

Lineage : A Visual Search Engine

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Art Gallery of Greater Victoria
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ERASMVS TO
Patricius No
*Œtus, Protonotarius Apostoli
Præpositus, et Republicæ patri
Nat. A. 1462. d. 25. April. Den.*

Unknown Artist, ERASM

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Project Website

<http://www.noyakohavi.com/aggv>



LINEAGE: A Visual Discovery Engine for Art Collections

Noya Kohavi

LINEAGE is a visual discovery engine that removes barriers to engaging with museum collections online. Digitized collections are an untapped resource for both museum staff and guests, and their importance is only growing as museums are currently closed and reduced travel is expected to continue far into the future.

LINEAGE offers innovative AI technology built specifically for art collections. It invites the user to choose an image inside the collection as their starting point, and provides a series of visually resonant and adjacent images as its result. Instead of relying on the objects appearing in the image for matching, LINEAGE approaches images holistically, matching abstract and representational, 2D and 3D objects, objects of various mediums, and so on. Using this technology, a painting can be compared to a dress, or an abstract sculpture to a piece of industrial design.

LINEAGE walks the user through the collection by generating a visual narrative across geographical locations, time periods and mediums, enabling an exploration and discovery experience closer to a museum visit instead of the library-like experience of searching with text terms. Relying on visual similarity rather than textual search provides the user with visual context to artifacts they are interested in; allowing for both targeted searching and an organic discovery process. This approach allows both museum guests and staff to search and discover images across departments, supporting the discovery of themes across the entire collection.

LINEAGE's non-conclusive result schema offers a thematic approach that goes beyond metadata, promoting individual discovery of secret histories, imagined histories, non-linear lineages, and alternative narratives in visual culture.



Towards a New Kind of Online Collection

Emily Luce, Michelle Jacques, Marina DiMaio

How can a visual discovery tool expand the work of the Art Gallery of Greater Victoria and the audiences it serves? How do artists use the AGGV online collection? What online collection potentials are possible given our network and the technology available to us?

The Art Gallery of Greater Victoria's digital archive of over 20,000 objects is an untapped resource for public access and citizen engagement. AGGV, like its peers, holds collections in public trust for public access. However, most museums only exhibit 2-4% of their collections at any time. On-line collection databases are tools for providing 24-7 access to the complete inventory of collections. Many museums, including the AGGV, have taken steps to put collections on-line, but the mechanisms for public engagement with these digital resources, as well as the databases themselves, remain inadequate.

Most databases are designed so that the ideal user is the expert individual, internal to the institution. Centering the non-expert visitor instead of the museum specialist online is the same issue that was addressed in the exhibition spaces of museums over the past 15-20 years, through the shift from art historical (expert) to thematic (broadly relevant) presentations of artwork. In addition, the point of view of artists is often not taken into account at all. The on-line collection must shift to be more expansive and useful to more people. The current structure of the collections database, rooted in colonial, patriarchal hierarchies, is hindering exchange with the AGGV's diverse audiences.

What if the online collection is a place of radical discovery with the ability to shift systems, providing tangible possibilities for implementing new tools?

In 2020 and 2021, the AGGV began to take steps to address this shift in digital engagement. It formed the Digital Potentials Advisory, joining museum staff with a group of digital scholars who came together to exchange research and points of view, and to discuss this work in the context of a museum with a collection with a great deal of potential online. Over the course of its first series of meetings, the Digital Potentials Advisory emphasized an accessible, exploratory, process-based approach for the AGGV's expansion into digital realms, underscoring the importance of taking the time to seek out and listen to different viewpoints, to explore holistically and critically and in the context of socio-political discussions, and to remain open to unproven technological approaches.

PDF

MEDIUM: woodcut

DIMENSIONS: Overall: 90.5 × 63.5 cm (35 5/8 × 25 in.) Image: 49.5 × 49.5 cm (19 1/2 × 19 1/2 in.)

CLASSIFICATIONS: FINE ART

The Digital Potentials Advisory concluded that the best way for the AGGV to uncover its unique and contributing voice online was to go through a process of creation, developing experimental digital projects and observing their evolution in order to tailor its digital development strategy to its unique resources, concerns, and community. The first such project is Lineage, a visual discovery engine, led by Digital Potentials Advisory member Noya Kohavi.

