Microsoft Research

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Animating the Archive: New Modes of Scholarly Publishing

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There were about 25,400 active scholarly peer-reviewed journals in early 2009, collectively publishing about 1.5 million articles a year. (Ware, The STM Report)

The vast majority of STM journals are now available online, with 96% of STM and 87% of arts, humanities and social sciences journals accessible electronically in 2008. (Ware, The STM Report)

There are over 120 million videos on YouTube, with 13 hours of content uploaded every minute.

In October 2009, Flickr surpassed 4 billion photographs, just 5 ½ months after the 3 billionth mark was reached.
Scholars have access to vast collections of digital data.
And yet scholarship often remains – at best - text with pictures

From Homestead to Lynch Mob: Portrayals of Black Masculinity in Oscar Micheaux’s *Within Our Gates*.

Gerald R. Butters, Jr.

Part 1

Oscar Micheaux is one of the most influential figures in African American silent cinema. The most prolific filmmaker of the silent period, he remained in the industry longer than any other black director, producing forty-three films during his career. His achievements are remarkable considering the economic and artistic obstacles African American filmmakers faced. Micheaux used his filmmaking to challenge openly the racial injustices that African Americans faced at the beginning of the twentieth century: lynching, job discrimination, interracial rape, mob violence, and economic exploitation. From his first film, *The Homesteader* (1919), and throughout his cinematic career,
Can we rethink the very forms of scholarly production?

How might we harness the energy and vitality of the popular vernaculars of the web for scholarship?

Can the vast datasets of the digital realm impact not only our research but also the very ways in which we author and share our scholarship?

Can our analyses and writing more seamlessly live alongside our data and our evidence?
Now is the time to join the insights of visual and media studies with the new modes of information collection, visualization, and distribution that digital technologies are enabling.
We need multimodal scholarship

Multimodal Scholarship:

• Investigates the computer as simultaneously a platform, a medium and a display device

• Thinks carefully about the relationship of form to content, expression to idea

• Explores new forms of literacy and new relations to evidence

• Expands our understanding of visual communication and interactive visual languages
Vectors launched in 2005 as a sustained space of experimentation in multimodal scholarship, a “long tail” test case in the humanities and arts.
Vectors changes the look and feel of scholarship

Vectors focuses on the potential for new visual, affective, or sensory aspects of humanities research and on rich collaboration across diverse skill sets.

Vectors doesn’t publish work that can exist in print.
Constructing (and I think that is, more than usually, the proper term) my essay, "Mobile Figures" in Issue 2, allowed me to rethink the material in an utterly new form.

--David Lloyd, English

[My project] was a unique opportunity for me to grasp the structural and mathematical relationships that must be explicitly spelt out for computers. . . .It gave me new insights and appreciations regarding the underlying operations of the digital.

--Melanie Swalwell, Media Studies
1. Relational Thinking:

A deep engagement with database forms and algorithmic structures allows scholars to formulate new research questions and to discern new patterns in data.
2. Emergent Genres of Multimodal Scholarship

Such genres cover a range of approaches, from the animated archive to the experiential argument to the interactive documentary to the spatialized essay to various forms of simulation or visualization.
It is time to shift our notions of scholarship away from a fixation on product toward a new understanding of process. We need to value both collaboration across skill sets and failure. Digital media can help us capture and document both process and collaboration.
4. Rethinking digital tools

Scholarly tools shouldn’t be built a priori but rather in the context of use. We began with the research questions that engaged scholars and developed our initial publishing tools from that process.
Current Directions:

- Extending our summer workshop: expanding scholarly literacies
- A continuum of practices + partners: Mellon, NEH, university presses, new library-scholar partnerships, professional societies + the ACLS, multiple universities
- Templates for multimodal thinking: stabilizing emergent genres + cultivating readers
- Scaling the Vectors’ process (Scalar)
The Alliance for Networking Visual Culture

Research Workshops
(Core Activity 1: funded largely via other partnerships)

Alliance Infrastructure + Publishing Models:
- Physical hub: USC office/technological + staff infrastructure
- Virtual hub: web portal for collaboration
  - Working Models for publishing:
    - Platforms for publishing
    - Focus Groups and User Testing
  - Executive and Steering Committees:
    - Governance + Outreach
    - Coordination with press and archive partners and scholarly workshops (Core Activity 2)

Archive Partnerships
(Core Activity 3)

University Press Partnerships
(Core Activity 4)
Scalar is a publishing platform for scholars who use visual materials.

