Accessibility in DITA and DITA-OT

DITA-OT Day Berlin, 2017

Robert D. Anderson, IBM

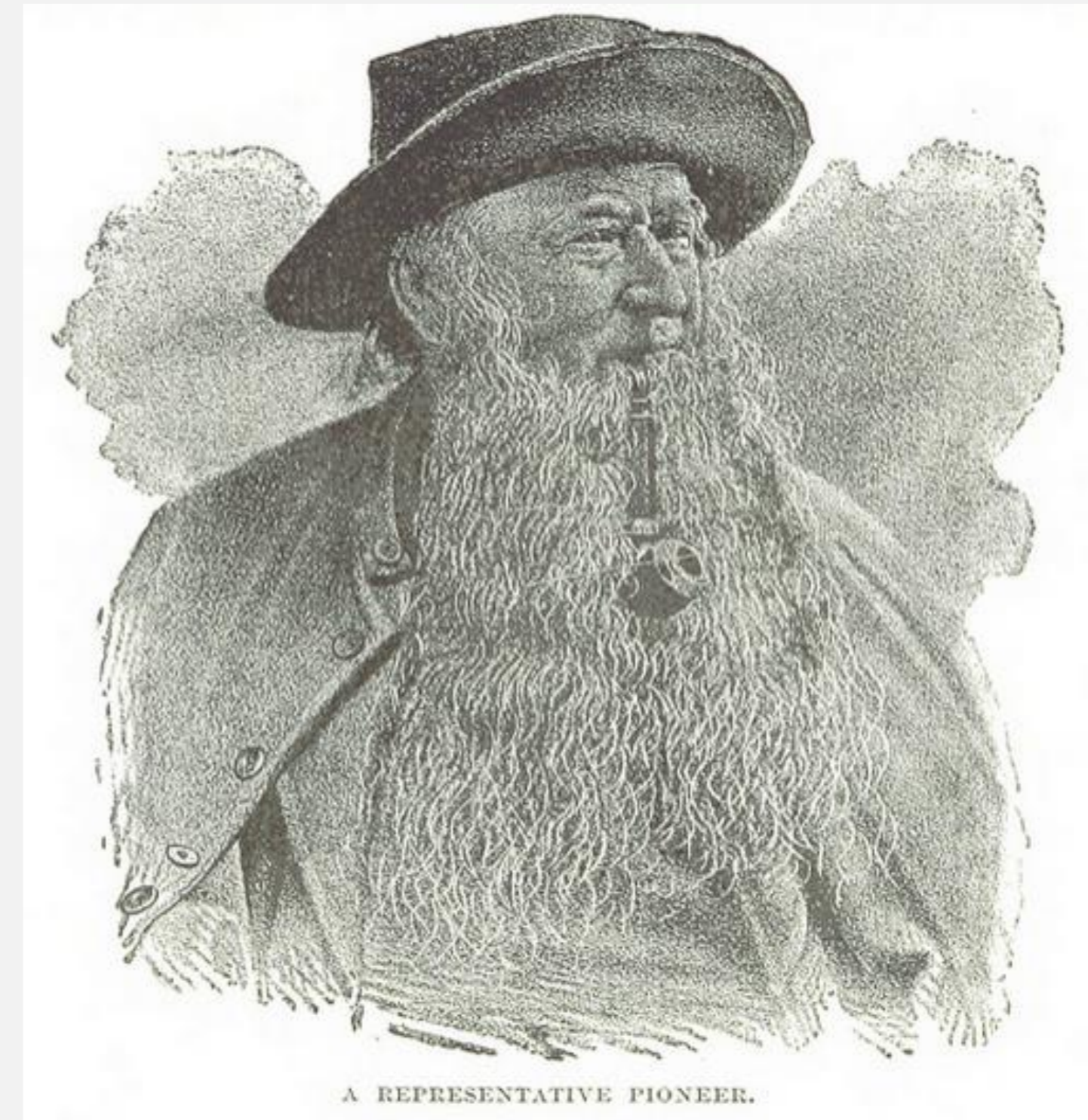@robander

What I expect you are expecting…

- Accessibility – what, why, and do I need it?

- Does DITA do it for me?

