATIVE



# DRUPAL 7: NEGATIVE

```
?>
<div id="node-<?php print $node->nid; ?>" class="<?php print $classes; ?> clearfix"<?php print $attributes; ?>>
  <?php print render($title_prefix); ?>
  <?php if (!$page): ?>
    <h2<?php print $title_attributes; ?>>
      <a href="<?php print $node_url; ?>"><?php print $title; ?></a>
    </h2>
  <?php endif; ?>
  <?php print render($title_suffix); ?>

  <?php if ($display_submitted): ?>
    <div class="meta submitted">
      <?php print $user_picture; ?>
      <?php print $submitted; ?>
    </div>
  <?php endif; ?>

  <?php if ($page['featured']): ?>
    <div id="featured"><div class="section clearfix">
      <?php print render($page['featured']); ?>
    </div></div> <!-- /.section, /#featured -->
  <?php endif; ?>
```

Drupal only (weird) syntax

# DRUPAL 7: NEGATIVE

```
?>
<div id="node-<?php print $node->nid; ?>" class="<?php print $classes; ?> clearfix"<?php print $attributes; ?>>
  <?php print render($title_prefix); ?>
  <?php if (!$page): ?>
    <h2<?php print $title_attributes; ?>>
      <a href="<?php print $node_url; ?>"><?php print $title; ?></a>
    </h2>
  <?php endif; ?>
  <?php print render($title_suffix); ?>

  <?php if ($display_submitted): ?>
    <div class="meta submitted">
      <?php print $user_picture; ?>
      <?php print $submitted; ?>
    </div>
  <?php endif; ?>

  <?php if ($page['featured']): ?>
    <div class="section clearfix">
      <?php print render($page['featured']); ?>
    </div></div> <!-- /.section, /#featured -->
  <?php endif; ?>
```

Object or Array?

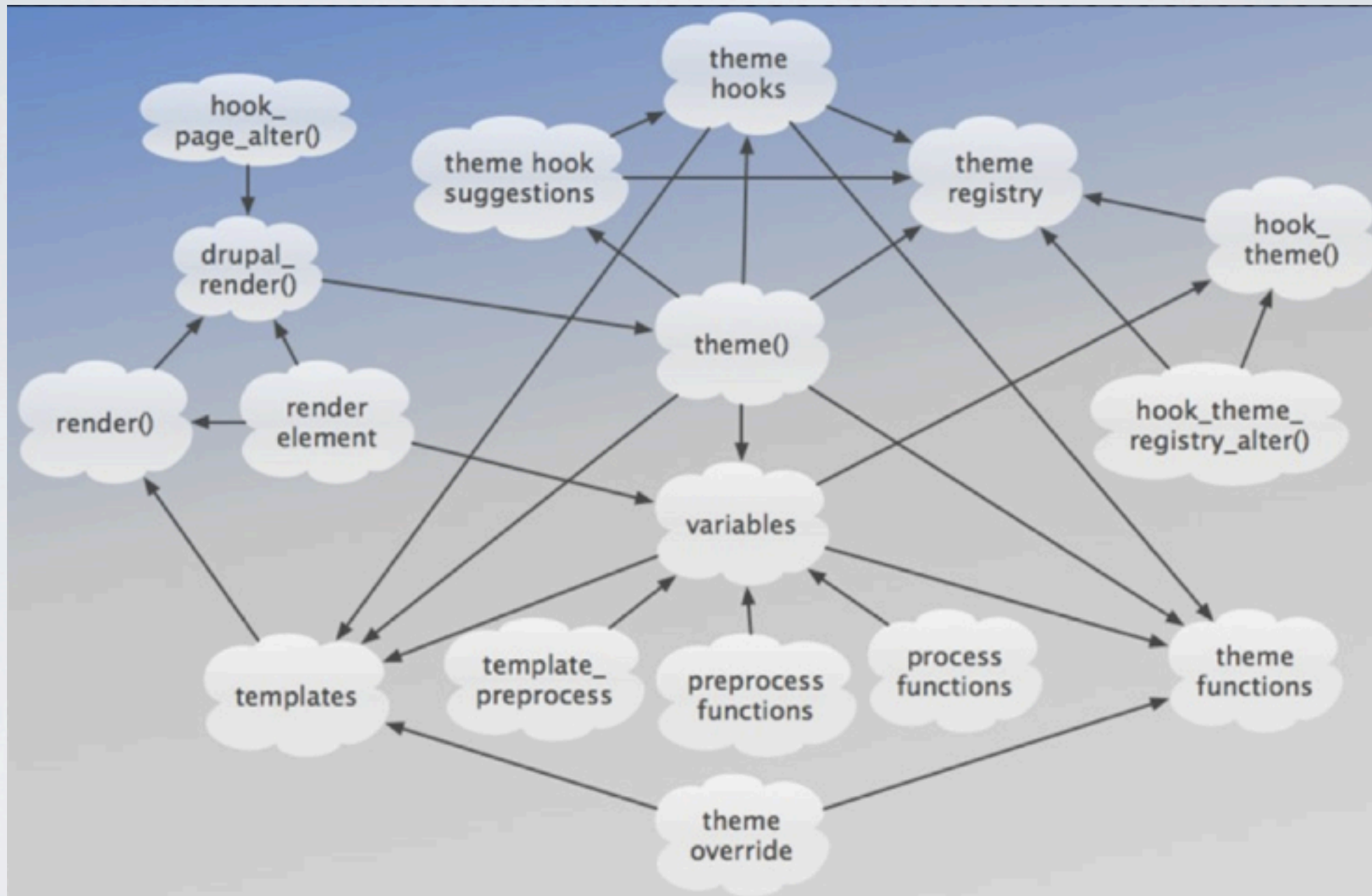
# DRUPAL 7: NEGATIVE

```
?>
<div id="node-<?php print $node->nid; ?>" class="<?php print $classes; ?> clearfix"<?php print $attributes; ?>>
  <?php print render($title_prefix); ?>
  <?php if (!$page): ?>
    <h2<?php print $title_attributes; ?>>
      <a href="<?php print $node_url; ?>"><?php print $title; ?></a>
    </h2>
  <?php endif; ?>
  <?php print render($title_suffix); ?>
  <?php if ($display_submitted): ?>
    <div class="meta submitted">
      <?php print $user_picture; ?>
      <?php print $submitted; ?>
    </div>
  <?php endif; ?>
  <?php if ($page['featured']): ?>
    <div id="featured"><div class="section clearfix">
      <?php print render($page['featured']); ?>
    </div></div> <!-- /.section, /#featured -->
  <?php endif; ?>
```