This is a critical moment in the transformation of the Museum. We are completely rethinking the relationship between the Museum and its collection. We don't see the collection as objects assembled from on high that create an aesthetic experience regardless of everything else about its history and context. We see the objects in the collection as a series of potentials in which objects are both valorized and complicated based on who is engaging with them. We are imagining a new kind of collections space that not only records in detail dimensions and materials and provenance, but also activates non-hierarchical and non-linear computational tools to create meaning upon meaning upon meaning. Illuminating the multiplicity of these things and the ability to generate and regenerate them allows the Museum to work past the finite conventions of space and time that it currently works within. We want to get to a point where people can engage with collections by bringing information forward; not just learning about, but teaching the Museum about its collection.

We see potentials in this project to transform what communities expect from museums, and challenge them to be better. The collections database can be more of a hybrid between the curatorial concept and the objects that exist—the facts around the objects themselves are constructed, and we seek to illustrate and expand this with a series of complex digital tools. Statement from the AGGV Digital Potentials Advisory website; digitalpotentials.ca

OBJECT NUMBER: 1976.185.001

STATUS: Not on view

As the Gallery tunes itself to the vast potential of the digitally networked space, the AGGV Lineage Project explored the expanded potential of online collections through neural networks and deep learning. Over the course of the project, artists Carol Sawyer, Brendan Tang, Howie Tsui, and Lorilee Wastasecoot engaged with technologist Noya Kohavi and AGGV staff in exploring the notion of the visual search engine to think and work with the AGGV's online collection, and observe how it can be used in practice-based research.

The project considers queer computing as a methodology, to dismantle systems of power implicit within existing digital tools. This approach allowed for consideration of the visual content of artifacts in the collection beyond the categories they were assigned or ordered in. Engaging a team of artists who are represented in the collection, and whose creative processes are tied to navigating extensive archives, the project explored and defined novel, liminal, and diasporic visual parameters to generate connections between artifacts in the collections, enabling the emerging of new, unseen and marginalized narratives.

So perhaps a form of human reverse engineering. Howie Tsui

The process was iterative. The steps for each meeting built upon the meeting before it as conversations about discovery processes and constraints, both real and fabricated, unfolded. Through this collaborative process, the group aimed to complicate hierarchies in the digital collection, invite and acknowledge a multi-perspectival history of the gallery's collections, and expand its relevance to more people.

Putting this project and research into context, I needed to first ground myself in the culture of my own people and the importance of oral storytelling as an art in our communities to help me understand the intersections of technology and the creation of contemporary Indigenous art today. Lorilee Wastasecoot

The project explored visual storytelling and image discovery. First, the artists were invited to build collections of images meaningful to their practices using AGGV's existing interface. They then shared these collections, discussing the visual reasoning as well as the process of discovery. Noya used this process to inform her exploratory Lineage database. Calling upon the examples set by the four artists and using machine learning algorithms, relationships are built between artifact images, experimenting with organizing the collection to reflect storytelling beyond standard metadata classification.

Led by Noya's research, the group postulated that using visual discovery rather than text search removes barriers to discoverability, ultimately increasing exploratory, serendipitous, organic, or unpredictable encounters with the collection.

PLACE OF MANUFACTURE: **Europe**

MEDIUM: **lithograph, colour Medium Remarks: buff, pale grey, slate, light blue & dark blue ink**

DIMENSIONS: **Overall (support; plate - 31.5 x 21.3): 37.7 x 29 cm**

CLASSIFICATIONS: **FINE ART**


Clicking on the image of one pale ivory snuff bottle in the shape of a gourd with scraffito drawings of human figures on the surface brought up an abstract painting of a volcano by Toni Onley, a sketch by James Gordaneer, a drawing by Kenojuak Ashevak, and a scroll painting by Toyohara Chikanobu that all incorporate fine fluid lines. Carol Sawyer

The Lineage engine with AGGV's collection is available in prototype at Noya's website online. <http://www.noyakohavi.com/aggv> When applying a search by selecting an object from the AGGV collection, Noya developed a unified approach that takes into consideration all visual aspects at once—colors, shapes, patterns, and so on. This generates a series of images that the algorithm deems similar in a pop-up window, in which the human viewer naturally tries to process the resulting relationships. It is a process of discovery and difficulty all at once, presenting solutions which were often met with question marks.

