

CNI 2013

# Building a Better Book (in the browser) : Transforming and Unlocking Book Content

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@hello\_scott\_



# Research Team



Kenning Arlitsch  
Jason Clark  
Patrick O'Brien  
Scott Young



# Research Question

What happens when book content becomes networked?



# Others who are asking this question

- Editorially
- Pressbooks
- Book in Browser Conference
- The People's E-Book (Kickstarter)
- Open Book Hack Weekend (NYPL)



# Outline

The codex and emerging book formats

The web browser as container

A new data model for the "book"





"When I was a kid, I always dreamed of becoming a librarian..."

"...until I found out that librarians don't read books for a living."

*- Thing said by an actual person*



So, let's talk about the book.





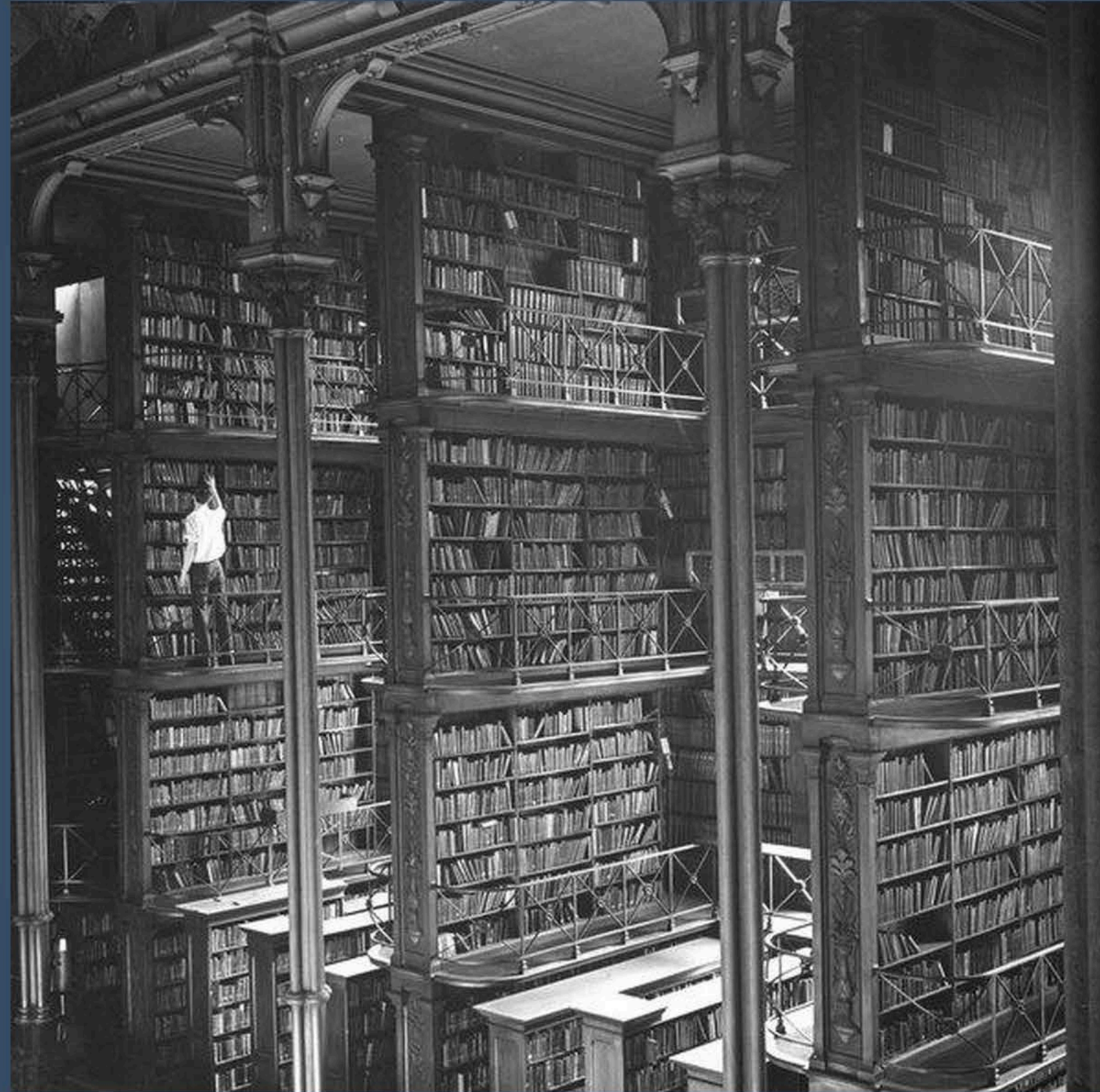
Interior of Townsville library, ca. 1948  
By State Library of Queensland, Australia



