Web Crawling

February 7, 2019
Data Science CSCI 1951A
Brown University
Instructor: Ellie Pavlick
HTAs: Wennie Zhang, Maulik Dang, Gurnaaz Kaur

Announcements

- Sign the collab policy!! This takes no time. Do it now and it will be done before I am done with these announcements.
- 1915A meet-and-greet for project teaming and all-around camaraderie. Next Thursday in CIT 219 from 8-9.
- iClicker syncing—I'm looking into it… :-/
- Late days and adhoc extensions

Clicker Question!

Did you sign the collaboration policy?

(a) Yes, or course.

(b) No, because clicking buttons is too much effort, and also I don't mind if I don't receive grades for my assignments.

Today

- Code-along!
- Legal 101

Code-along!

```
html_dump = BeautifulSoup ( html_doc, ‘html.parser’ )
```

Legal 101

Legal 101

- First, in case its not obvious, I am not a lawyer…
- Licensing—things to look out for
- Privacy/Ethics—things to think about

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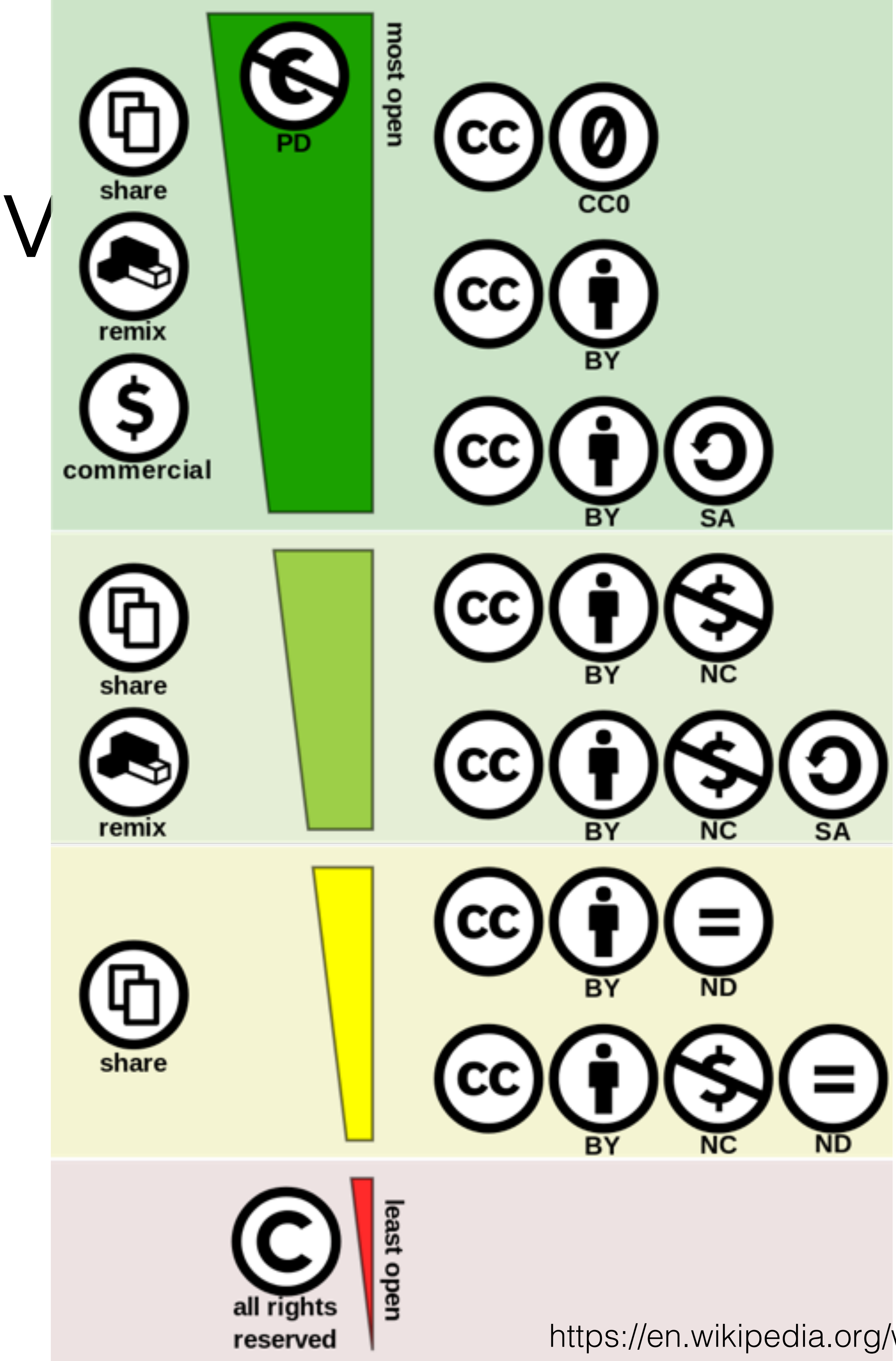

