The Accessibility Imperative in Scholarly and Academic publishing

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SCOPE OF THE ISSUE

- 10.8% of students enrolled in postsecondary institutions in 2008 had a disability. This represents over 2,000,000 students and this number is steadily increasing.(US Government Accountability Office)

- People associate the need for Accessible Instructional Materials (AIM) with students who are Blind or Visually Impaired and it is true that these students require AIM.

- However, the largest subgroup of students with disabilities is those with learning disabilities. This group includes students with print based disabilities such as Dyslexia and other Reading Disorders which also require AIM.

Scope of the Issue-Software Usage

- Text Help- Read and Write Gold

    10 Million registered users

- Kurzweill- 3000 and Firefly

    504,438 student accounts.

What Makes Course Materials "Accessible"?

A digital copy of a text with:

- mark-up of headers and other formatting features

- alternative text to describe images and graphs

- notification of page breaks and marginalia

- and so on.

In short, the accessible file replicates the structure of the document in addition to the content of the text.

WORKFLOW

- Student makes a request for AIM

- DR search's to see if an accessible version is already available.

- DR will then attempt is to acquire a copy from the publisher or from the Access Text Network (ATN), which serves as a middleman between schools and major textbook publishers. Some publishers will provide an electronic version of the text. Others will provide a basic image or low-quality copy of the final text.

- If an electronic copy of a text is unavailable or of very poor quality, or if the publisher is non-responsive, DR will obtain a print copy and scan it, often resorting to disbinding the text to obtain a good scan. The scan is run through optical character recognition software (OCR) and then further modified.

- Each student is served individually, so the processing of the digital file will depend on the needed output for the student. For example, a blind student may want some texts brailed, but others provided in a structured Microsoft Word document. External service providers may be needed to work on some projects (such as braille and video captioning) and subject experts may be needed for some materials (e.g. interpreting graphs for a prose description).

- When the copy is ready, the file is distributed to the student.

Workflow-Typical Remediation Issues

- File is one large PDF which needs to be broken up into chapters
- PDF is not appropriately structured or tagged
- The organization of the file is not represented through mark up (i.e. headers are marked as headers and rather than simply bold text or larger font)
- Pagination- page numbers are missing or are different for the file as compared to the text
- Footnotes, sidenotes are missing
- Formatting- text wrapping or reading order
- Visual elements-pictures, tables, graphs and charts are inserted as images not spreadsheets or properly formatted tables.
- Symbols- Greek symbols, mathematical symbols
- File is a jpeg and has no text based content
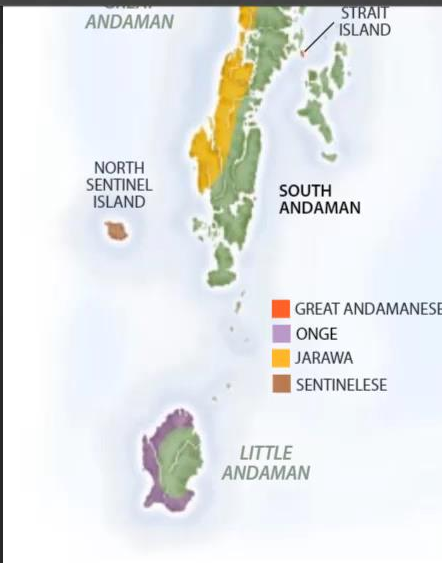
and bodies with white clay. Members of the Sentinelese group are rarely seen. They live on North Sentinel Island, which they vigorously defend from invasion.

At present, only four tribes live on the islands—the Great Andamanese, the Onge, the Jarawa and the Sentinelese. Yet scholars believe that at one time, some 12 distinct linguistic and separate territorial groups inhabited the islands. Time is running out for the last representatives of aboriginal Andamanese culture. In hopes of learning more about the islanders—their past, present and future—I spent some 18 months on the islands between 1989 and 1993, living primarily with members of the Onge tribe.

Paleolithic Pasts

The origins of the Andaman Islanders remain enshrouded in speculation. Current evidence—most recently, excavations by Zarine Cooper of Deccan College in India—supports the theory of a long, continuous occupation of the islands for at least the past 2,200 years. Some scholars believe the ancestors of today's indigenous groups reached the islands some 35,000 years ago. The Andamanese people's small stature and distinctive hair type, in association with their very dark skin, indicate that they are racially separate from the mainland Indian population as well as from the aboriginal population on neighboring Nicobar Islands.