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**C'ptnAngryRantyPants**  
@angryrantypants



 Follow

my taxi driver doesn't know where state library is. further proof the book is dead

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**2**  
RETWEETS



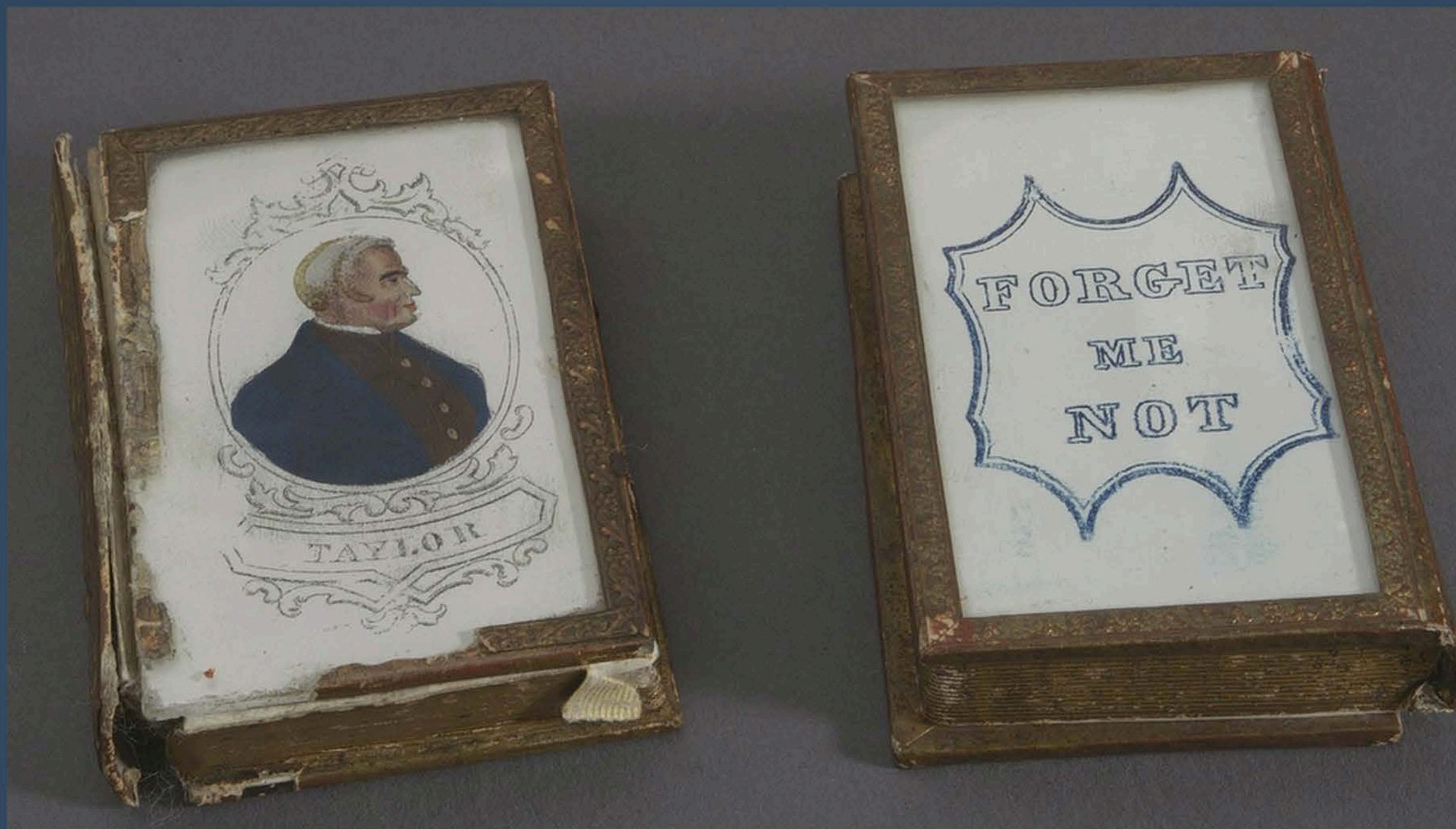
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# The Codex as Information Technology