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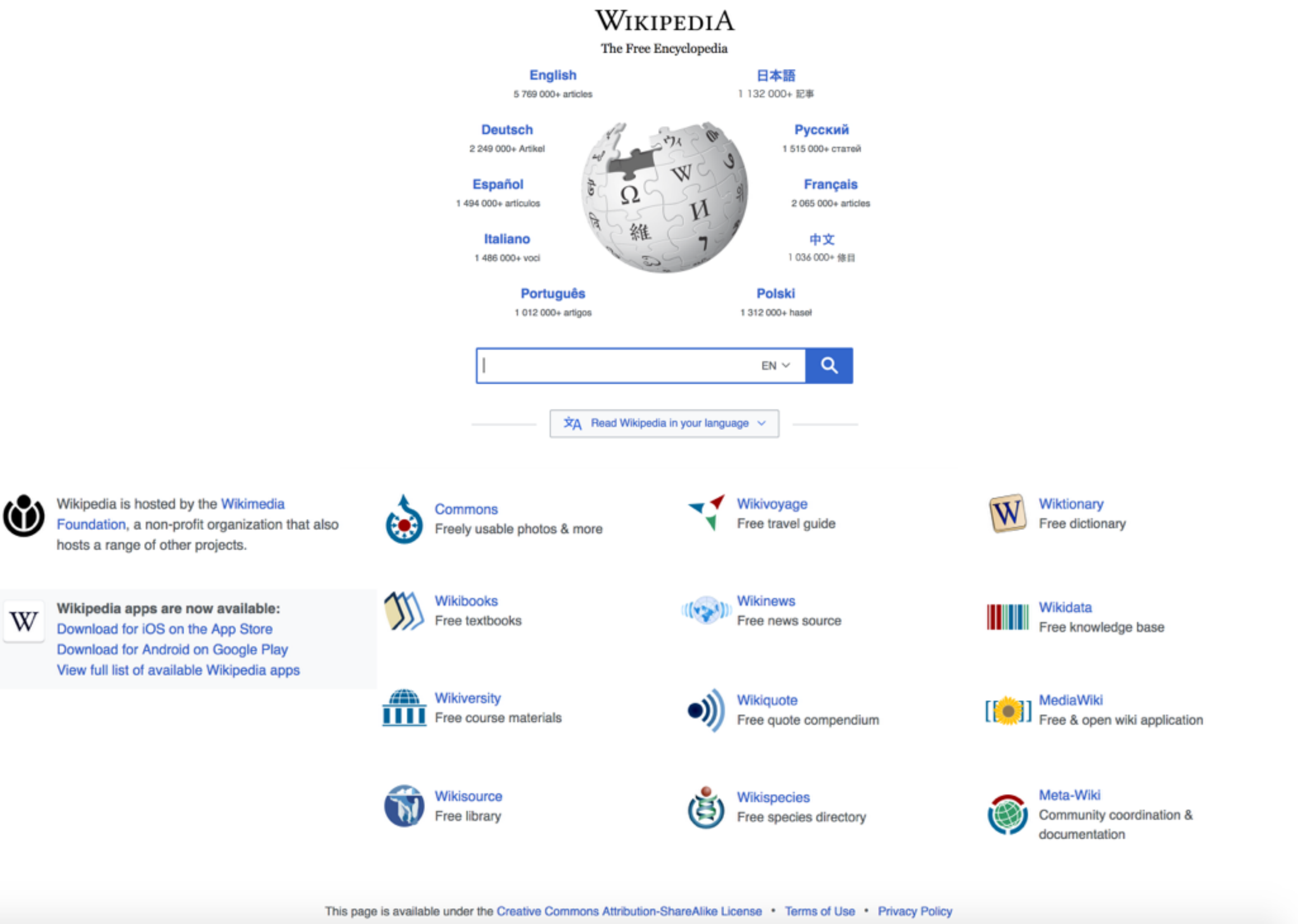