- Does DITA-OT do it for me?
    - Focus: HTML and HTML based outputs

- I really care about … what do I have to do on my own?
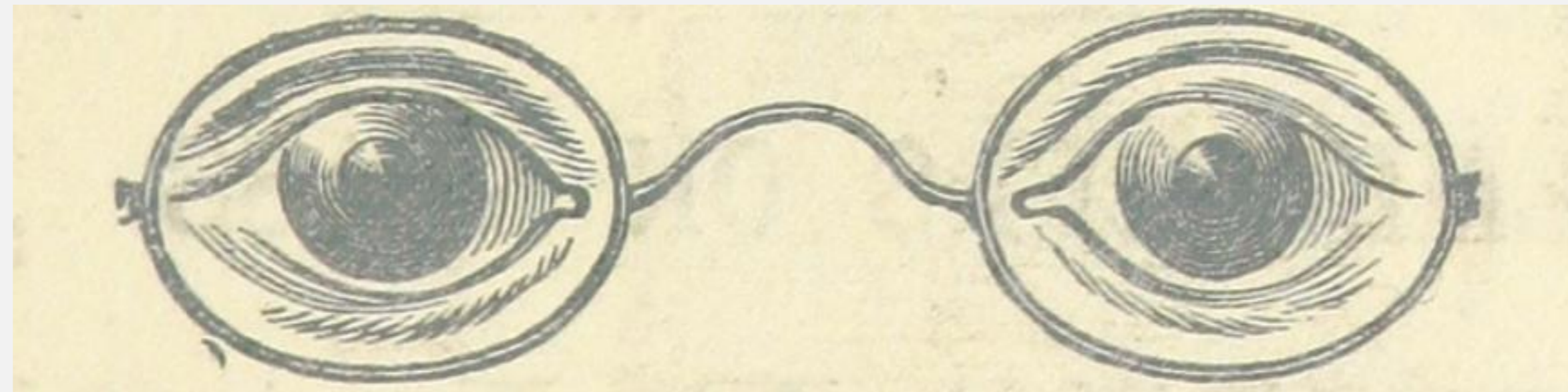
Why am I the one talking?

Because Kris was not able
to make it.

Apologies to those who have to
listen to too much of me today!

A REPRESENTATIVE PIONEER.

What do we mean by accessibility?

- Is content …
    - Available to everyone?
    - Understandable by everyone?
    - Usable by everyone?
    - On every device?
    - Regardless of any disabilities / impairments?

Is it important to be accessible?

Yes.

Why?

Whatever the goal of your content…

If any person can't use your content …

then they *won't* use your content.

Which means they won't be your customer.

Now or in the future.

But if you need hard data…

- World Health Organization estimated in 2011 that over one billion people live with disabilities.

- This number is increasing due to ageing population + increase in chronic diseases / conditions.