print or print render() ?



# DRUPAL 7: NEGATIVE



complex mix of subsystems

# DRUPAL 7: NEGATIVE

```
<?php db_query("DROP TABLE {node}"); ?>
```

PHP is insecure



# DRUPAL 7: NEGATIVE

```
> find . -name "*.tpl.php"
./aggregator/aggregator-feed-source.tpl.php
./aggregator/aggregator-item.tpl.php
./aggregator/aggregator-summary-item.tpl.php
./aggregator/aggregator-summary-items.tpl.php
./aggregator/aggregator-wrapper.tpl.php
./block/block-admin-display-form.tpl.php
./block/block.tpl.php
./block/tests/themes/block_test_theme/page.tpl.php
./book/book-all-books-block.tpl.php
./book/book-export-html.tpl.php
./book/book-navigation.tpl.php
./book/book-node-export-html.tpl.php
./comment/comment-wrapper.tpl.php
./comment/comment.tpl.php
./field/theme/field.tpl.php
./forum/forum-icon.tpl.php
./forum/forum-list.tpl.php
./forum/forum-submitted.tpl.php
./forum/forum-topic-list.tpl.php
./forum/forums.tpl.php
./node/node.tpl.php
./overlay/overlay.tpl.php
./poll/poll-bar--block.tpl.php
./poll/poll-bar.tpl.php
./poll/poll-results--block.tpl.php
./poll/poll-results.tpl.php
./poll/poll-vote.tpl.php
./profile/profile-block.tpl.php
./profile/profile-listing.tpl.php
./profile/profile-wrapper.tpl.php
./search/search-block-form.tpl.php
./search/search-result.tpl.php
./search/search-results.tpl.php
./simpletest/tests/theme_test.template_test.tpl.php
./system/html.tpl.php
./system/maintenance-page.tpl.php
./system/page.tpl.php
./system/region.tpl.php
./taxonomy/taxonomy-term.tpl.php
./toolbar/toolbar.tpl.php
./user/user-picture.tpl.php
./user/user-profile-category.tpl.php
./user/user-profile-item.tpl.php
./user/user-profile.tpl.php
```

Too many template files

# DRUPAL 7: NEGATIVE



prone to bugs



# DRUPAL 7: NEGATIVE



Drupal 7 is too hard to learn!

# DRUPAL 8

what do we want?



# DRUPAL 8

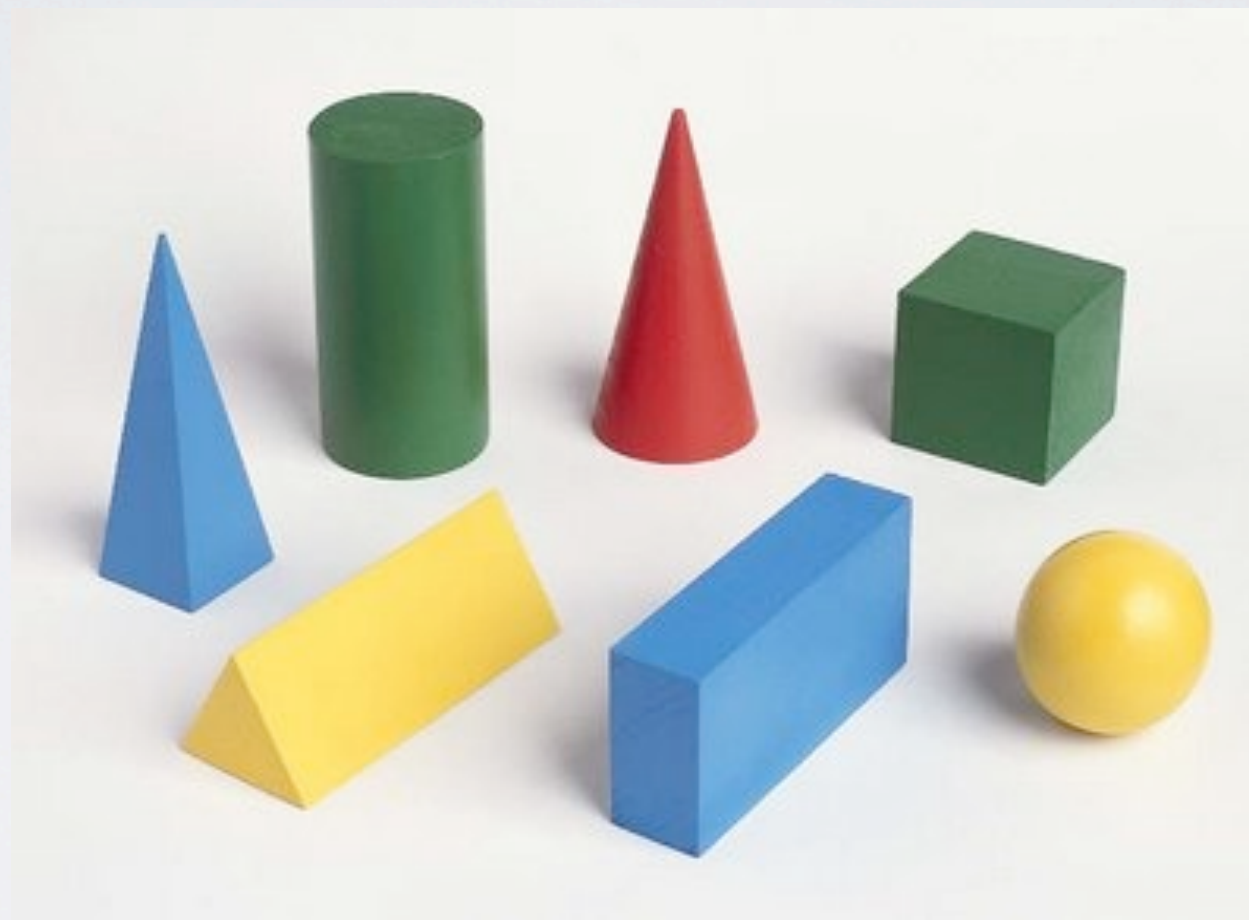
what do we want?