Developed by the same team that created Vectors, Scalar is built on six years of extensive experience collaborating with scholars to author digital humanities projects using all of the affordances of contemporary digital media forms, including video, audio, animation, graphic and interaction design, and the database.

The goal of the project is to create a standardized interface for reading and writing these works that enables the practice to spread more widely across presses and scholarly societies.
As Scalar is developed, we're holding to several basic principles that we believe will help the platform to be as successful as possible:

- Multiplicity
- Openness
- Agility
- Connectedness
- User-centeredness
What does a Scalar text contain?

When a scholar writes a text using the Scalar platform, they are working with three primary types of content: **composites, media and paths**.
The composite is the most fundamental unit of a Scalar text, and isn't that different from a regular web page or blog post: text with embedded links. Those links could point outwards to things on the web, or inwards to other Scalar elements, like media files.
The difference between a Scalar text and a standard blog or website is in how the system displays content to the user. While a blog simply displays the content of a given post as is, a Scalar composite goes through extra processing that results in additional features geared towards media analysis.

In the example to the left, Scalar has analyzed the media links contained in the text of the composite and used them to create a sidebar containing the media themselves. As the user scrolls through the text, the sidebar scrolls as well, so the video the user is reading about is always at the top.

There are many ways in which Scalar can process the content of a composite; each processing method is called a “view.”
While a blog typically has only one template defining its look, feel, and interactive potential, Scalar’s “view” concept means that a given composite can be displayed in a variety of ways, each with its own unique features.

Text View

*Favors the text content* of the composite; linked media files appear in a column in the right which scrolls to match the user’s position in the text

Composite

Linked Media

Linked Media

Media View

*Favors the media* linked within the composite; a large display area allows the reader to focus on the media, while the text content is displayed below
Views: the author decides which view is the best initial default for a given composite, but users can select different views to gain additional insights into the content.
Media Access: while composites can contain hyperlinks to anything on the web, the special features available in Scalar views become possible when media file references and metadata are imported into Scalar from a variety of sources.
Media Annotations: once imported, media files from any of the supported archives can be temporally (for video and audio) or spatially (for images) annotated.
Paths: for the purposes of structuring longer arguments, composites can be placed into sequences called paths, which can be used in a way analogous to chapters.
Putting It All Together: the combination of these features within Scalar results in the ability to author multithreaded, multimodal texts in a variety of forms.
The Scalar platform supports five user types:

- **Authors**, who can create composites and paths, import media to populate them;
- **Editors**, who have all the same editing privileges as Authors but can also invite Reviewers to comment on the text;
- **Readers**, who can comment on individual composites;
- **Commentators**, who can create their own composites which draw upon the same media elements as the author (each commentator account must be approved by the author);
- **Reviewers**, who can create composites which are positioned within the text as formal academic reviews (by invitation only).
Sharing: Scalar content can be shared and repurposed in a variety of ways:
Basic Layout: a Scalar screen is divided into three areas: the header, the stripe, and the body.
This tab displays an interactive diagram [1] of the path containing the current composite. (If the composite is contained by multiple paths, the currently active path is the one shown.) The diagram shows each composite in the path organized into a linear sequence. Previously viewed composites [2] have a different appearance from those the reader hasn't seen yet [3], and the current composite is highlighted [4]. The icons for various composites differ according to their default view types (Text or Media, in this example).
This view features an interactive diagram which allows users to visually trace the connections between composites. For authors, this view also offers drag-and-drop editing features.
This view lists content of a particular type (whether composite, path, media, or even ancillary types like tags) in a simple format in which each item can be expanded to display a prose narration of its relationships to other content in the work.
This page enables users to search through the Shoah Foundation archives for media to import into their Scalar project. (Media files will not actually be moved from one server to another, but instead will be referenced remotely.)
How might we rethink scholarly knowledge production?

- Don’t assume you know how people will use data and information; privilege access and openness.
- Think of users/readers as co-creators: privilege open APIs + “deep access” to data, allowing users to curate their own pathways. Yours in not the only interpretation.
- Assume multiple front-ends, from the transparent to opaque, the text-based to the visual.
- Learn from experimental and artistic practices but also standardize new forms.
- Value design and visual literacy.