Lidio Cipriani, director of the Port Blair office of the Anthropological Survey of India during the early 1950s, and, more recently, Vishvajit Pandya of Victoria University in New Zealand have suggested that the Andaman Islanders may be related to another Negrito group, the Semang of southeast Asia. And some new, though still tentative, genetic data suggest that the Andaman Islanders may be descendants of the first humans to migrate out of Africa some 100,000 years ago, reaching the islands between 35,000 and 40,000 years ago [see "Out of Africa, into Asia," by Madhusree Mukerjee; Scientific American, News and Analysis, January].

Two possible routes for the Andamanese's arrival in the islands have been offered. During the ice ages 40,000 years ago, when sea levels were significantly lower, people could have both walked and crossed the shallow seas in their dugout canoes either from Sumatra by way of the Nicobar Islands or from the Malay and Burmese coasts. Contrary to the common misconcep-

INDIGENOUS POPULATION			
	1901	1951	1998
GREAT ANDAMANESE	625	23	39
ONGE	672*	150*	100*
JARAWA	468*	50*	250*
SENTINELESE	117*	50*	100*

*ESTIMATED

The Andaman Islanders

The Andaman Islands

PHOTOGRAPHS BY MADHUSREE MUKERJEE; MAPS BY LAURIE GRACE

ANDAMAN ISLANDERS now consist of four tribes: the Great Andamanese, Jarawa, Onge and Sentinelese. Great Andamanese, such as the three boys shown above, typically have both Andamanese, Indian and Karen Burmese heritage. Today the group, which originally occupied North, Middle and South Andaman, has been moved to tiny Strait Island (*map*) by the Indian government. The Jarawa people have remained much more isolated, only sporadically venturing out from the dense forests set aside for them on South and Middle Andaman. Three young Jarawa men are shown wearing decorations and jewelry (*near right*). The Onge now inhabit coastal areas of Little Andaman. This Onge mother and child, shown at the far right, display the traditional practice of painting faces and bodies with white clay. Members of the Sentinelese group are rarely seen. They live on North Sentinel Island, which they vigorously defend from invasion.
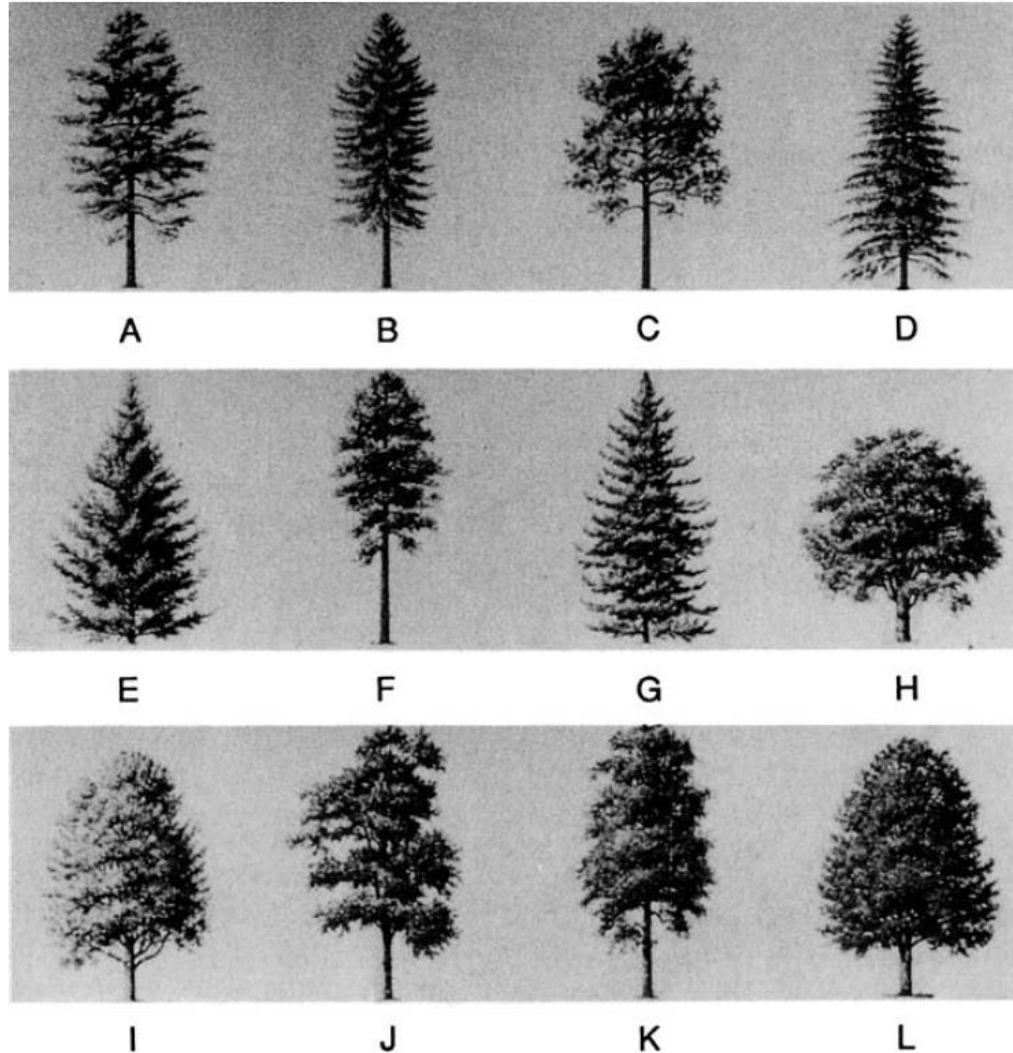
FIGURE 2.1. Variations in the form of open-grown trees. (A) Eastern white pine; (B) Douglas-fir; (C) longleaf pine; (D) eastern hemlock; (E) balsam fir; (F) ponderosa pine; (G) white spruce; (H) white oak; (I) sweetgum; (J) shagbark hickory; (K) yellow-poplar; (L) sugar maple. Photos courtesy St. Regis Paper Co.