While this exploratory project was naturally embraced by the artists, the group also encountered the challenges and limitations offered by supervised vs. unsupervised machine learning. Noya ultimately decided to employ an unsupervised model, because there was almost no consistency within the categorical and thematic interests defined by the artists during the preliminary meetings. So, while utilizing an unsupervised approach allowed us to think about “overall” ways of seeing and the multiplicity of perspectives (i.e. keeping in mind the importance of the “aggregate” scope of our collection as emphasized by DPA member Gabrielle Esperdy in previous consultations with the AGGV), it also means that we are left with groupings that are unclear, or an imperfect system which will need to be trained overtime by running more extensive tests on larger servers. Perhaps understanding the algorithm makes it more useful, as Noya's narrative descriptions of her own searches are rich with nuance.

Following the launch of the engine, the artists responded with a series of texts based on research within the collections using the two interfaces. These artist-curatorial tours explored new digital trails, sharing unseen stories and offered authentic feedback based on the project and process. One unexpected outcome was the refreshing graphical presentation of the AGGV collection by designer Andrew LeClair—the first state of the Lineage search providing a rotating, dynamically loading bird's eye view of the collection that revealed itself as much more useful in quickly assessing the entirety of the collection.





What are the advantages and disadvantages inherent in the software and its application, especially in relation to the needs of the AGGV?

Brendan LS Tang

Although the project can be seen as a screencap of our explorations in this moment in time, its broader usefulness was in cultivating a practical awareness about what could be possible, and what it will take to arrive at the digital outcomes we conjure. Through working with the AGGV's collection using both [E-Museum](#) and [Lineage](#), it is obvious that, given the resources at hand, there is no straight line to making an online collection more broadly representative, more historically nuanced and therefore more accurate, more richly searched, and more easily discovered. Basics such as bandwidth and cooperation are just as important as UX, search prompts, and the neural networks that drive them, not to mention institutional factors such as staffing, data input, and sorting conventions, and a broad spectrum of visual, digital, and language literacies across AGGV's audience. For Noya, the gamut of reasoning amongst the artists demonstrated that AI has further to go. For the artists, it cultivated a deeper familiarity with the process of inclusive technology design, and with the AGGV collection itself. Through the process of creating, and critiquing, with practical experience and grassroots knowledge, we inch closer to the vision of a plural online collections space, one that is connective in terms of content and accessibility.

Participants in the project were exemplary in cultivating a respectful and manifold dialog, insisting that technology adapt to a multiplicity of viewpoints rather than reinforcing the single-track narrative so often found in mainstream tech development. The complicated nature of the AGGV's collection opens the door for a complex digital solution, one that embraces the entanglement found in AGGV's community and uses technology to its best advantage. This process is messy, it is slow, and it is powerful in its opportunity to cultivate new and meaningful engagements between people and objects. Lineage is an early indicator in an incredible journey.

DIMENSIONS: Overall (work; mounting:198.0 x 60.5): 99.9 x 47.9 cm

CLASSIFICATIONS: FINE ART

CREDIT LINE: Gift of Brian McElney

OBJECT NUMBER: 1995.050.020

Things That Arise Out of a Somewhat Meandering Search

Carol Sawyer

My work as an artist often incorporates historical research, and as a result I have spent many hours combing through various archives and art gallery collection databases. Often what I am looking for is fairly specific—for example, artworks made by women in the 1930's. Other times my research is more open ended—looking for evocative images and objects that might suggest avenues for new visual compositional strategies or historical details to incorporate into my work. The most fruitful discoveries are often serendipitous—things that arise out of a somewhat meandering search, where one item leads to another, and I end up somewhere in the database that I couldn't have anticipated when I started out.

Most collecting galleries that have been around for a while have large and eclectic holdings, with many items that may not have been exhibited for a long time, or ever. The only way for a member of the public to learn about what is hidden off in the storage rooms is to search through whatever database the gallery maintains, which isn't always publicly accessible. To further compound the research difficulties, the usual database search interface is text based—and is limited by the accuracy with which the searcher can anticipate which search terms are attached to the items they hope to find. The existing AGGV database is very useful, but is showing signs of its age, at times struggling with loading images, and with limited means for refining a search. I at times felt frustrated by the constraints of this architecture when I was carrying out research for my exhibition at the AGGV in 2015. (It seems to have improved since then.) Many of my most fruitful discoveries in the collection came from helpful gallery staff, who had first-hand knowledge of what was in the storage rooms.