Something proudly found elsewhere

# DRUPAL 8

what do we want?

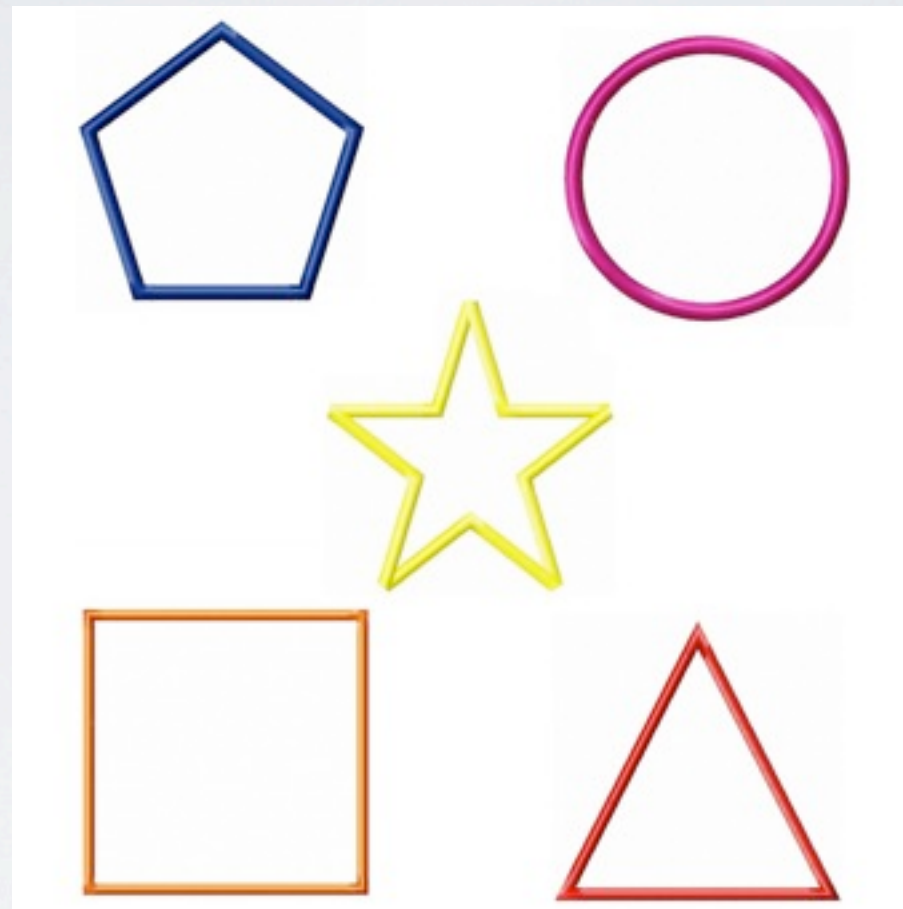


Objects



# DRUPAL 8

what do we want?



Objects  
(but not in the templates)

# DRUPAL 8

what do we want?

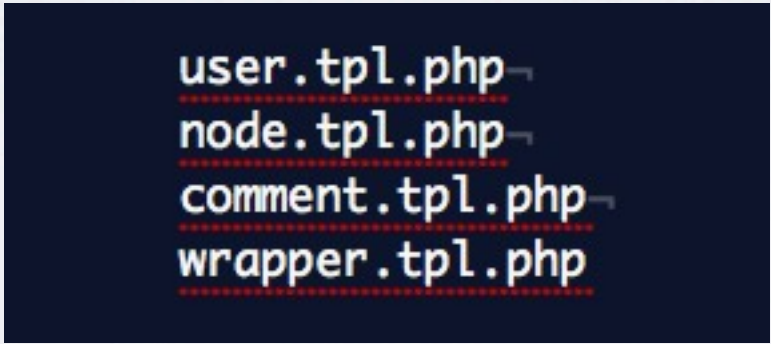


Secure



# DRUPAL 8

what do we want?



```
user.tpl.php  
node.tpl.php  
comment.tpl.php  
wrapper.tpl.php
```