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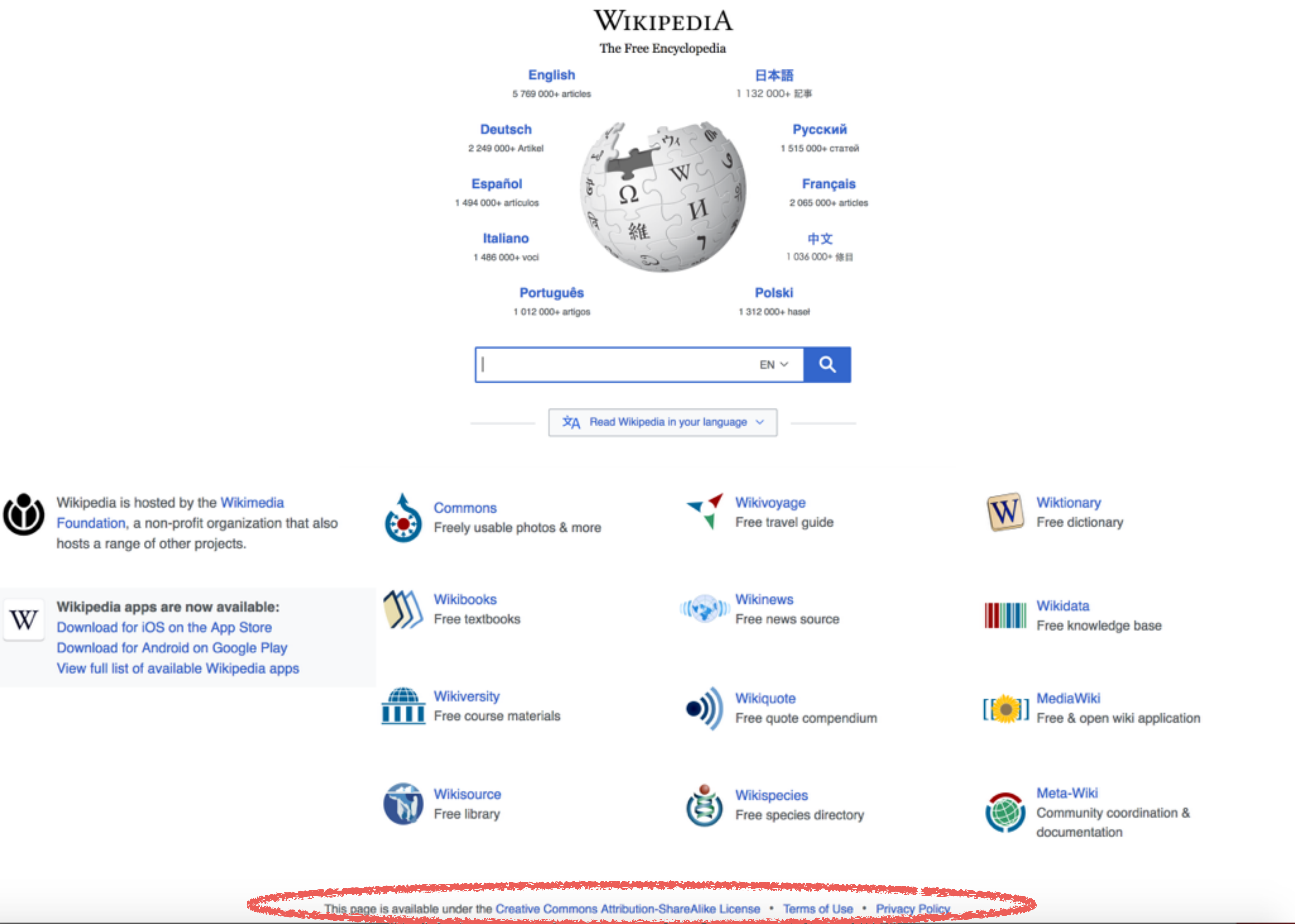