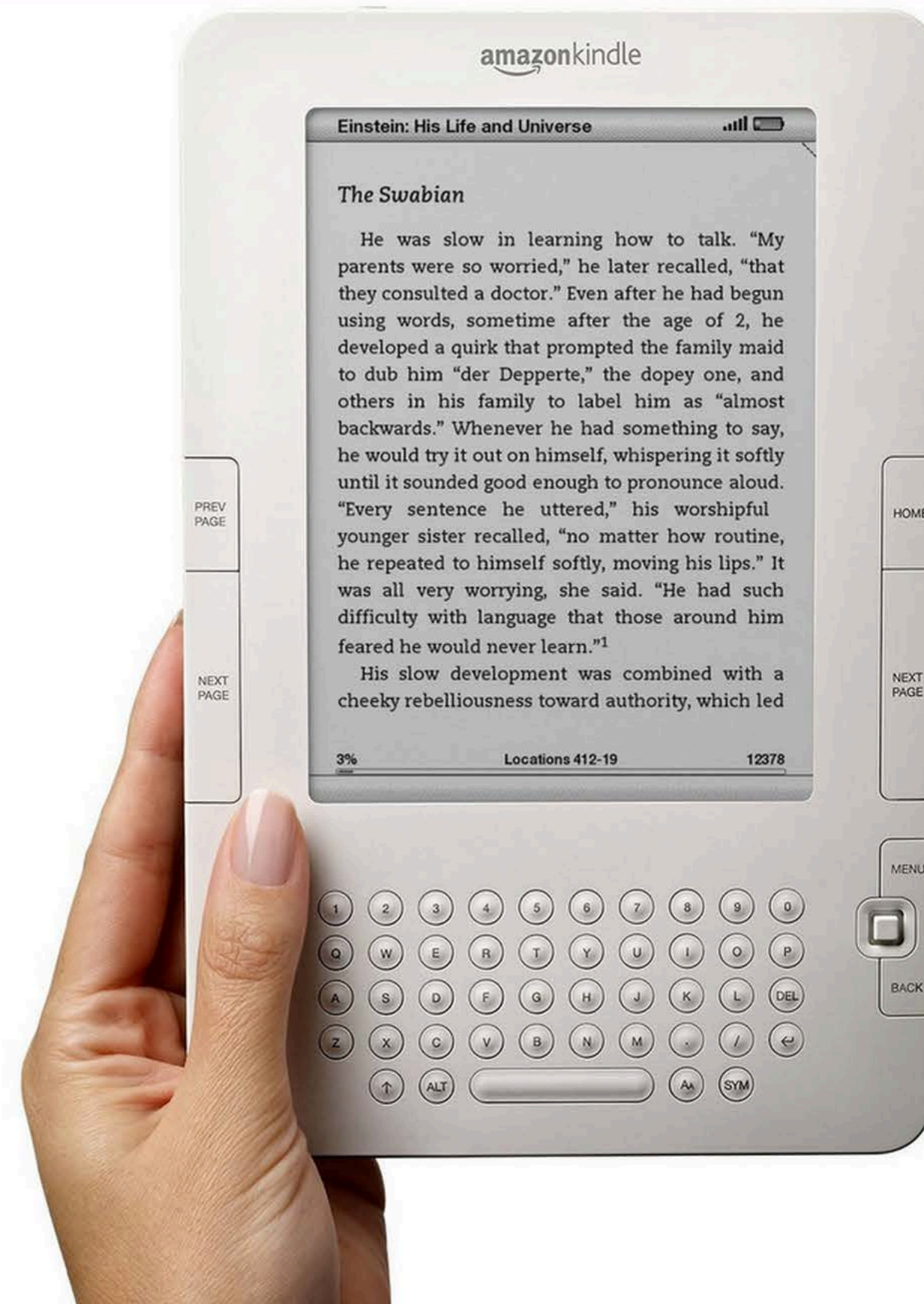
Cornell University Library



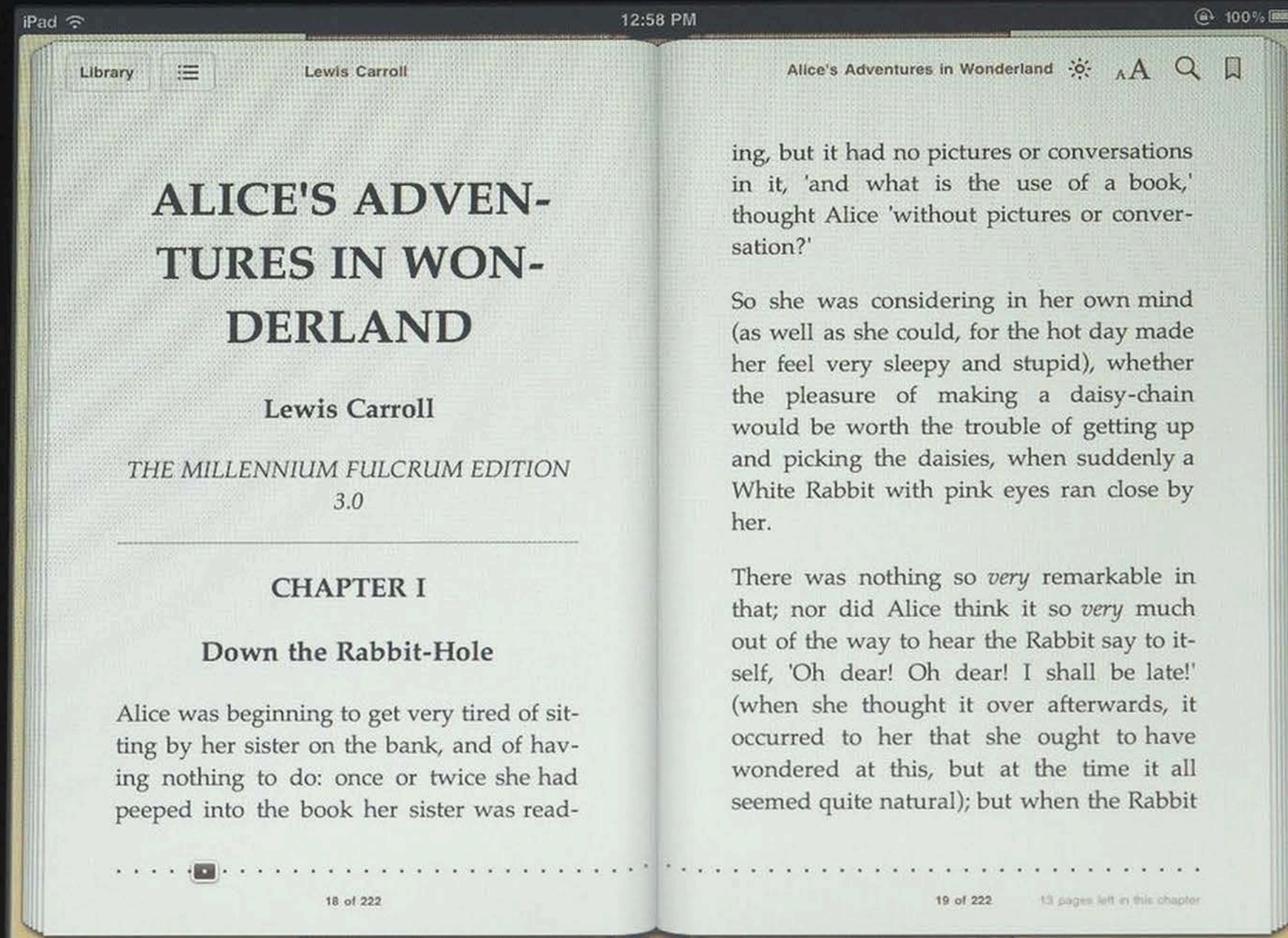


# The eBook as Information Technology









# ALICE'S ADVENTURES IN WONDERLAND

Lewis Carroll

THE MILLENNIUM FULCRUM EDITION  
3.0

## CHAPTER I

### Down the Rabbit-Hole

Alice was beginning to get very tired of sitting by her sister on the bank, and of having nothing to do: once or twice she had peeped into the book her sister was read-

ing, but it had no pictures or conversations in it, 'and what is the use of a book,' thought Alice 'without pictures or conversation?'

So she was considering in her own mind (as well as she could, for the hot day made her feel very sleepy and stupid), whether the pleasure of making a daisy-chain would be worth the trouble of getting up and picking the daisies, when suddenly a White Rabbit with pink eyes ran close by her.

