Accessibility Metadata: Challenges and Ways Forward

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Accessibility Policy Context

European Accessibility Act (EAA)

- Requires ebooks and e-readers to be accessible by June 28, 2025

Americans with Disabilities Act (ADA) Title II

- Incorporates Web Content Accessibility Guidelines (WCAG) level AA 2.1

Centre of Equitable Library Access

Marrakesh Treaty

- Libraries, with their mandates to provide equitable access to information, are key players in the practical implementation of the Marrakesh Treaty.

- An international (WIPO) treaty was agreed in 2013 in Marrakesh, Morocco
  - An exception to copyright for readers who are blind, visually impaired or otherwise print disabled – in countries that ratified; other disabilities excluded (now on WIPO SCCR agenda)
  - Came into force in Canada in 2016 and in USA in 2019

- It is an historic treaty:
  - It is the first treaty with a human rights focus at its core
  - It is the first users' rights treaty in the history of WIPO

- Other legal frameworks that compel inclusion:
  - The International Covenant on Civil and Political Rights (ICCPR)
  - Convention on the Rights of People with Disabilities (CRPD)
  - With signatories from over 90% of UN member states, these widely implemented human rights policies and legislative frameworks inform the work of librarians and information professionals globally to provide full access to works for people with disabilities

Accessibility: Call to Action

- Libraries have a history of commitment "to equity and access for persons with disabilities…"(Jaeger et al. 2017), and yet
  - Libraries and information organizations are a long way off from providing equity of access to people with disabilities.
- Achieving accessibility on an equal basis with the mainstream is complex, involved, multifaceted, nuanced, and interdependent on the work and progress of a range of stakeholders.
- What do we mean by accessible?
  - Able to be reached, entered, or used by people who have a disability (Oxford Languages)
  - Often linked to people with disabilities and their rights to access.
  - — a concept integral to human rights that refers to the absence of barriers that prevent individuals and/or groups from fully participating in all social, economic, cultural, spiritual and political aspects of society.

Marrakesh Treaty:

- The Marrakesh Treaty created an exception to copyright, with mandatory exceptions in national ratifying legislation
  - Allows the making and distribution of accessible format copies
  - Allows for the sharing of accessible works internationally
    - Convert from print to accessible version <u>once</u>
  - Permits the circumvention of technological protection measures
  - Each Marrakesh Treaty country must develop national enabling legislation that complies with the requirements of the Treaty
    - Variation in legislative language among countries
    - Marrakesh Treaty has optional articles;
      - Canada added a commercial availability clause and a royalties clause, and the U.S. did not

CARL -ARL Marrakesh Treaty Implementation

- September 2020 — CARL and ARL pilot implementation on behalf of member libraries (140 total); collectively hold 760 million print and electronic books

- Four pilot libraries: Cornell University, University of Florida in US and York University, Bibliothèque et Archives nationales du Québec (BAnQ)

- Policy, Metadata, Systems, Beneficiary working groups

- Goals:
  - Implement discovery and delivery within each country and cross-border
  - Identify and resolve barriers

CARL -ARL Marrakesh Treaty Implementation   Task Force

- The pilot project revealed many challenges

- Final report included recommendations in four main areas: administrative commitment; metadata standards; systems; and inclusion of users

- For accessibility metadata, some key points:

  o Develop standardized guidelines for recording accessibility metadata

  o Consult with beneficiaries to develop best practices for metadata to support useful display and discoverability

  o Start work on best practices at a community or national level but aim for international standards

Reporting the Task Force Findings

- Generated widespread interest

- Led to the development of the IFLA Accessibility Metadata Network (International Federation of Library Associations and Institutions)

  - International network of over 80 interested persons

    - experts in metadata and in accessibility

    - members from within and outside IFLA

  - Working simultaneously in several areas to generate guidance for creating and using accessibility metadata in the library community

Why metadata matters for accessibility

- Accessibility metadata = information about the accessibility features of a resource or its deficiencies/hazards

- Information that helps a user with a disability find content that they can use efficiently

    – without wasting time, such as checking by trial and error if they can access

- Scarcity of accessible content

- Invisibility of accessible content

    o if accessibility features are not described

    o when accessibility information is not displayed or discoverable

Accessibility is not a yes/no question

- What is accessible to one person may not be accessible to someone else with the same category of disability

- Focus on describing the actual accessibility features and hazards present in a resource

- Based on this information, give the user the autonomy to decide what works for them

- Ensure the availability of metadata that supports all types of users in the process of exploring, doing research and finding resources that are relevant to them

Complexities

- Wide range of needs — wide range of accessibility features that need to be described

- Terminology — does everyone interpret a word/phrase the same way?
  - Need for rigorous vocabularies:

    Term, its scope and definition

    Alternative terms

    Translatability into other languages

- Work with the key audience — those who rely on accessibility features

- Machine readable metadata versus phrasing understandable by humans

Dependencies

- Knowledge gaps and the need to rely on accessibility metadata created by others

- Trustworthiness of the accessibility metadata
  - Growing interest in information about data provenance

- For electronic resources, the effect of platforms and distribution channels on the availability of accessibility features
  - Some accessibility features may be inherent to the publication
  - Some features may be tied to a platform
  - Some platforms or distribution channels may block accessibility features

Building Momentum for Accessibility Metadata

- Increasing focus on content that is accessible for users with disabilities

  - legislation coming into force, such as EAA + ADA Title II

  - increasing awareness of the importance of equity

  - need to be able to discover this content

- A range of different initiatives — each coming from different starting points

- Huge benefits because each initiative informs the work of the others

Building Momentum for Accessibility Metadata (2)

- schema.org — CreativeWork

  o includes a set of accessibility properties that many have adopted

- W3C Publishing Community

  o Guidelines for recording and displaying accessibility metadata for digital publications (plus display techniques for EPUB and ONIX)

- New fields in the library encoding standard, MARC 21

  o first introduced in 2018, revised in 2024

  o 341 and 532 — 341 influenced by schema.org properties

Accessibility Metadata for adapted resources

- EMMA (Educational Material Made Accessible):
  - developed from the FRAME Project (Federating Repositories of Accessible Materials for Higher Education)
  - a first example of a federated repository for sharing accessible content
  - experimenting with metadata for adapted or remediated resources
- NISO Working Group
  - developing a standard for metadata related to process of adapting resources to create accessible versions – ARM Working Group (ARM = Accessibility Remediation Metadata)

Building Momentum for Accessibility Metadata (3)

- IFLA Accessibility Metadata Network

  - place for collaboration and dialogue between metadata experts and accessibility experts

  - build on what has already been done

  - harmonize and fill out what is missing for libraries

  - focus on metadata that improves the discovery and visibility of accessible content

  - from guiding principles to practical aspects like crosswalks between metadata standards

Momentum and challenges

- Interoperability with accessibility metadata initiatives in different sectors
  - publishing, education, organizations creating adapted versions, libraries, etc.
  - advantages from building and extending what has already been done
  - advantages in being able to re-use metadata produced by others

- Different communities — different starting points
  - need to harmonize very different sets of metadata
  - some challenges in alignment and harmonization, e.g. terminology, properties, etc.

The case of a University catalog
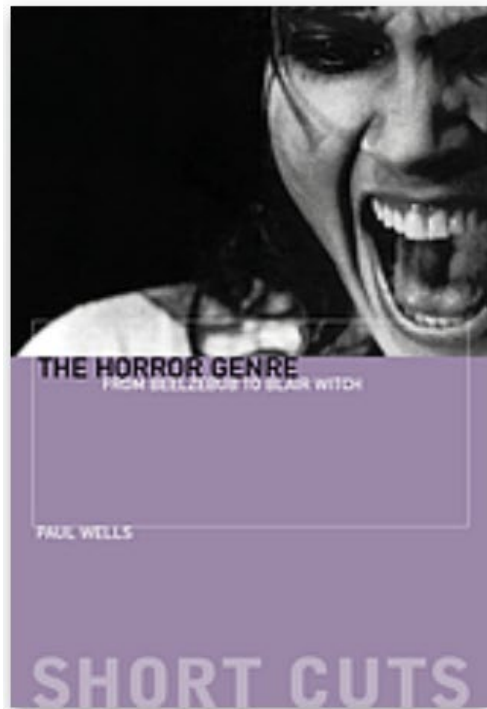
The horror genre : from Beelzebub to Blair Witch

Auteurs: Paul Wells 1961-   (Auteur.)

📘 **Livre numérique** 2000, [Édition accessible, Word]

London : Wallflower, [2000]

À Université de Montréal

MARC21 Accessibility fields

341 - Accessibility Content

Information about modes of access to the content of a resource, including its primary mode of access and alternative mode(s) of access.

$a : Mode required to access the content of the resource **without** using assistive features

$b-$e : subfields identifying the type of alternative access (textual, visual, auditory, tactile)

Example : $a**textual **$bpageBreakMarkers **$b**tableOfContents **$b**annotations **$2**sapdv

532 - Accessibility Note

Textual information describing the accessibility features, hazards, and deficiencies of a resource, including technical details relating to accessibility features.

Example :$ a This resource offers presentation control, immersive reader, keyboard shortcuts and high-contrast display, plus bookmarks for easy document navigation and pagination.