- Anybody can move into / out of the "disabled" category at any time

Data

■ Hard data ■ Good data ■ Squishy data ■ Selfish data
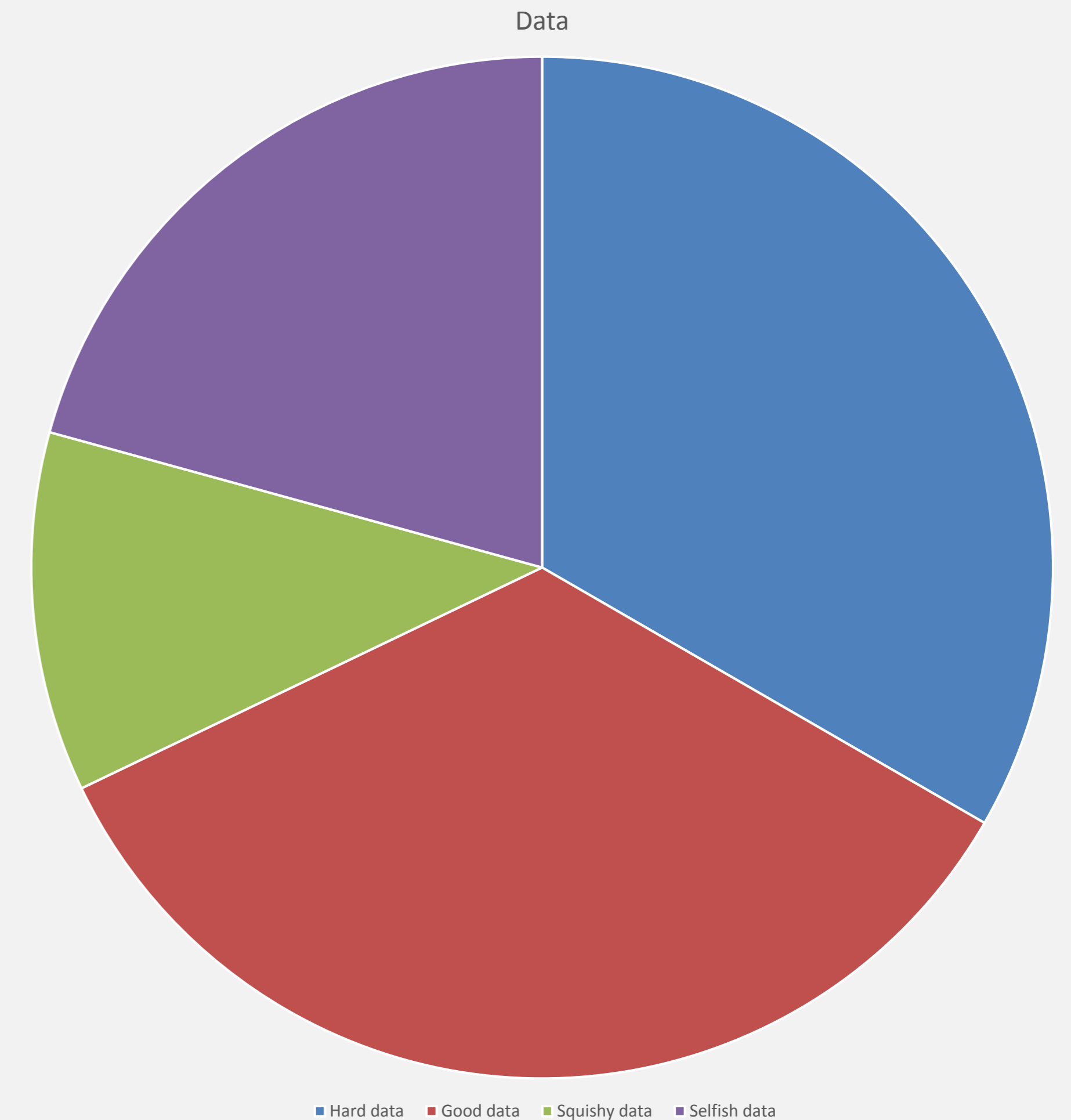
Additional business drivers

- If reaching more people isn't enough…

- … many organizations (governments, businesses) mandate compliance

- For example, US Government and WCAG compliance

WCAG: Web Content Accessibility Guidelines

- Primarily for online content

- Addresses various methods of access (mobile, browser)

- Focus for this presentation: how to ensure your online content is accessible, complies with these guidelines

- https://www.w3.org/WAI/intro/wcag

Does DITA comply with WCAG?

… is not *quite* the right question.

Your DITA editor likely needs to be accessible.

DITA itself is usually rendered as something else: HTML, PDF, etc.

Accessibility for DITA is most concerned with that final presentation.

But you *can* make your DITA more accessible

- Content is content, regardless where it starts or how stored

- Good writing good. Remember to write good.

- Start by writing clearly, using simple sentences, using the right terminology for your audience
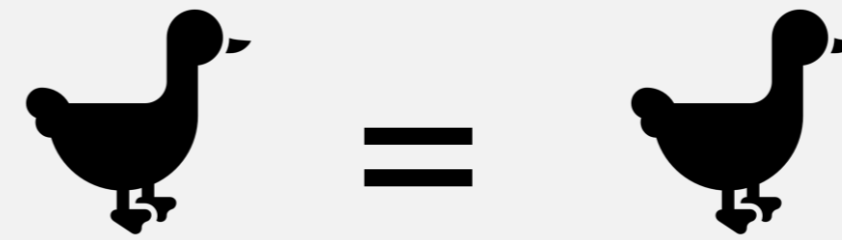
Beyond the quality of the text…

What does DITA do for you?

- In many cases, Web Accessibility is about conveying semantic information in multiple ways

- As a semantic language, DITA stores that information with content

- Tools that render DITA should convey that in any way necessary

Is this obviously a heading?

Sure, if you can see it.

What about this?	Is this a heading?
Sure it is.	Again … if you can see it.
But what if …	…something is reading it to you?

Preserving semantics

- DITA headings in `<title>` should retain heading markup

- Table entries in `<thead>` should do whatever is necessary to associate headers with entries

- Images should use `<alt>` to specify alternative text

Is this obviously a heading?