There was nothing so *very* remarkable in that; nor did Alice think it so *very* much out of the way to hear the Rabbit say to itself, 'Oh dear! Oh dear! I shall be late!' (when she thought it over afterwards, it occurred to her that she ought to have wondered at this, but at the time it all seemed quite natural); but when the Rabbit

# The "Book" as Information Technology

- Data Delivery
- Information Access
- Knowledge Building





# The Web as Information Technology

- Data Delivery
- Information Access
- Knowledge Building



# The Web!

More flexible and extensible than book & ebook

Web browser = 21st-century printing press



# Our Project

1. Digital Book for a university history class
2. MS Word --> static HTML --> dynamic HTML
3. API + Semantic Components + Linked Data

<http://arc.lib.montana.edu/book/home-cooking-history-409/>



# Dev Stack

- MySQL
- Treesaver.js
- HTML5 + CSS3
- Structured Data with schema.org





Gingerbread - Jonathan Be

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arc.lib.montana.edu/book/home-cooking-history-409/article-jonathan-bergh.html

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Table of Contents > Recipe and Essay


Gingerbread

Ingredients:

- 1/2 c. soft shortening
- 2 1/4 c. flour
- 2 T. sugar
- 1 tsp. soda
- 1 egg
- 1/2 tsp. salt
- 1 c. dark New Orleans Molasses
- 1 tsp. ginger
- 1 c. boiling water
- 1 tsp. cinnamon

Directions:

- Mix shortening, sugar and egg.
- Blend in molasses and cup of boiling water, cooled first.
- And flour, soda, salt, ginger and cinnamon.
- Beat until smooth.
- Pour into well-greased 9 inch square pan.
- Bake 45 minutes to 50 minutes at 350 degrees.



- Serve with whipped cream and applesauce.

Table of Contents > Recipe and Essay

Tradition and Travel

by Jonathan Bergh

Every winter the Bergh family celebrates the season with a special tradition. It is the time of the year when the Bergh family

young Lyle Bergh gingerbread was the catalyst for endless foodstuffs taken outside of the farm market. Lyle Bergh took his first gingerbread cake he had something special. To his family gingerbread more represented a season. Lyle it represented so much more.

In 1960s northeastern Montana's food options were limited. For inhabitants of Plentywood, Montana, and his family, it meant they would eat farm food: meals like steak, potatoes and coffee. Lyle would come home and have farm food his mother Bee cooked. When his family would go to Washington, it would be more than just family.

When the Bergh family headed to Seattle, Washington the winter, it meant they would be reunited, and there would be treats going to Seattle meant

Prev

1 / 2


Next

M Gingerbread - Jonathan Bergh

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nts > Recipe and Essay

and Travel

by Jonathan Bergh

the Bergh family

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when the Bergh family

young Lyle Bergh gingerbread was the catalyst for exposure to countless foodstuffs that were outside of the farm menu. Once Lyle Bergh took his first bite into gingerbread cake he knew he ate something special. To the Bergh family gingerbread may have represented a season, but for Lyle it represented so much more.

In 1960s northeastern Montana's food options were limited. For inhabitants of Plentywood, Montana, like Lyle and his family, it meant that you would eat farm food: simple meals like steak, potatoes, milk and coffee. Lyle would come home and have farm food that his mother Bee cooked. When he and his family would go Seattle, Washington, it would represent more than just family gatherings.

When the Bergh family headed to Seattle, Washington in the winter, it meant that a family would be reunited, and it meant there would be treats. For Lyle, going to Seattle meant that he

going to Seattle meant that he would have a break from farm food and farm work. It meant that he would get to see his grandma Boileau. Seattle, Washington is the place that the tradition of gingerbread cake started in the Bergh family. Grandma Boileau was in the restaurant business so Lyle knew that he and his family would be eating well-prepared food. It was on these trips that Lyle got his first taste of gingerbread cake. This cake was soft and moist and topped with whipped cream that tingled his taste buds. This sugarless cake also represented that here in Seattle he and the family would have foodstuffs that were not accessible in Montana.

Lyle knew that whenever the family traveled Seattle that he would be exposed to new and foreign foods. Foods like avocados and seafood became some of Lyle's favorites because they reminded him of family. This is not to say that he disliked farm food, but Seattle food was a

farm food, but Seattle food was a delicacy that Lyle could only get once a year. Because he loved gingerbread so much his mother Bee brought the recipe back to Montana. Gingerbread became a family tradition that has continued for generations.