Other MARC21 fields

521 – Target Audience Note

Information that identifies the specific audience or intellectual level for which the content of the described item…

Used to record interest and motivation levels and special learner characteristics

First indicator : 3- Special audience characteristics

Example : 521 3#$aVision impaired$afine motor skills impaired

516 - Type of Computer File or Data Note

General descriptor that characterizes the file. Specific information, such as the form or genre of textual material (e.g., biography, dictionaries, indexes) may be included.

$a : Type of computer file or data note

Other MARC21 fields, cont.

540 - Terms Governing Use and Reproduction Note

Terms governing the use of the materials after access has been provided.

$a : Terms governing use and reproduction

$c : Authorization

Example : **$a**Reproduction prohibited. For the exclusive use of the beneficiaries of the Marrakesh Treaty.**$c**Marrakesh Treaty to facilitate access to published works.

Short User display
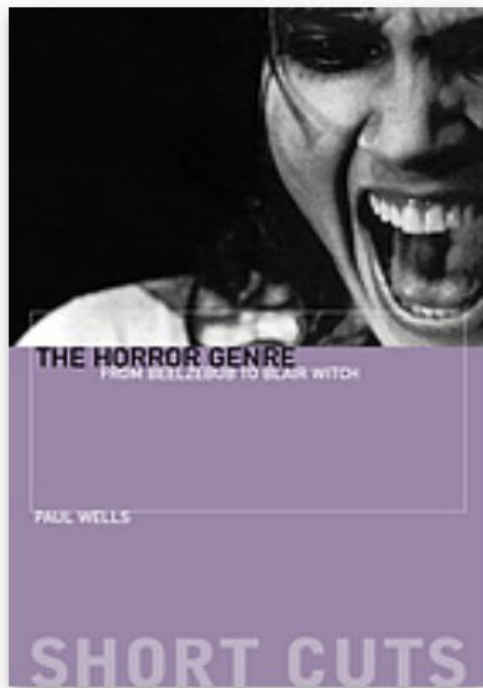
The **horror genre** : from **Beelzebub** to **Blair Witch**

Auteurs: Paul Wells 1961- (Auteur.)

Livre numérique 2000, [Édition accessible, Word]
London : Wallflower, [2000]

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Metadata view

245   $aThe horror genre : $b from Beelzebub to Blair Witch / $c Paul Wells.

250   $a[Édition accessible, Word]

264   $aLondon : $b Wallflower, $c [2000]

264   $c ©2000

300   $a1 ressource en ligne (130 pages non paginées) : $b illustration en noir

341   $atextual $bpageBreakMarkers $btableOfContents $bannotations $d synchronisationTexteAudio $2sapdv

341   $atextuel $bpageMarqueurs $btableContenu $bannotations $dsynchronizedAudioText $2sapdv/fre

385   $aPeople with visual disabilities $2 lcdgt

506   $aAutorisation requise pour l'accès en ligne $b Université de Montréal $c Traité de Marrakech $d Bénéficiaires répondant aux conditions d'éligibilité du Traité de Marrakech $d Personnes ayant des déficiences perceptuelles $f Online access with authorization $g 2020-07-11 $2 star $5 CaQMU

516   $aDocument (Livre). Ressource accessible qui offre le contrôle de la présentation, le lecteur immersif, les raccourcis clavier et l'affichage à contraste élevé, en plus de signets pour faciliter la navigation et la pagination du document.

521   $aPersonnes connaissant des difficultés perceptuelles de lecture

532   $aCette ressource offre le contrôle de la présentation, le lecteur immersif, les raccourcis clavier et l'affichage à contraste élevé, en plus de signets pour faciliter la navigation et la pagination du document.

540   $aPour consultation uniquement. Reproduction interdite. À l'usage exclusif des bénéficiaires du Traité de Marrakech, $c Traité de Marrakech visant à faciliter l'accès aux œuvres publiées.

Detailed User display

Éditeur:	London : Wallflower, [2000]
Édition:	[Édition accessible, Word]
Collection:	Short cuts : introductions to film studies ; 1
Description matérielle:	1 ressource en ligne (130 pages non paginées) : illustration en noir
Support matériel:	copie de consultation
Langue:	Anglais
Bibliographie:	Comprend une bibliographie (pages 125-130), une filmographie (pages 116-124) et un glossaire.
Public cible:	Personnes connaissant des difficultés perceptuelles de lecture
Version originale:	Version originale : London : Wallflower, ©2000
Particularités du système:	Fichier texte Word, docx, de 10,6 Mo
Type de fichier ou de données:	Document (Livre). Ressource accessible qui offre le contrôle de la présentation, le lecteur immersif, les raccourcis clavier et l'affichage à contraste élevé, en plus de signets pour faciliter la navigation et la pagination du document.
Note sur l'utilisation et la reproduction:	Pour consultation uniquement. Reproduction interdite. À l'usage exclusif des bénéficiaires du Traité de Marrakech, Traité de Marrakech visant à faciliter l'accès aux œuvres publiées.