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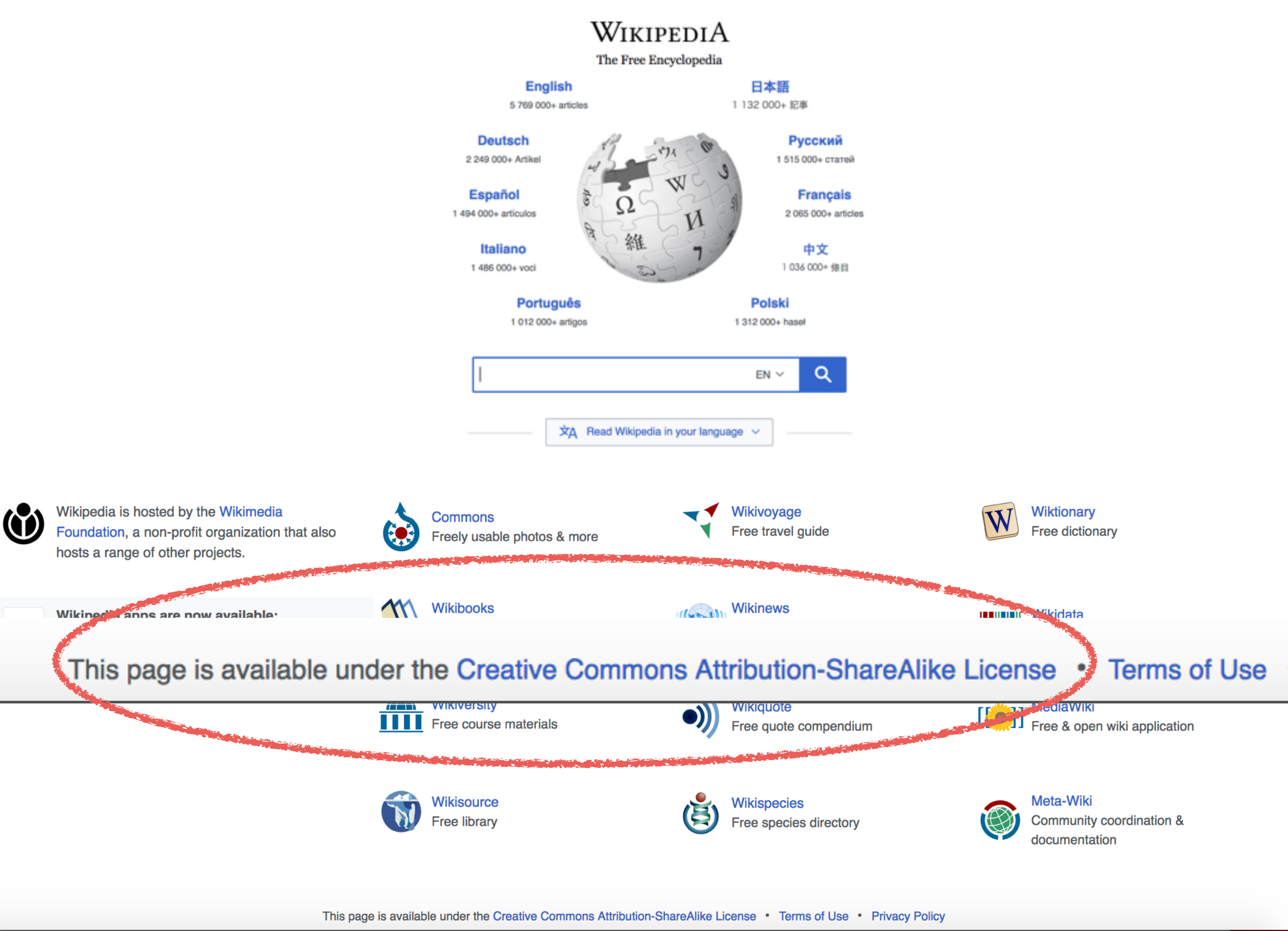