Bringing the recipe for gingerbread back to Montana meant bringing back memories for Lyle. It brought back memories of food being shared with him for the first time along with sharing moments with loved ones. Most importantly, it gave Lyle Bergh a tradition that he continues to this day. Whenever the first snow of winter falls you can always expect that Lyle Bergh will be baking gingerbread. For Lyle baking gingerbread meant taking the little piece of Seattle and bringing it back to northeastern Montana.

Prev

2 / 2

Next





[Table of Contents](#) > Recipe and Essay

## Tradition and Travel

by Jonathan Bergh

Every winter the Bergh family celebrates the season with a special tradition. It is the time of the year when the Bergh family makes gingerbread cake. For a young Lyle Bergh gingerbread was the catalyst for exposure to countless foodstuffs that were outside of the farm menu. Once Lyle Bergh took his first bite into gingerbread cake he knew he ate something special. To the Bergh family gingerbread may have represented a season, but

Prev

3 / 8

Next



What happens when book content becomes networked?

- Analyzable
- Shareable
- Reusable





**Analyzable**



## Katufulwurst (German Potato Sausage)

### Ingredients:

- 16 lbs. potatoes, peeled and diced
- 5 lbs. onions, peeled and chopped
- 4 lbs. ground beef
- 2 lbs. ground pork
- Pepper, Salt, Garlic Powder and Italian seasoning to taste
- 15 pig casings
- 3 cans beers