A visual-based algorithm built into a search engine holds the promise of a new, productively unpredictable and playful way to browse a collection—and the Lineage search engine prototype that Noya Kohavi built for the AGGV explores this potential. With the Lineage search engine, it is possible to browse through hundreds of small images quickly—which I found very appealing. If I click on one of these images, I am taken to a page that includes a larger image and caption info for the image I have clicked on, along with 4 other (at times rather unexpected) things from the collection. Sometimes it is possible to guess what connects these image groupings – shape, colour, distribution of detail, line quality perhaps. I can see the conversations that we had as a group reflected in the selections that this software makes. Clicking on the image of one pale ivory snuff bottle in the shape of a gourd with scraffito drawings of human figures on the surface brought up an abstract painting of a volcano by Toni Onley, a sketch by James Gordaneer, a drawing by Kenojuak Ashevak, and a scroll painting by Toyohara Chikanobu that all

Comment on

EXPAND

FAVORITE

VIEW PDF

Wood Card Case

ARTIST: Unknown Artist

incorporate fine fluid lines (see illustration, below). It is clear from this sample, that this search engine could suggest possible curatorial avenues that might be unexpected, but fruitful. The downside of this visual-based search is that it relies on purely formal characteristics, which takes artworks out of their cultural context.



Unknown, SNUFF BOTTLE WITH DESIGN OF EIGHT IMMORTALS ↗



James Gordaner, SKETCH FOR THE CIRCUS SERIES (c.1985) ↗



Toni Onley, CLOUD /VOLCANO SUITE (1980) ↗



Kenojuk Ashevak, ANIMAL SPIRITS (1969) ↗



Toyohara Chikanobu, LADY BEING DRESSED, OOKU INTERIOR APARTMENTS OF CHIYODA PALACE (1895) ↗

I found myself wishing that I could continue to follow this path through the Lineage search engine further, by clicking on one of these five images and seeing how it might re-sort the collection as a whole, but clicking on any one of these five takes me back to the original search page. Perhaps a way to follow a chain of visual links in this fashion, could be a future avenue to explore. I also found myself wanting to learn more about one of the items, and it took me a while to figure out that I could follow the discrete arrow in the image caption, to connect to it's complete description on the original AGGV collection website.

Noting the texts attached to the images, I can then use these as a search term to see more examples of related objects. As a way to test what kind of objects the Lineage engine might suggest, I looked for one of the unexpected things that I encountered in my initial research: a zoomorphic belt hook. Entering the search term "belt" or "zoomorphic" yielded many related examples.

light green, brown &

STATUS: Not on view



Clicking on one of them led to this rather interesting grouping:

Unknown, ZOOMORPHIC BELT HOOK

Unknown, NETSUKE IN THE SHAPE OF A HANNYA, FEMALE DEMON MASK

Unknown Artist, THE PRODIGAL SON RETURNS

Unknown, MYTHICAL CREATURE

YIXING TEAPOT (20th Century)