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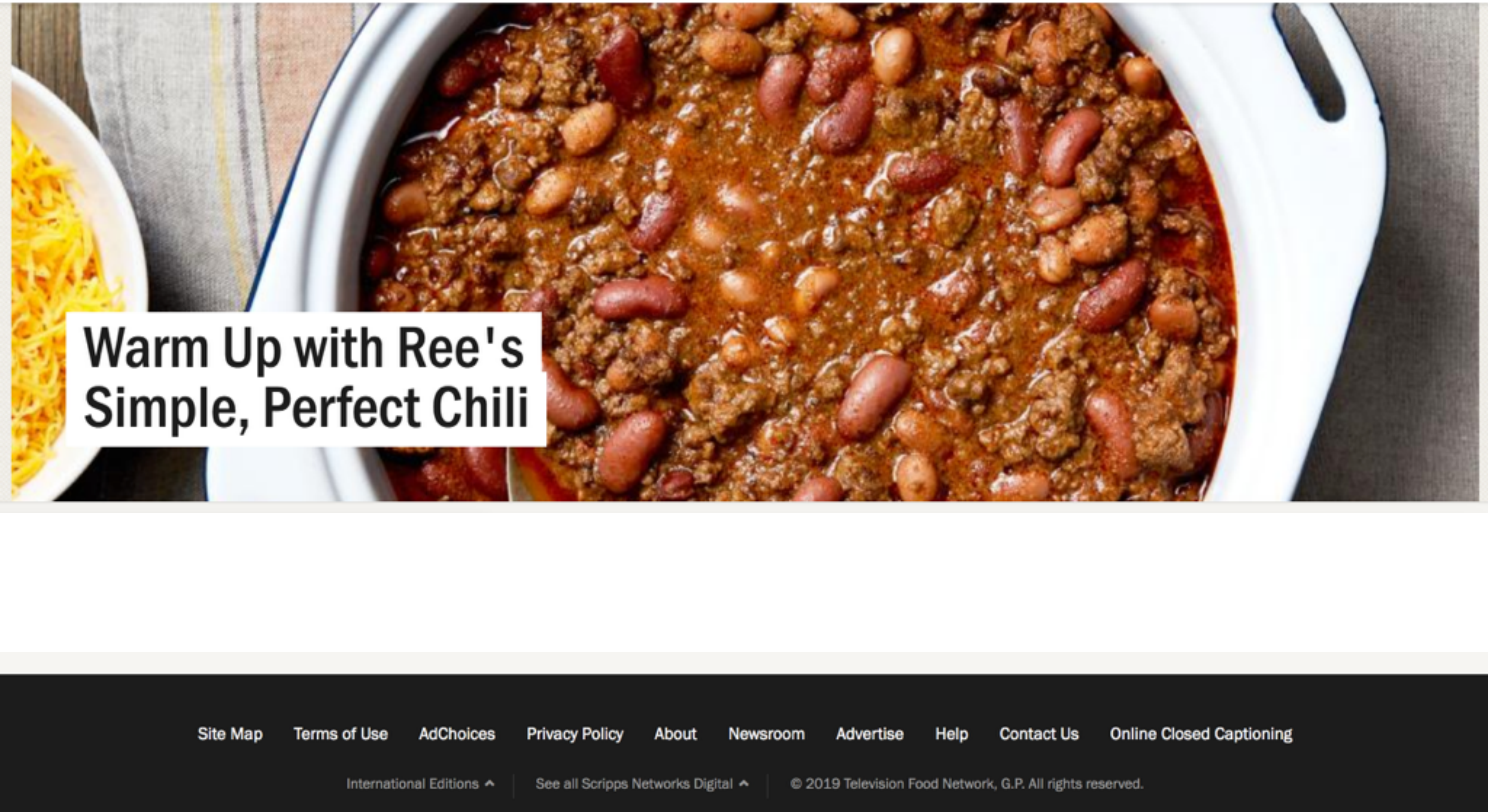
food network