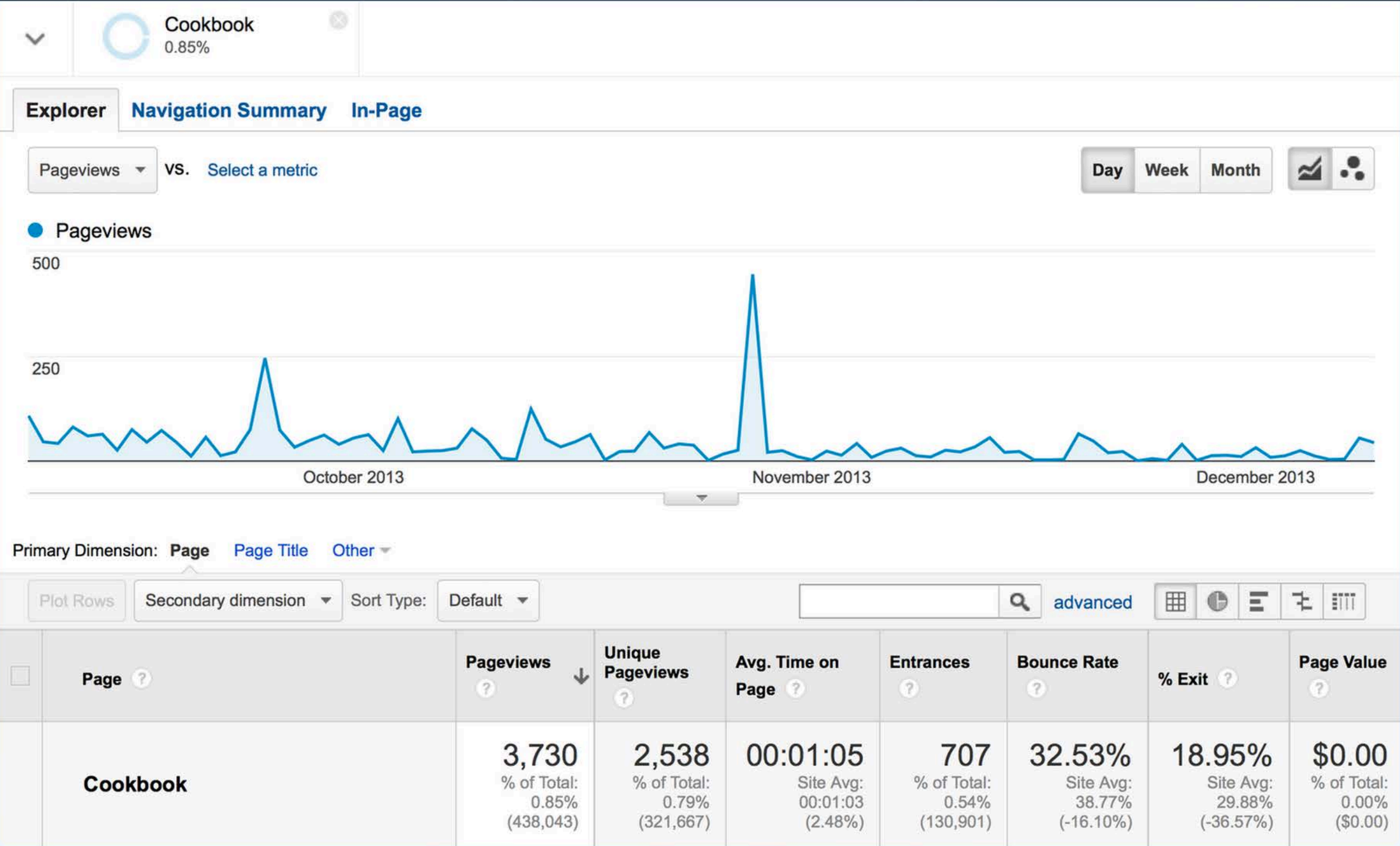
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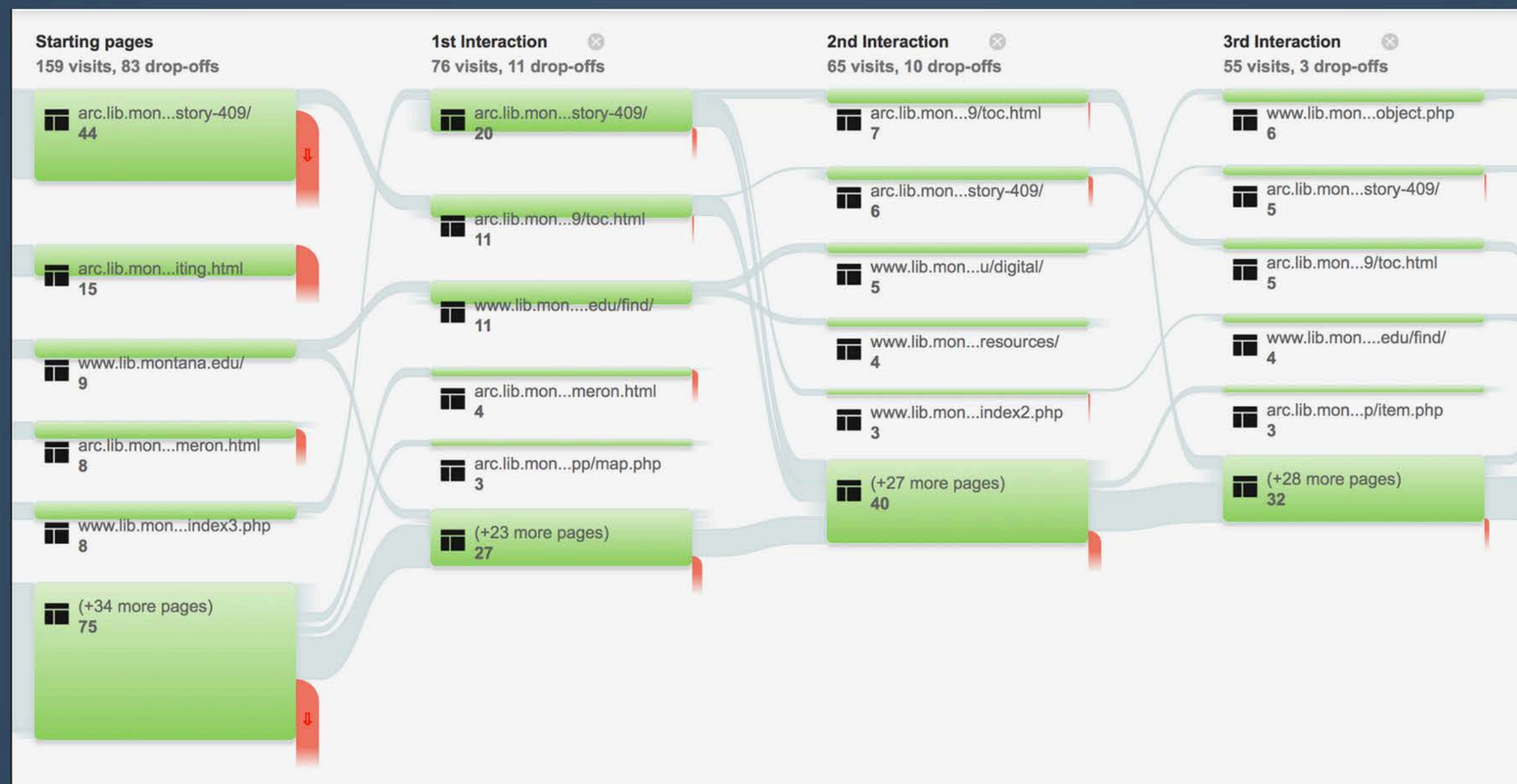
- Using an electric grinder or hand crank, grind potatoes and onions.
- Combine with beef, pork, seasonings, and beer.
- Stuff mixture into casings and use a sewing needle to poke holes into the sides to prevent air bubbles.
- When stuffed tightly, tie off and place onto an oiled sheet pan.
- Poke sausages again, and bake 350 degrees for one 1-1 1/2 hours.
- If you have leftover mixture, press into oiled casserole dishes, and bake 350 degrees for one hour or until golden brown.