Sure, if you can see it.

What about this?	Is this a heading?
Sure it is.	Again … if you can see it.
But what if …	…something is reading it to you?

Example: Image with alternative text

Proper method:

```
<image href="puffin.png">
  <alt>Proud puffin with fish</alt>
</image>
```

Old method (deprecated):

```
<image href="puffin.png"
    alt="Proud puffin with fish"/>
```

Example: Alt text with `@keyref`

New in DITA-OT 3.0: key definition with `<linktext>` or `<navtitle>` provides alt text:

```
<image keyref="proudPuffin"/>
```

Key definition:

```
<keydef keys="proudPuffin"
    href="puffin.png" format="image">
  <topicmeta>
    <linktext>Proud puffin with fish</linktext>
  </topicmeta>
</keydef>
```

Ever seen a really complex image?

When `<alt>` isn't enough…

```
<image keyref="iceroad">
  <alt>Rules of
       the road</alt>
  <longdescref
   href="roadsign.dita"/>
</image>
```

What about tables?

- Most table accessibility can be automated with DITA 1.0 markup
  - Use `<thead>` or `<sthead>` for header row or header rows
  - Use `<table rowheader="firstcol">` or `<simpletable keycol="1">` if first column contains headers

Team	Wins	Losses
Dragons	9	1
Wizards	8	2
Giants	2	8
Hobbits	1	9

What about really complex tables?

- New markup available in DITA 1.3
    - Allows for multiple header columns
    - Also allows manual control of all accessibility (not advised for most cases)

Category	Animal	Good for petting	Cuddly
Good animals	**Cat**	Yes	If in the mood
	Dog	Yes	Almost always
Scary animals	**Crocodile**	No	Only when young
	Shark	No	Never

DITA Markup: summary

✓ Ensure your content is well written

✓ Ensure your content is marked up properly

    ✓ Use header markup for headers

    ✓ Use semantic elements where available

✓ Provide alternate text for your images

What does DITA-OT do for you?

- Preserve semantics where possible
    - Lists preserve list markup
    - Headings are headings,
      not "bold paragraphs"
    - Alternative text is placed in `img/@alt`
    - Use CSS to style based on source

- Automated ARIA role attributes
    - Provides screen readers with
      information about page regions

```
<main role="main">
  <article role="article" aria-labelledby="ariaid-title1">
    <h1 id="ariaid-title1">Topic title</h1>
```

Surely that's not all…

- Generate accessible version of symbols
  - DITA-OT 2.5 added text for $>$ character between menu items
  - "Use File > Open" =➜ Reads as "Use File and then Open"

- Table headers … oh … table headers. Always the table headers.

Complex tables		Make life fun	
Merged cells	And spanned rows	Are like a party	A birthday party

Anybody suddenly nervous?

Table headers and accessibility

- Old way: every cell associated with header
  - Uses generated `@id` and `@headers`
  - Based off of `<thead>` and `@rowheaders` / `<sthead>` and `@keycol`
  - Automated for all tables prior to DITA-OT 3.0
  - Still used for `<table>`

Generated `@id` and `@headers`?

@id=gen1	@id=gen2	@id=gen3	@id=gen4
@id=gen5 **@headers=gen1**	@headers=gen2 gen5	@headers=gen3 gen5	@headers=gen4 gen5
@id=gen6 **@headers=gen1**	@headers=gen2 gen6	@headers=gen3 gen6	@headers=gen4 gen6

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- New way: scoping and `<th>`
  - Support was not widespread back in toolkit 1.0
  - DITA-OT 3.0 shifts to this for `<simpletable>`
  - Expected in 3.1 for `<table>`

Scoping and `<th>`?

@scope=col	@scope=col	@scope=col	@scope=col
@scope=row			
@scope=row			

Table headers and accessibility

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- Support for new DITA 1.3 markup coming

Table "summary"

- No dedicated DITA element or attribute equates to HTML `table/@summary`

  - Intended for longer summary of table

  - `<desc>` is similar, but intended for display

  - Not visible in browser, but available to screen readers

- Writing advice I learned:

  - Use good captions

  - Use descriptive text for all consumers of the topic

- Seems in flux for HTML5

  - DITA 2.0 may follow lead of HTML5

PDF accessibility

- Is more complicated.