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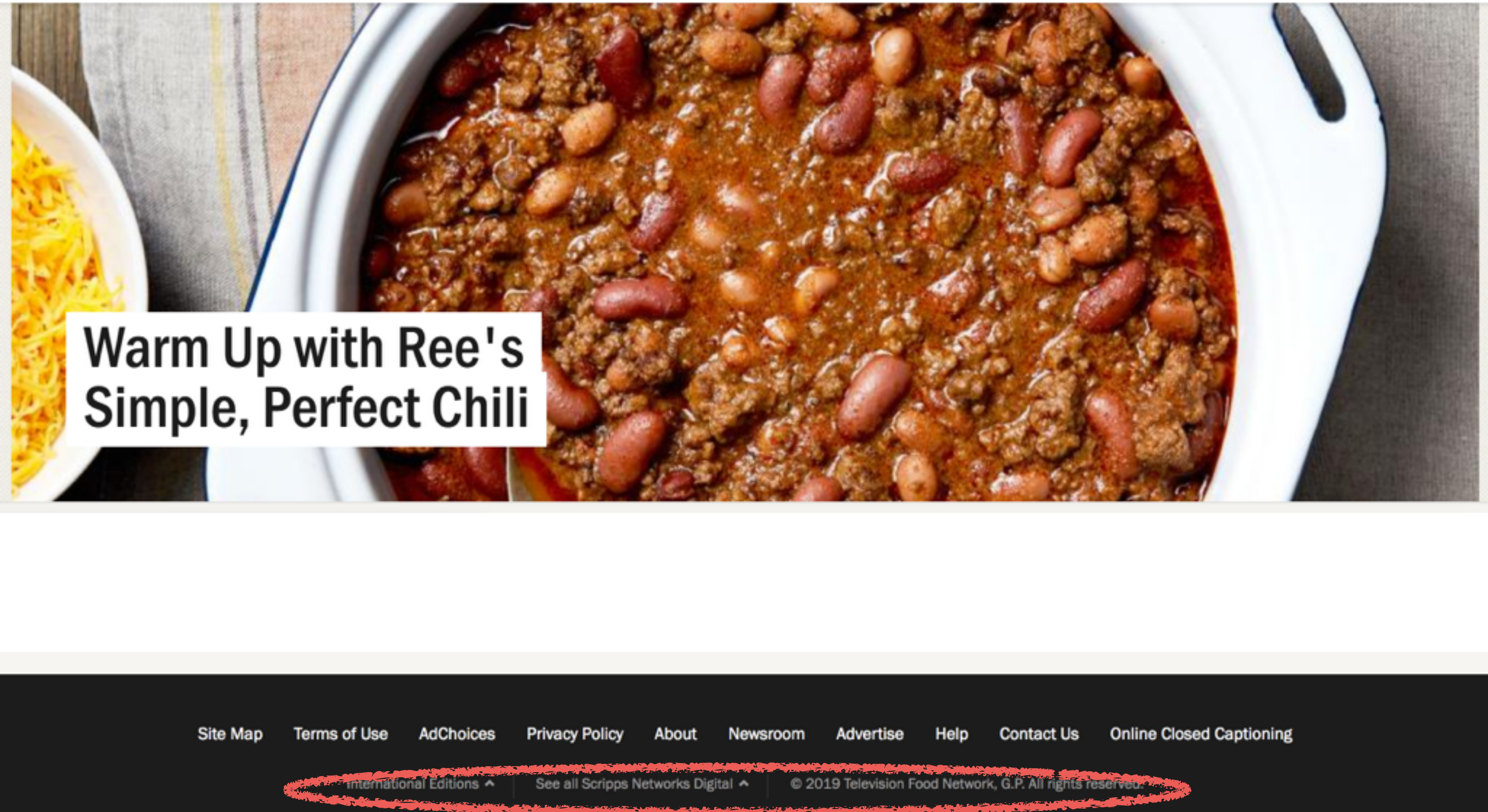