The right templates

# DRUPAL 8

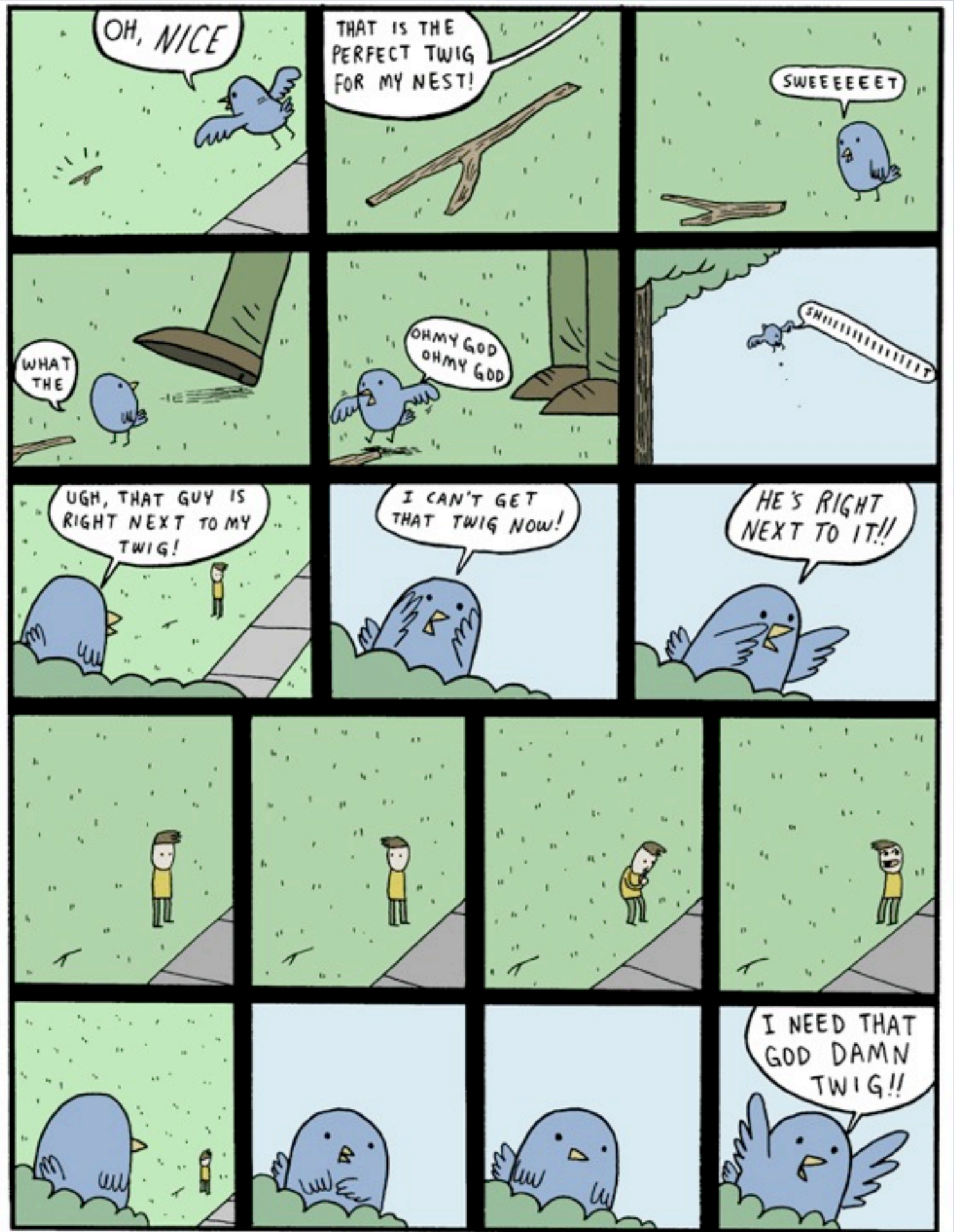
what do we want?



Consistency



# TWIG



# TWIG

A modern template engine for PHP.



<http://twig.sensiolabs.org>



# TWIG

what's so great about it?

- well documented
- extensible
- secure
- well tested
- IDE integration
- recognizable syntax
  - Python (django)
  - JS (TwigJS)
  - Ruby (Liquid)
- by Symfony's author, Fabien Potencier

# TWIG

what does it look like?

```
{% if items %}
  <{{ type }} class="{{ items.attributes.class }}" {{ items.attributes }}>
  {% for item in items %}
    <li class="{{ item.attributes.class }}" {{ item.attributes }}>
      {{- item -}}
    </li>
  {% endfor %}
</{{ type }}>
{% endif %}
```



# TWIG

what does it look like?

```
{% if items %}  
<{{ type }} class="{{ items.attributes.class }}" {{ items.attributes }}>  
{% for item in items %}  
  <li class="{{ item.attributes.class }}" {{ item.attributes }}>  
    {{- item -}}  
  </li>  
{% endfor %}  
</{{ type }}>  
{% endif %}
```

print with {{ }}

# TWIG

what does it look like?

```
{% if items %}  
<{{ type }} class="{{ items.attributes.class }}" {{ items.attributes }}>  
{% for item in items %}  
  <li class="{{ item.attributes.class }}" {{ item.attributes }}>  
    {{- item -}}  
  </li>  
{% endfor %}  
</{{ type }}>  
{% endif %}
```

commands with {% %}



# TWIG

what does it look like?

```
{% if items %}  
  <{{ type }} class="{{ items.attributes.class }}" {{ items.attributes }}>  
  {% for item in items %}  
    <li class="{{ item.attributes.class }}" {{ item.attributes }}>  
      {{- item -}}  
    </li>  
  {% endfor %} {# end for loop #}  
  </{{ type }}>  
{% endif %}
```

comments with {# #}

# TWIG

what does it look like?

```
{% if items %}  
  <{{ type }} class="{{ items.attributes.class }}" {{ items.attributes }}>  
  {% for item in items %}  
    <li class="{{ item.attributes.class }}" {{ item.attributes }}>  
      {{- item -}}  
    </li>  
  {% endfor %}  
</{{ type }}>  
{% endif %}
```

simple and intuitive



# INTERLUDE:

attributes

```
{% if items %}
<{{ type }} class="{{ items.attributes.class }}" {{ items.attributes }}>
{% for item in items %}
  <li class="{{ item.attributes.class }}" {{ item.attributes }}>
    {{- item -}}
  </li>
{% endfor %}
</{{ type }}>
{% endif %}
```

attributes are messy

# INTERLUDE:

attributes

HTML5 attribute types:

String

```
<div class="item-list"></div>
```

Boolean

```
<input type="checkbox" checked />
```

Enumerated

```
<div id="box" contenteditable="true" ></div>
```

attributes are messy



# INTERLUDE:

attributes

We need attributes to be “drillable”

attributes

or

attributes.class

or

attributes.id

# INTERLUDE:

attributes

PHP5 to the rescue!

ArrayAccess

allows objects to be treated as arrays

\_\_toString

allows “flattening” of arrays or objects into HTML strings  
(almost)



# INTERLUDE:

attributes

but, this has nothing to do with TWIG.

so

let's do it now:

<http://drupal.org/node/1290694>

# TWIG

how would it work?

all theme functions become template files.  
a single way to override markup!



# TWIG

D7

```
function theme_username($variables) {  
  if (isset($variables['link_path'])) {  
    $output = l($variables['name'] . $variables['extra'], $variables['link_path'], $variables['link_options']);  
  }  
  else {  
    $output = '<span' . drupal_attributes($variables['attributes_array']) . '>' . $variables['name'] . $variables['extra'] . '</span>';  
  }  
  return $output;  
}
```

D8

```
{% if link %}  
  <a href="{{ link.path }}" {{ link.attributes }}>{{ name }} {{- extra }}</a>  
{% else %}  
  <span {{ attributes }}>{{ name }} {{- extra }}</span>  
{% endif %}
```

theme\_username becomes username.twig

# TWIG

D7

```
function theme_image($variables) {  
  $attributes = $variables['attributes'];  
  $attributes['src'] = file_create_url($variables['uri']);  
  
  foreach (array('width', 'height', 'alt', 'title') as $key) {  
    if (isset($variables[$key])) {  
      $attributes[$key] = $variables[$key];  
    }  
  }  
  
  return '<img' . drupal_attributes($attributes) . ' />';  
}
```

D8

```

```

theme\_image becomes image.twig



# TWIG

D7

```
function theme_link($variables) {  
  return '<a href="' . check_plain(url($variables['path'], $variables['options'])) . '"  
    . drupal_attributes($variables['options']['attributes']) . '>'  
    . ($variables['options']['html'] ? $variables['text'] : check_plain($variables['text']))  
    . '</a>';  
}
```

D8

```
<a href="{{ path }}" {{ attributes }}>{{ text }}</a>
```

theme\_link becomes link.twig

# TWIG

D7

```
function theme_item_list($variables) {-
  $items = $variables['items'];-
  $title = (string) $variables['title'];-
  $type = $variables['type'];-
  $list_attributes = $variables['attributes'];-

  $output = '';-
  if ($items) {-
    $output .= '<' . $type . drupal_attributes($list_attributes) . '>';-

    $num_items = count($items);-
    $i = 0;-
    foreach ($items as $key => $item) {-
      $i++;-
      $attributes = array();-

      if (is_array($item)) {-
        $value = '';-
        if (isset($item['data'])) {-
          $value .= $item['data'];-
        }-
        $attributes = array_diff_key($item, array('data' => 0, 'children' => 0));-

        // Append nested child list, if any.-
        if (isset($item['children'])) {-
          // HTML attributes for the outer list are defined in the 'attributes'-
          // theme variable, but not inherited by children. For nested lists,-
          // all non-numeric keys in 'children' are used as list attributes.-
          $child_list_attributes = array();-
          foreach ($item['children'] as $child_key => $child_item) {-
            if (is_string($child_key)) {-
              $child_list_attributes[$child_key] = $child_item;-
              unset($item['children'][$child_key]);-
            }-
          }-
          $value .= theme('item_list', array(-
            'items' => $item['children'],-
            'type' => $type,-
            'attributes' => $child_list_attributes,-
          ));-
        }-
        $value .= $item;-
      }-

      $attributes['class'][] = ($i % 2 ? 'odd' : 'even');-
      if ($i == 1) {-
        $attributes['class'][] = 'first';-
      }-
      if ($i == $num_items) {-
        $attributes['class'][] = 'last';-
      }-

      $output .= '<li>' . drupal_attributes($attributes) . '>' . $value . '</li>';-
    }-
    $output .= '</div>';-
  }-

  // Only output the list container and title, if there are any list items.-
  // Check to see whether the block title exists before adding a header.-
  // Empty headers are not semantic and present accessibility challenges.-
  if ($output != '' || $title != '') {-
    if ($title != '') {-
      $title = '<h3>' . $title . '</h3>';-
    }-
    $output = '<div class="item-list">' . $title . $output . '</div>';-
  }-

  return $output;-
}
```

D8

```
{% if items %}-
<{{ type }} class="{{ attributes.class }}" {{ attributes }}>-
{% for item in items %}-
  <li class="{{ item.attributes.class }}" {{ item.attributes }}>-
    {{- item -}}-
  </li>-
{% endfor %}-
</{{ type }}>-
{% endif %}-
```

theme\_item\_list becomes item\_list.twig



# TWIG

how would it work?