- Chi-

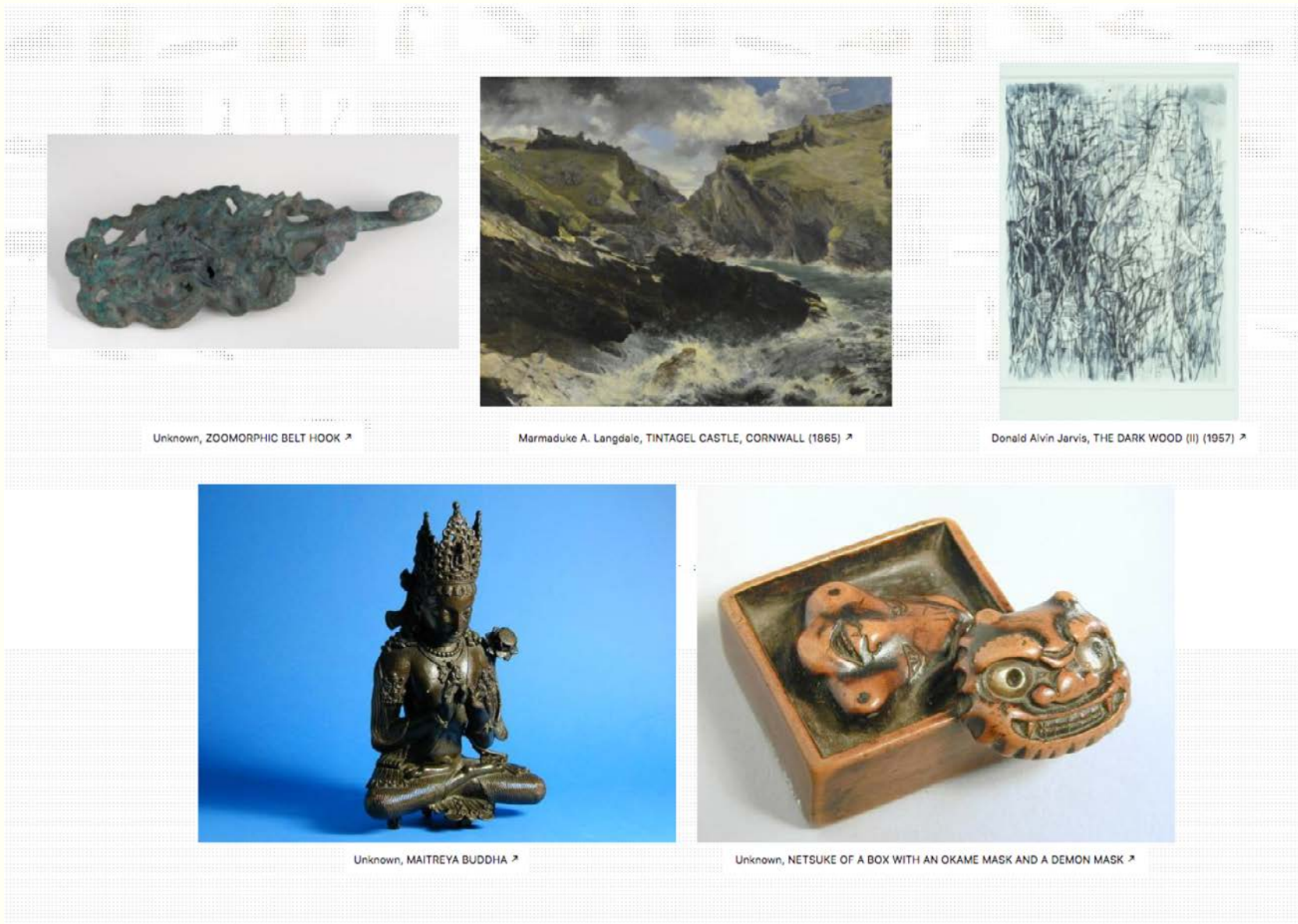
st



c.1900



Clicking on a different zoomorphic belt hook produced an entirely different selection of objects from the collection:



It is possible to guess from these two examples, what types of formal characteristics, such as shape, colour, density of detail, etc., the Lineage software is using to make selections. This formalism has a somewhat flattening effect, rendering all things equivalent based on appearance, without giving any weight to the original cultural context of the artworks/objects selected. Nonetheless, the selections remain idiosyncratic enough that they are intriguing, and offer new insights into the collection and avenues for further research.



Being able to scroll through a huge number of small images is perhaps my favorite aspect of the Lineage search engine—and led me to encounter many interesting things that I had not found in my many previous searches. This prioritizing of visual information is a unique strength of the search engine, and distinguishes it from the usual, text-reliant search engines. From any of these small jpegs it is easy to connect to the previously existing AGGV database and get further information about the object, thus combining the best of the two search pathways.

Museum collections are often so big that they are particularly unwieldy to search, and a way to filter a search, based on aesthetic and/ or visual criteria holds great potential to make research less onerous, and more poetic and productive. Most galleries with large collections have numerous objects that haven't been on public display—recently, or ever—having these items more accessible to find and look at on a digital platform offers a fantastic resource to artists, art historians, and other people carrying out visual or cultural research.





Peeking Behind the Digital Curtain

Brendan L.S. Tang

In November 2020, I was one of several artists approached by the Art Gallery of Greater Victoria to collaborate on a project exploring a new online cataloguing software called Lineage. The aim, I believed, was to explore the creation and implementation of a new online search platform to catalogue AGGV's extensive collection.

As artists, we were asked to deeply examine the gallery's online collection of images and to create curated selections of objects/artworks that intrigued, interested, and attracted us, for whatever reason. We were then asked to create groupings of images that had some sort of relation to each other, much as one would when using a site like Pinterest.

In my understanding, the AGGV has been looking into using Lineage software as a search engine tool to catalogue its collection for online audiences, so I went into the project wondering how exactly the search experience was different than a regular online search one might do using Google, or the aforementioned Pinterest. What makes Lineage a better search tool? What makes it different? What are the advantages and disadvantages inherent in the software and its application, especially in relation to the needs of the AGGV?