Warm Up with Ree's Simple, Perfect Chili

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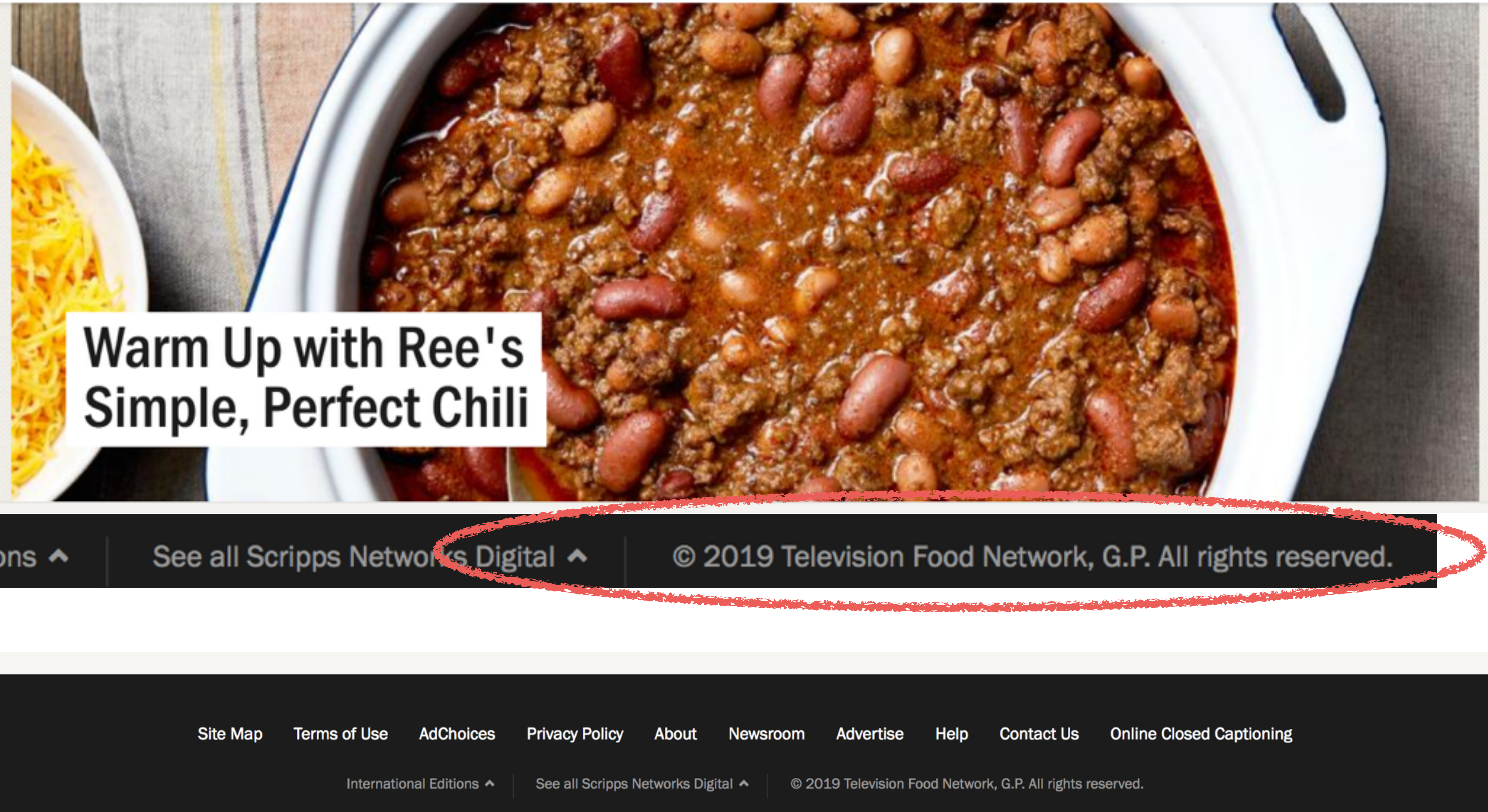