- Depends on PDF, as well as rendering tool
  - FOP, XEP, AH

- Don't have dedicated resource for this today

When something is missing or broken

Open an issue at GitHub!

https://github.com/dita-ot/dita-ot/issues

Currently open accessibility tasks:

https://github.com/dita-ot/dita-ot/labels/accessibility

Example: DITA-OT 3.0 updates related links for WCAG 2.0

Updates more likely with HTML5 than XHTML

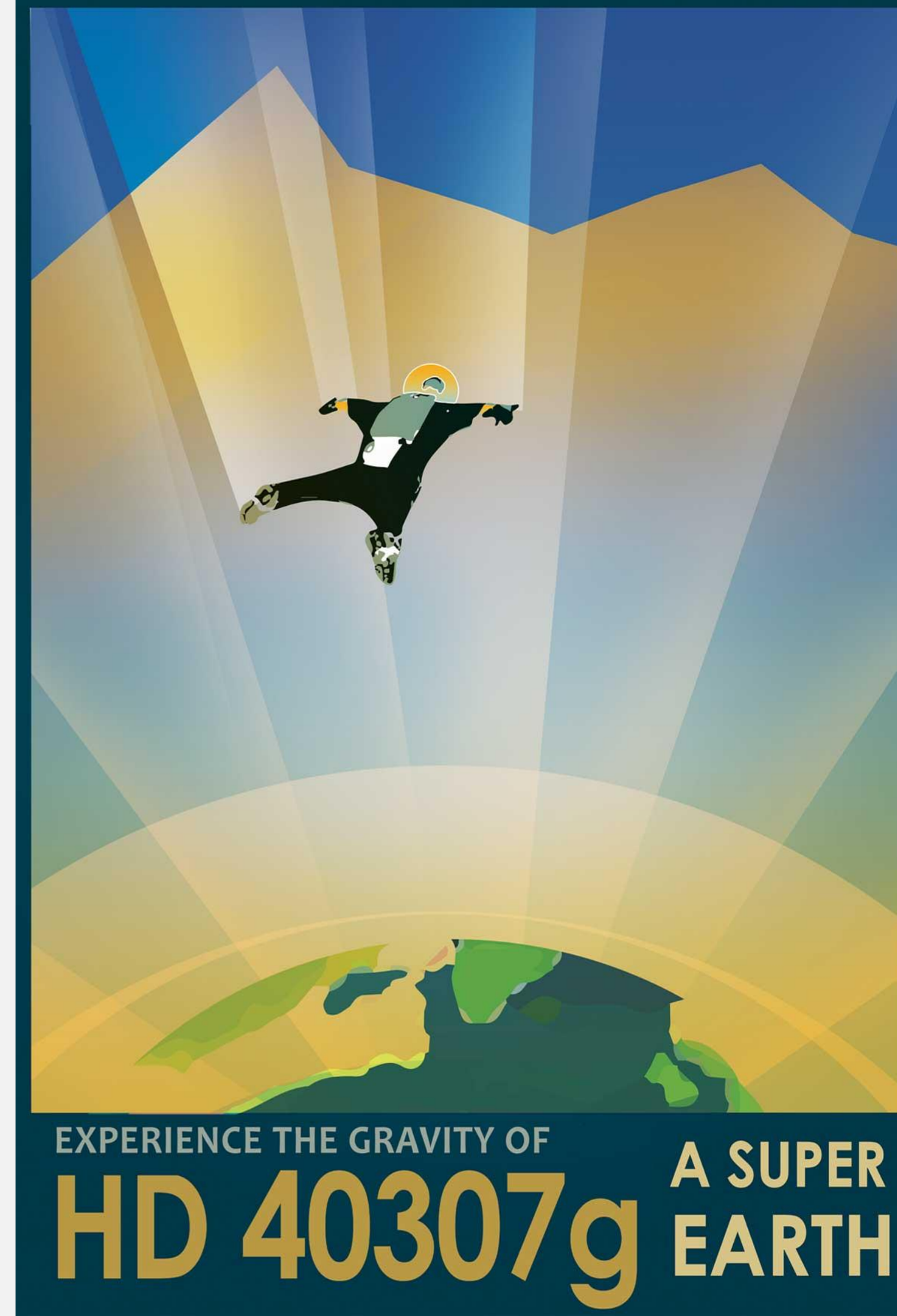# DITA-OT: Further study

Project page and documentation:
http://dita-ot.org

GitHub project:
https://github.com/dita-ot/dita-ot/

Slack channel:
http://slack.dita-ot.org/

My own thoughts on DITA and DITA-OT:
http://metadita.org/toolkit/

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Web Accessibility Guidelines