D7

```
'comment' => array(  
  'template' => 'comment',  
  'render element' => 'elements',  
)
```

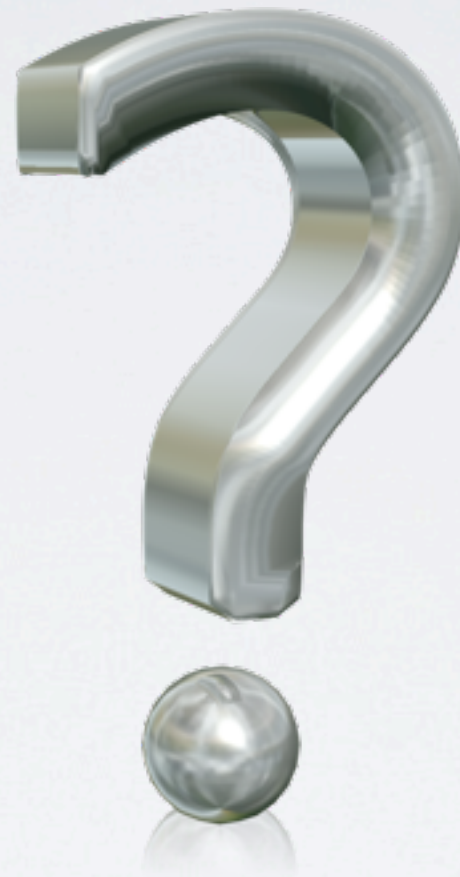
D8

```
'comment' => array(  
  'template' => 'comment',  
  'variables' => array(  
    'title' => NULL,  
    'attributes' => array(),  
    'content' => NULL,  
  ),  
)
```

more like Drupal 6!

# TWIG

how would it work?



there's a lot we still don't know.

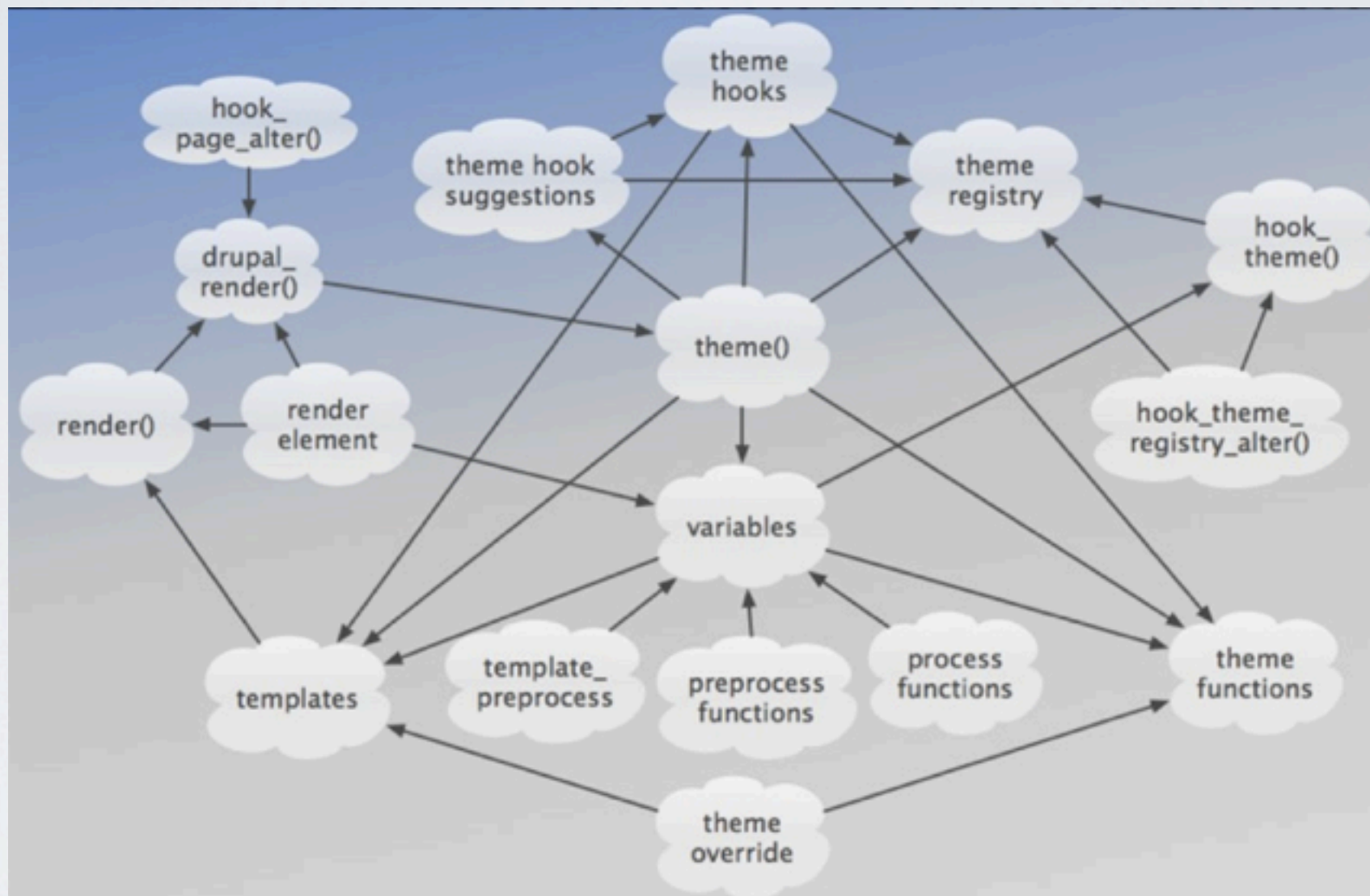


# TWIG

why is this good?