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Twitter

- “Get the user’s express consent before you do any of the following…Republish Twitter Content accessed by means other than via the Twitter API or other Twitter tools….Use a user’s Twitter Content to promote a commercial product or service, either on a commercial durable good or as part of an advertisement.”

- “If Twitter Content is deleted, gains protected status, or is otherwise suspended, withheld, modified, or removed from the Twitter Service (including removal of location information), you will make all reasonable efforts to delete or modify such Twitter Content (as applicable) as soon as reasonably possible…”

https://developer.twitter.com/en/developer-terms/agreement-and-policy.html

GDPR

- User-Side: Your rights
    - information about the processing of your personal data;
    - obtain access to the personal data held about you;
    - ask for incorrect, inaccurate or incomplete personal data to be corrected;
    - request that personal data be erased when it’s no longer needed or if processing it is unlawful;
    - object to the processing of your personal data for marketing purposes or on grounds relating to your particular situation;
    - request the restriction of the processing of your personal data in specific cases;
    - receive your personal data in a machine-readable format and send it to another controller (‘data portability’);
    - request that decisions based on automated processing concerning you or significantly affecting you and based on your personal data are made by natural persons, not only by computers. You also have the right in this case to express your point of view and to contest the decision.

https://ec.europa.eu/info/law/law-topic/data-protection/reform/rights-citizens_en

GDPR

- Business Side: The type and amount of personal data you may process depends on the reason you're processing it
  - personal data must be processed in a lawful and transparent manner, ensuring fairness towards the individuals whose personal data you're processing ('lawfulness, fairness and transparency').
  - you must have specific purposes for processing the data and you must indicate those purposes to individuals when collecting their personal data. You can't simply collect personal data for undefined purposes ('purpose limitation').
  - you must collect and process only the personal data that is necessary to fulfil that purpose ('data minimisation').
  - you must ensure the personal data is accurate and up-to-date, having regard to the purposes for which it's processed, and correct it if not ('accuracy').
  - you can't further use the personal data for other purposes that aren't compatible with the original purpose of collection.
  - you must ensure that personal data is stored for no longer than necessary for the purposes for which it was collected ('storage limitation').

https://ec.europa.eu/info/law/law-topic/data-protection/reform/rules-business-and-organisations_en

Ethical Dilemmas

- Twitter for public health: All tweets from a single user over an extended period of time. Reasonable expectation of privacy?

- Netflix challenge: Released was “anonymized” but could be cross-referenced with de-anonymized data online.

Clicker Question!

You are building an app that will crawl the deep web to find once-published but now-deleted, unlicensed news articles containing names of random people whose names you have collected by scraping Twitter's html (not via the API). You will then, on an hourly basis, tweet out links to said articles, tagging all of the mentioned person's followers.

(a) Cool yes, seems legit.

(b) Uuuhhhh....

Clicker Question!

Did you sign the collaboration policy?

(a) Yes, or course.

(b) No, because I don't understand how to use the internet. What does this phrase "course web page" mean?

Okay, leave now.