Lineage software utilizes what is known as "machine learning", which means that the software develops algorithms based on the data that users supply, which is why we (the artists) were tasked with creating collections or groupings of images that related to each other. Our collections would then provide data that the software could then use to facilitate further searches.

However, Lineage software differs from your regular search engine in that it prioritizes visual similarities, looking for formalistic relativity in images as opposed to searching for tagged codewords. This means the images a search provides will relate formally to each other in line, composition, colour, etc., or are in some way visually aligned, as opposed to images that relate contextually. For example, when doing a search for Ming vases, not only will other Chinese pottery images be suggested, but you may end up with anything from blue and white batik prints to mid-century vases, as long as the form is similar. The idea is to create a search that provides a "synchronistic" experience, where you may come across images that relate in more "organic" ways, perhaps.

Amityayus Jina
(Sanskrit);rgyal-
pa Tshe-
lpag-med
Unknown Artist
1970 - 1976

Merging
Sides
B. C. Binning
20th Century



Islamic Tiles
in the
Incr
ision
ns
- 1872



Untitled
(Portrait of a
Young
Woman)
Unknown Artist



Trial of
David Ne
1991

Personally, I found this type of search left me wanting less as opposed to more. The search experience was akin to going online to look up a chocolate chip cookie recipe and having to read all about somebody's family trip to the local mill where they watched the flour being artisanally ground. Too much information, and not enough context.

In my work, I have long relied on internet search engines as a research tool, and of course, there are advantages and disadvantages inherent in every method of online research. That said, my time spent behind the digital curtain to see how search engines are made has perhaps only depressed me more in regards to public institutions being woefully underfunded to serve an audience enraptured by commercially funded/controlled simplicity of Google, Pinterest and the like. How can the AGGV's site specific search tool compete? That said, I completely understand the desire to for institutions to find a method to provide an online catalogue outside the commercial megalith. In fact, one of the features of Lineage software is that it does not track user data. Is this a plus for the non-profit user? I don't know.

Personally, I found the Lineage search results too random to maximize my research time. A member of the general public might enjoy the free-association nature of this type of search, but as a professional artist, this type of search does not necessarily work for me. I have specifics I am looking for, so a search tool works for me when it narrows the scope of my research, not broadens it.

The question of search technologies and their evolution to more user-specified results is in itself an examination of the promise/premise of technology; it posits the individual as curator, as journalist, as judge and jury all at once. As such, the question of how best to format an institution's online catalogue will depend primarily on the type of audience you are hoping to attract. If the AGGV is looking for viewers to spend an hour or two looking at exponential images that are aesthetically related, then I think the Lineage program will suffice. However, if the AGGV also hopes to attract the attention of artists, academics, and historians referencing the collection as research, I would say this format could use some tweaking.

The fact is, that any modern search engine is going up against the standard set by the big guys, which are available to the end user, ostensibly for "free." For the AGGV to create an online catalogue that is 2021 user friendly, it has to meet the current user standard of accessibility, and offer a new and exciting perspective or experience.



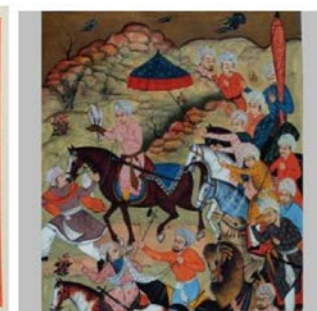
Me
Claxton



Woman with
Child
James Houston



rs



Falcon Hunting Scene
Unknown Artist

OBJECT NUMBER1991.053.001
OBJECT NUMBER1969.114.001

Trompe-l'œil



I believe that the opportunity to search a database for images utilizing algorithmic visual parallels provides an opportunity for some wonderful, random searches. That said, for the database to be universally useful, it must also be as user friendly as the corporate options. Perhaps, that means an institution like the AGGV would also have to use extensive tagging within images and optimizing search engine results. Adding the ability to tailor search preferences and to apply search perimeters would also be advantageous, and would allow the user to prioritize results based on factors other than visual similarity.

All said, I have enjoyed being a part of this group, and I'd like to thank the AGGV for including me in the discussion. The question of how our public institutions best use the resources they have is a pressing one, and the competition to be a trusted voice in the crowd is fierce.