# TWIG

why is this good?



remember the complexity of Drupal 7?





# TWIG

where does this fit in with SCOTCH?

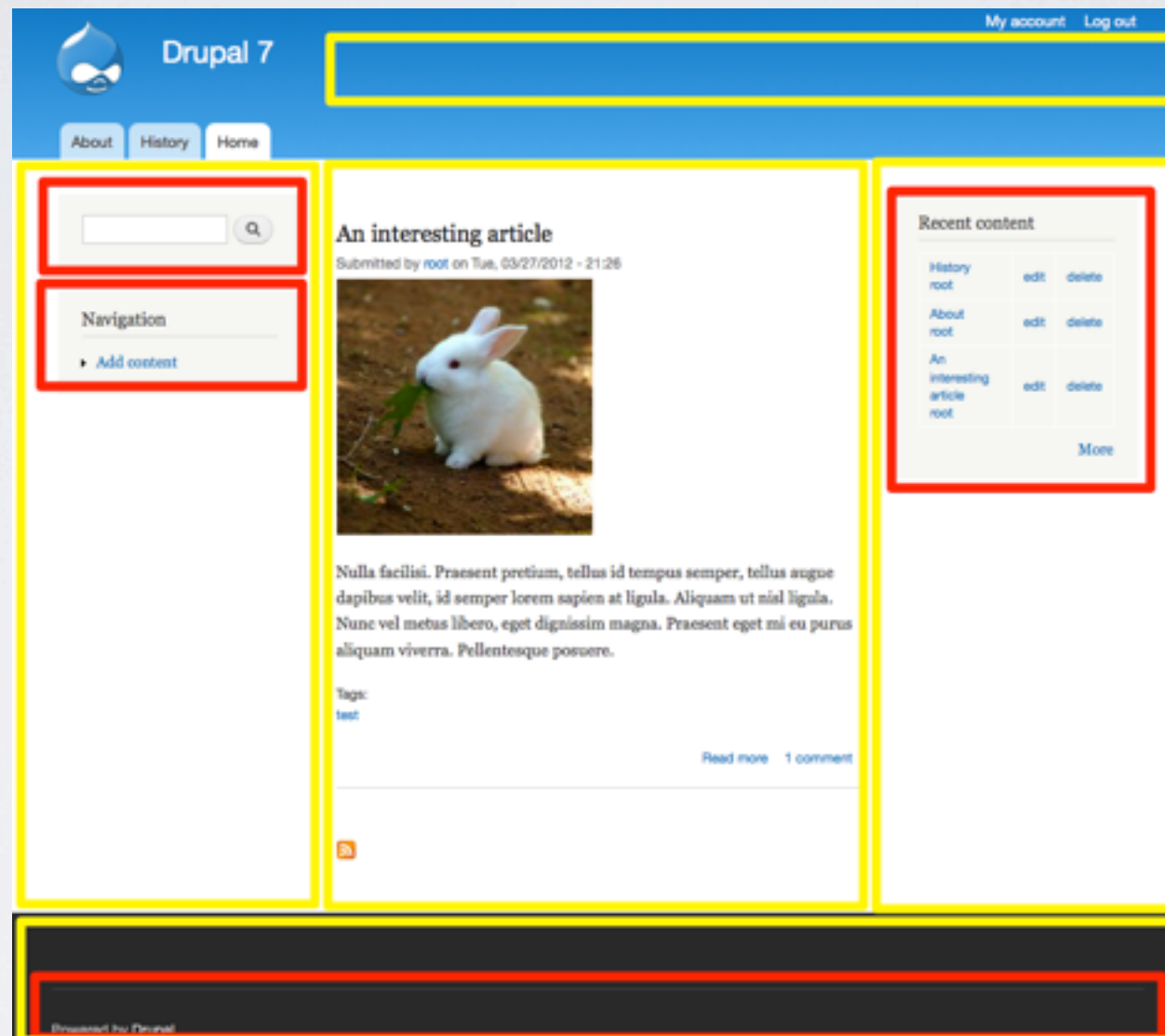


The “Blocks everywhere” initiative complicates things



# TWIG

where does this fit in with SCOTCH?



Blocks in D6 (in red)

# TWIG

where does this fit in with SCOTCH?