Options d'accès

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Université de Montréal

Traitement et métadonnées

- Usage réservé au traité de Marrakech

Marrakech 6

Making Accessibility a Priority in Library Systems and Publishing: Clarivate Library Services Platforms

- Ontario Council of University Libraries (OCUL) Accessibility Committee

  - Documenting, tracking functional accessibility problems in Clarivate/Ex Libris Alma and Primo
  - Educating systems professionals on the user experience of low vision students and faculty
  - Networking and making connections with other library consortia in USA, Europe who share similar interest

- **Consider**: Get involved and advocate for accessibility in the systems your library uses

Making Accessibility a Priority in Library Systems and Publishing: Open Journal Systems

- PDF only publication is an issue with library publishing; we need to publish in multiple formats to meet the needs of low-vision/blind users

- Consider: making available Word, EPUB 3.3 versions of articles along with PDF

Testing OA Publications for Accessibility

- Tools are available for testing EPUB for accessibility

- DAISY Consortium ACE EPUB Validator (https://daisy.org/activities/software/ace/)

- Enhancements can be contributed upstream to hosting platforms — example University of Florida, PressBooks

PressBooks EPUB Validation

- PressBooks is a popular OA book publishing tool, and can produce a variety of formats
- EPUB 3.x format still has validation issues for accessibility
- Example: Impact of Materials on Society – Simple Book Publishing (unizin.org)
- **Consider:** test EPUBs from your vendors and advocate for their functional accessibility

DAISY ACE Summary

Ace by DAISY

File View Edit Window Help

‹

⊕ Check EPUB

⟳ Rerun

⟳ History

⬇ Export

Report

SUMMARY   VIOLATIONS   METADATA   OUTLINES   IMAGES

Summary

Type	Critical	Serious	Moderate	Minor	Total
wcag2a	0	1	0	0	1
wcag2aa	0	7	0	0	7
EPUB	0	4	1	0	5
Best Practice	0	0	2	12	14
Other	0	0	0	0	0
Total	0	12	3	12	27

DAISY Ace Violations Report

DAISY Ace Violations Report, cont.

Check EPUB

Rerun

History

Export

- Perry Collins
- Laurie Taylor
- Tracy MacKay-Ratliff
- Micah Jenkins

dc:creator	Sophia Krzys Acord
dc:description	This textbook supports the Impact of Materials on Society course and teaching materials, developed with the Materials Research Society. The textbook offers an exploration into materials (including ceramics, clay, concrete, glass, metals, and polymers) and the relationship with technologies and social structures. The textbook was developed by an interdisciplinary team from Engineering and Liberal Arts and Sciences, including anthropologists, sociologists, historians, media studies experts, Classicists, and more.
dc:identifier	978-1-944455-12-5
dc:language	en
dc:publisher	LibraryPress@UF
dc:title	Impact of Materials on Society
dcterms:modified	2021-07-02T21:42:18Z

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Missing accessibility Metadata:

- a11y:certifiedBy
- a11y:certifierCredential
- a11y:certifierReport
- dcterms:conformsTo
- schema:accessMode (Serious)
- schema:accessModeSufficient (Moderate)
- schema:accessibilityFeature (Serious)
- schema:accessibilityHazard (Serious)
- schema:accessibilitySummary (Serious)

Making Accessibility a Priority in Library Systems and Publishing: W3C Accessible Publishing Developments

- **Authoring Tool Accessibility Guidelines (ATAG) (2023)**
  https://www.w3.org/WAI/standards-guidelines/atag/

- **DPub-ARIA 1.1 and DPub-AAM 1.1 (Mar. 2025)**
  https://www.w3.org/news/2025/dpub-aria-1-1-and-dpub-aam-1-1-are-w3c-proposed-recommendations/

- **Accessible Metadata Display Guide for Digital Publications 2.0 (Apr. 2025)**
  https://www.w3.org/community/reports/publishingcg/CG-FINAL-a11y-display-guidelines-20250422/

- **NISO: Accessibility Topic** https://niso.org/explore/topic?topic=2966

Practical steps you can take

- Explore tools to remediate content; test your content and share the results

- Maintain awareness of parallel initiatives in accessible publishing

  o https://docs.pkp.sfu.ca/accessible-content/en/principles#metadata

- Join the Library Accessibility Alliance and follow their testing page

  o https://www.libraryaccessibility.org/testing

- Ask questions and share needs about accessibility within your library, and with other publishers/vendors

- Be an accessibility champion in your library (especially at the leadership level!)

- Subscribe to ARL's Public Policy Briefing for updates on accessibility policy:

  o https://www.arl.org/news/subscribe-to-arls-public-policy-briefing-for-the-research-library-community/