I am happy to be a part of the conversation and wish the AGGV much luck in moving forward with their vision.



as en
s

Untitled-Two
Figures
Angela Grossmann
1991

OBJECT NUMBER1968.054.001

OBJECT NUMBER1982.073.072

OBJECT NUMBER1966.012.001

OBJECT NUMBER2004.039.002

OBJECT NUMBER1994.065.016

OBJECT NUMBER2013.014.001

OBJECT NUMBER1993.034.014

OBJECT NUMBERS125.4

Speculative Webs

Howie Tsui

By organizing digital images based on formal aspects and using algorithmic image processes, an alternative collections browsing experience can occur, opposed to text and subject based systems. My response is a speculative inquiry into how I suspect the program is making these groupings based on my understanding of how the system functions. So perhaps a form of human reverse engineering.



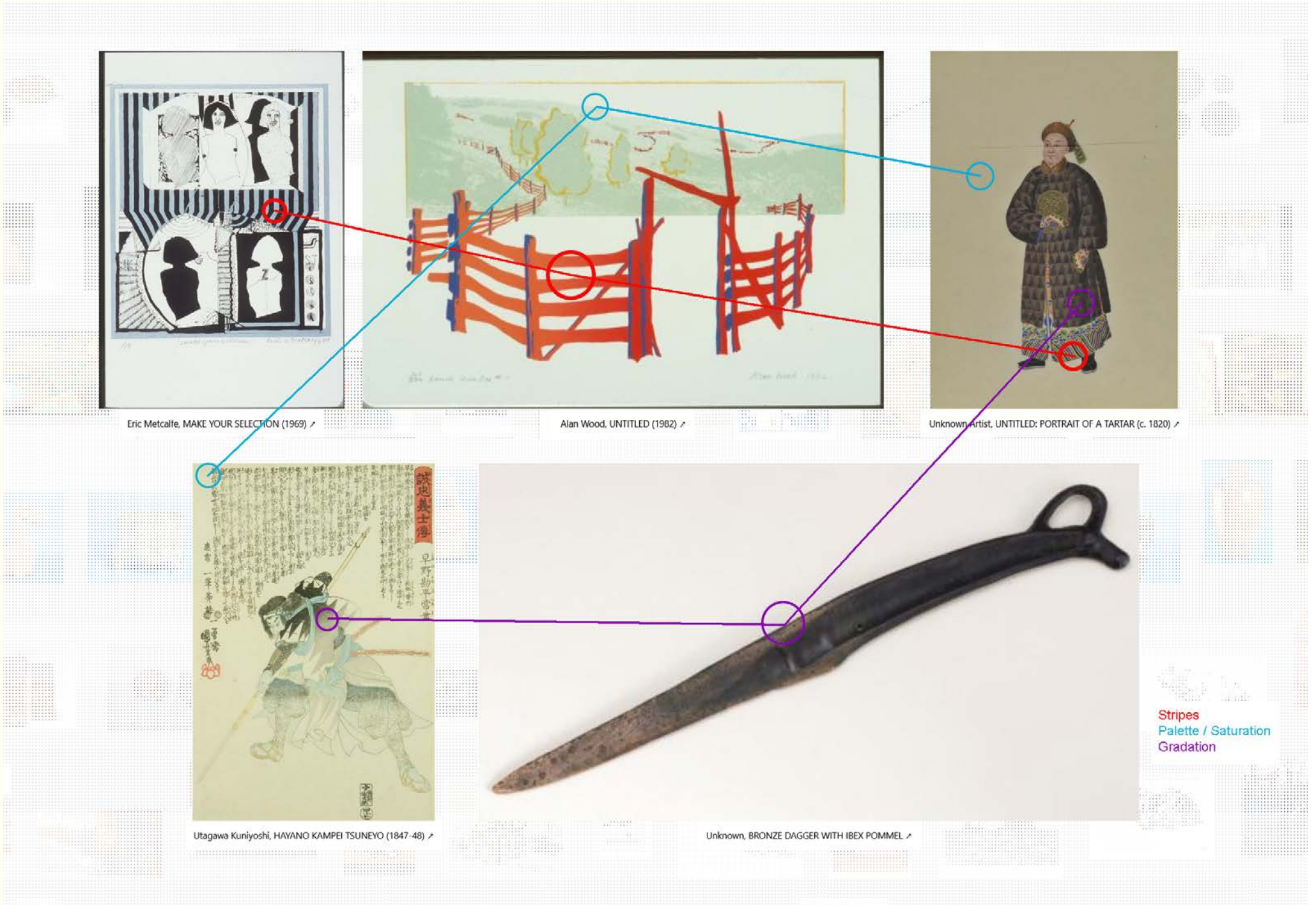
ARTIST: Utagawa Toyokuni II (Japanese, 1777 - 1835)

DATE: n.d.