WCAG Overview

https://www.w3.org/WAI/intro/wcag

WCAG Techniques

https://www.w3.org/TR/WCAG20-TECHS/Overview.html#contents

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HD 40307g

A SUPER EARTH

I am ready for your suggestions

…I'll also take questions

Image credits
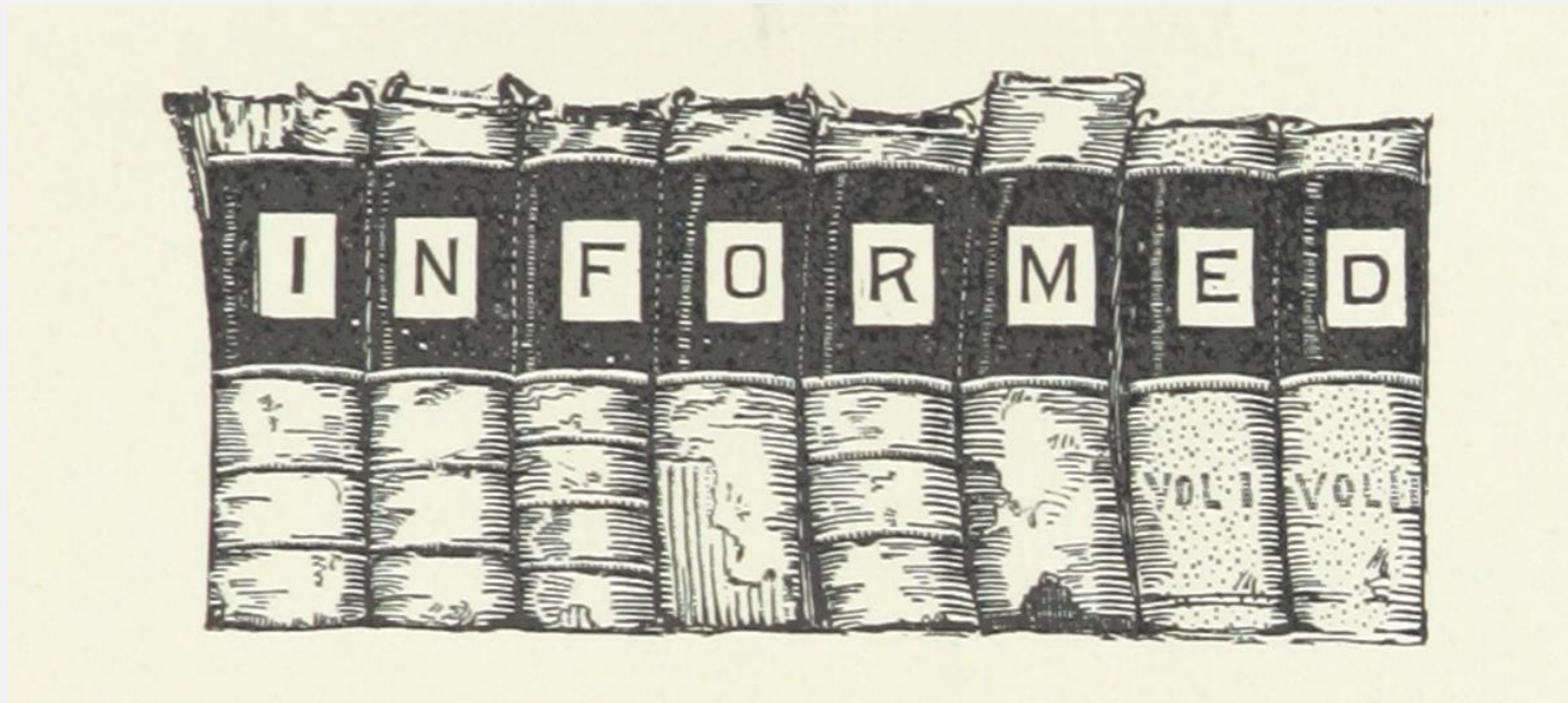
NASA/JPL-Caltech

http://www.jpl.nasa.gov/visions-of-the-future/

https://images.nasa.gov/

British Library Flickr stream

www.flickr.com/photos/britishlibrary/

New York Public Library Digital Collections

https://digitalcollections.nypl.org/

Thank you

Digital Services Group