- [picture: Five trees are shown. The first tree is labeled "A" and is very narrow. The second tree is labeled "B" and has a narrow branch top half of the trunk and a wide branch lower portion of the trunk. The third tree is labeled "C" and has wider branches up and down the trunk. The fourth tree is labeled "E" and has very narrow branches. The fifth tree is labeled "E" and has wide sporadic branches. Parts of the trunk do not have branches though this does not appear in any sort of pattern.]

ACCESS TEXT NETWORK

Figure 1: AccessText Network Requests by Year 2011-2015
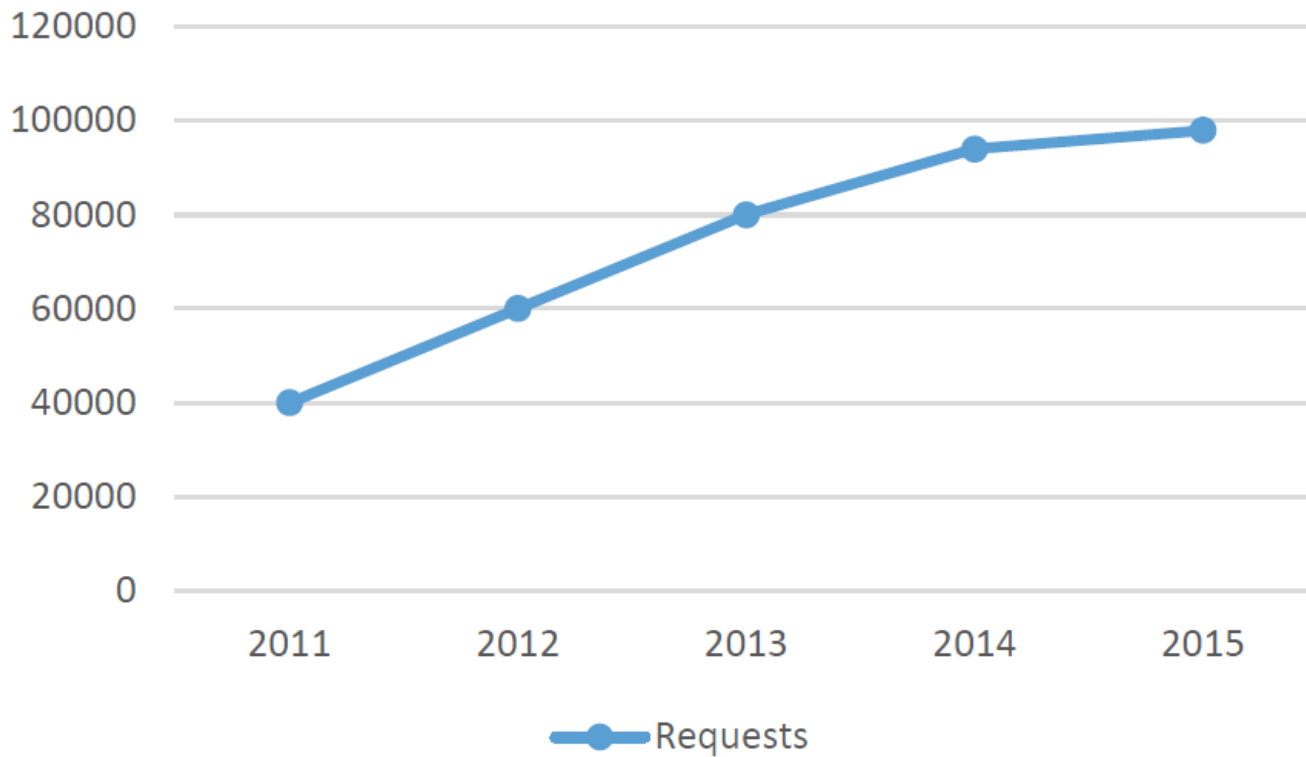
ACCESS TEXT NETWORK