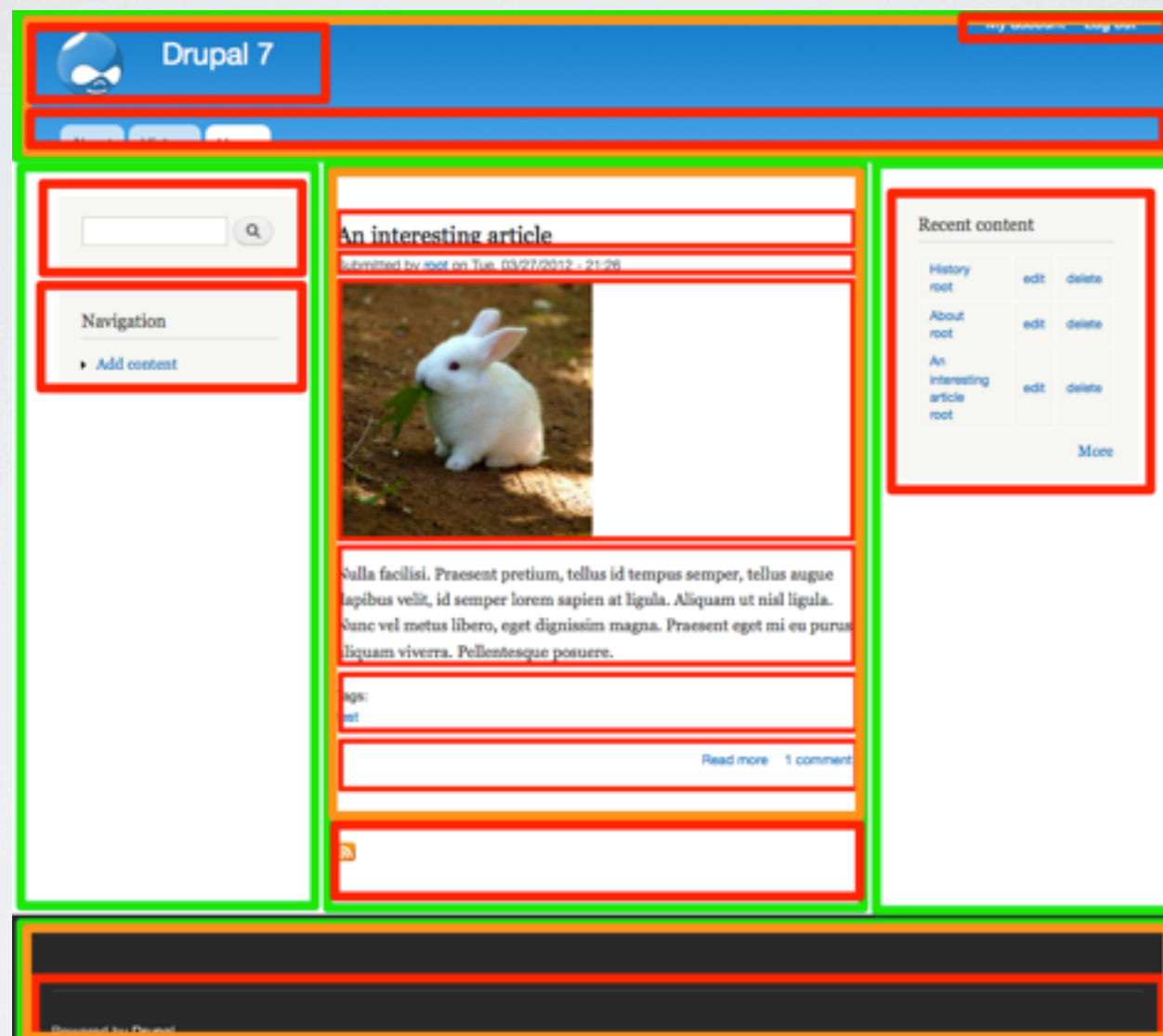


Blocks in D7 (in red)



# TWIG

where does this fit in with SCOTCH?



Blocks in D8 (in red)

# TWIG

while we're at it...

PHPTemplate	Twig template	Status
page.tpl.php	-	layouts provided by Scotch
region.tpl.php	-	eliminated in favor of wrapper.twig
block.tpl.php	block.twig	same as wrapper.twig, but uses 'aside' HTML5 tag
node.tpl.php	node.twig	same as wrapper.twig, but uses 'article' HTML5 tag
comment.tpl.php	comment.twig	same as node.twig, here for ease of learning?
comment-wrapper.tpl.php	-	eliminated in favor of wrapper.twig
field.tpl.php	-	eliminated in favor of item_list.twig
forums.tpl.php	-	eliminated in favor of wrapper.twig
search-results.tpl.php	-	eliminated in favor of wrapper.twig, and item_list.twig
search-result.tpl.php	-	eliminated in favor of wrapper.twig

...let's clean up the template files!



# TWIG

“Learnability”

- Easier to learn than PHP
  - Consistent
  - Secure

DISCUSS!



# A NEW THEME LAYER FOR DRUPAL 8

@jenlampton | <http://www.jenlampton.com>  
@c4rl | <http://www.c4rl.ws>

## photo credits:

lolcat-wut:

[http://www.funnyjunk.com/funny\\_pictures/1152056/Dude/](http://www.funnyjunk.com/funny_pictures/1152056/Dude/)

lolcat-flexible

<http://icanhascheezburger.com/2008/10/24/funny-pictures-fexlibility-i-haz-it/>

lolcat questionmark

<http://icanhascheezburger.com/2007/10/31/11197/>

questionmark

[http://fr.wikipedia.org/wiki/Fichier:Question\\_mark\\_3d.png](http://fr.wikipedia.org/wiki/Fichier:Question_mark_3d.png)

wheel-reinvented

<http://www.brainwads.net/drewhawkins/2012/01/dont-re-invent-the-wheel-make-something-better/>

objects

[http://2teachers1classroom.blogspot.com/2009\\_02\\_01\\_archive.html](http://2teachers1classroom.blogspot.com/2009_02_01_archive.html)

shapes

[http://englishclass.jp/reading/topic/For\\_Screening\\_Purposes\\_Only](http://englishclass.jp/reading/topic/For_Screening_Purposes_Only)

secure

<http://blog.stratopedia.org/2010/06/03/what-is-a-secure-site/>

consistency

<http://icsigns.org/press/2010/03/23/consistency-staying-on-the-mark/>

twig bird comic

<http://s302.photobucket.com/albums/nn105/walkseva/?action=view&current=thebirdneedsthattwig.gif&currenttag=bird%20park%20twig%20comic%20need%20it>

scotch

<http://www.thespir.it/articles/scotch-101/?viewall=1>

twig

<http://galletly.blogspot.com/2009/10/twig.html>