press into oiled casserole dishes, and bake 350 degrees for one hour or until golden brown.

- This dish is known as Gahactis.

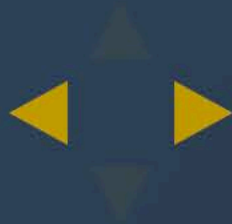
After consulting a native German friend, I discovered the correct spelling of this dish is probably Kartoffeln und Wurst.







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# Shareable

(with both humans and machines)



# Deep-linking the book

(harness the URL)



[arc.lib.montana.edu/book/home-cooking-history-409/table-of-contents.html](http://arc.lib.montana.edu/book/home-cooking-history-409/table-of-contents.html)

[arc.lib.montana.edu/book/home-cooking-history-409/item-1.html](http://arc.lib.montana.edu/book/home-cooking-history-409/item-1.html)

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70     <li>18 egg whites, 2 t. cream of tartar, 1 pinch salt, 1 1/2 cups white sugar, 1 cup cake flour, 1/2 cup
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71 </ul>
72 </section>
73 <p>Directions:</p>
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76     <li>Preheat oven to 350 degrees</li>
77 <li>Sift cake flour and confectioners sugar together 5 times. Set aside.</li>
78 <li>In a large bowl whip egg whites with salt until foamy. Add cream of tartar and continue to beat until soft
peaks form. Gradually add sugar and continue to beat until very stiff. Add vanilla.</li>
79 <li>Quickly fold in flour mixutre.</li>
80 <li>Pour into a 10 inch tube pan.</li>
81 <li>Bake for 45 minutes.</li></ol>
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name: image

value: Jonathan Bergh

href: <http://upload.wikimedia.org/wikipedia/commons/thumb/6/64/AngelFoodCake.jpg/200px-AngelFoodCake.jpg>

**property:**

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cookingMethod: bake

recipeCategory: dessert

recipeCuisine: American

recipeYield: 8 to 10 servings

ingredients: 18 egg whites, 2 t. cream of tartar, 1 pinch salt, 1 1/2 cups white sugar, 1 cup cake flour, 1/2 cup confectioners sugar, 1 t. vanilla extract

<http://www.google.com/webmasters/tools/richsnippets>



## Gingerbread - Jonathan Bergh



[arc.lib.montana.edu/book/.../article-jonathan-bergh.html](http://arc.lib.montana.edu/book/.../article-jonathan-bergh.html) ▼

45 mins

It is the time of the year when the **Bergh** family makes **gingerbread** cake. For a young Lyle **Bergh** **gingerbread** was the catalyst for exposure to countless ...





Reusable









# The "Book" as Development Platform

(the fun stuff)





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        \n<li>And flour, soda, salt, ginger and cinnamon. \r\n<li>Beat until
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# New Data Model Application

Book as website  
Website as API  
Book as API  
+  
JSON-LD  
RDFa





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24 <li>Sift cake flour and confectioners sugar together 5 times. Set aside.</li>
25 <li>In a large bowl whip egg whites with salt until foamy. Add cream of tartar and continue to beat until soft peaks form. Gradually add sugar and continue to beat until very stiff. Add vanilla.</li>
26 <li>Quickly fold in flour mixutre.</li>
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28 <li>Bake for 45 minutes.</li>",
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32     "recipeYield": "8 to 10 servings",
33     "sameAs": "http://dbpedia.org/page/Angel_food_cake"
34 }
35 </script>
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# So, why do this?

Bring this conversation into libraries  
Linked Data and Semantic Web development  
API that transforms the book into a platform  
Projects that engage beyond geeks



# A Better Book in the Browser

Findable + Shareable + Flexible + Reusable





# Thanks!

Jason Clark  
@jaclark

Scott Young  
@hello\_scott\_

( <https://github.com/jasonclark/bib-template> )