- Over 94,000 requests from the 1600 member institutions in 2015

- 30,000 unique titles

- 50% of the titles had multiple requests

- Sharing of remediated files is not permitted

- If you need the same book again for another student you must make a new request and agree not to use the previously provided file until express permission is provided.

OUR EXPERIENCE IN 2015-2016

- 82% of the files we received from Access Text and publishers in 2015-2016 needed further remediation to make them accessible for the end user we were providing them to.

OUR ALT FORMAT PRODUCTION OFFICE
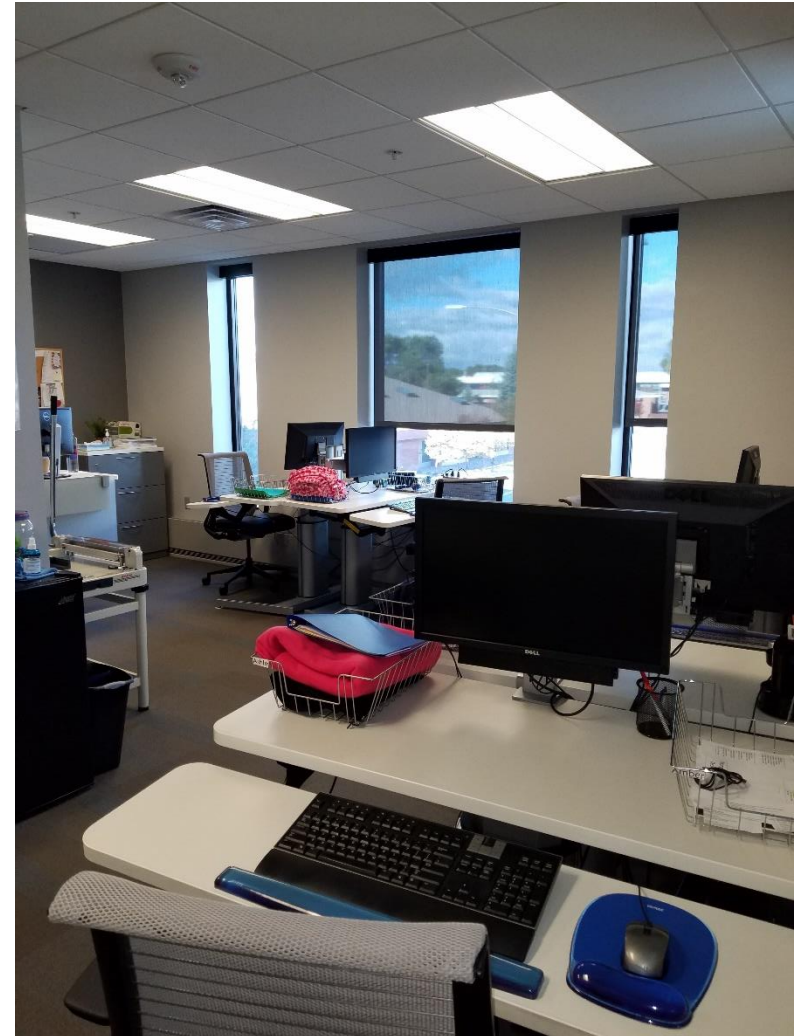
MEET GILLY!

RECOMMENDATIONS

- Publishers, especially textbook and academic publishers, have the ability to make a significant difference for students with disabilities, and need to keep in mind that this represents more than 10% of the student market, and growing.

RECOMMENDATIONS

- Publishers should familiarize themselves with the BISG Guide to Accessible Publishing.

- The majority of publishers already require authors to submit manuscripts in digital form according to a style guide. Publishers prepare digital pre-press files, so they could make the most accessible of these file formats available to DRS.

- Publisher members of Access Text Network should consider changing specific membership agreement terms:
  - Sharing of files between institutional members for qualified students
  - Requirement that a new request must be submitted each time the same file is needed or used

Closing Thoughts