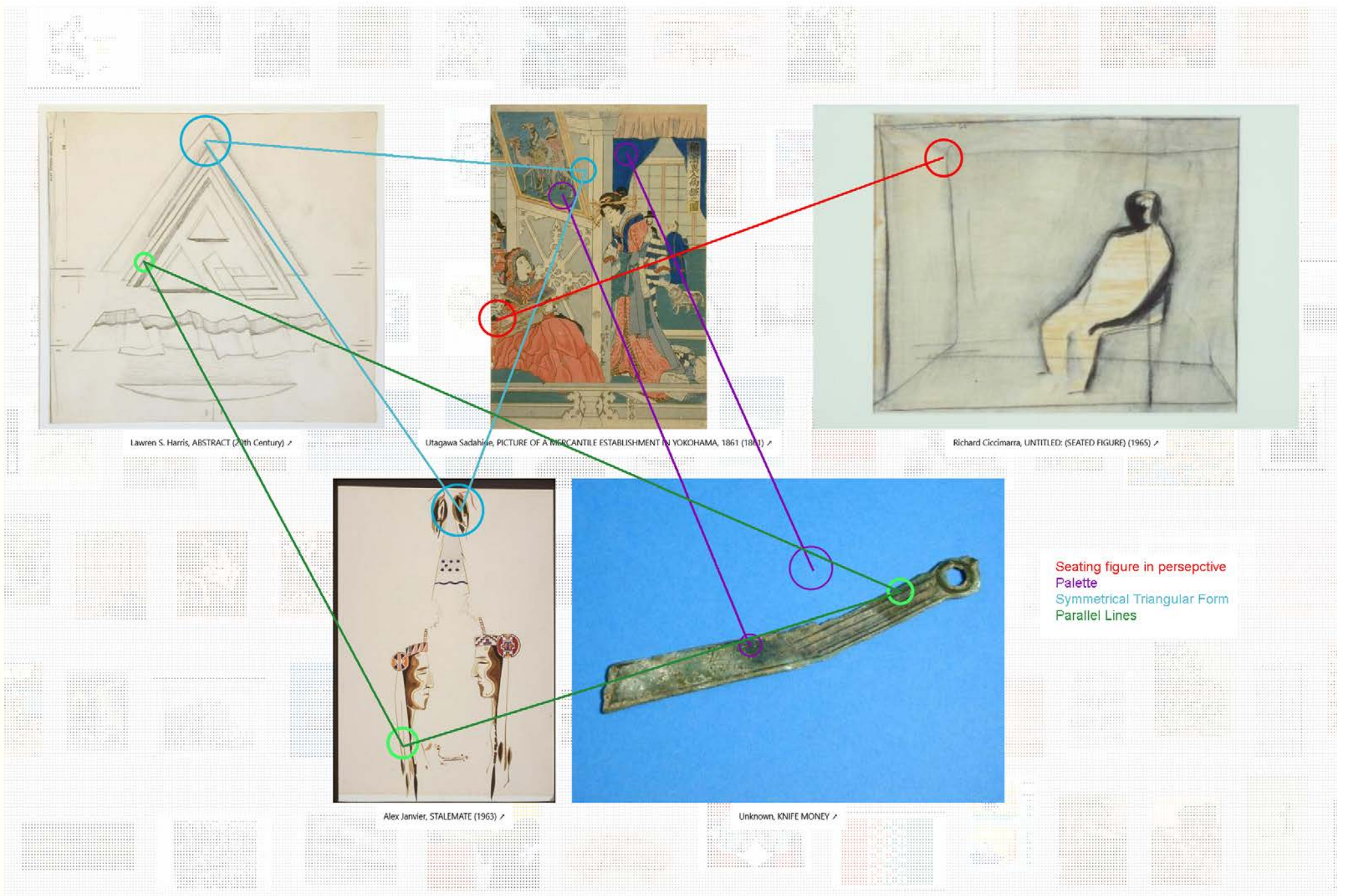
MEDIUM: woodblock print

DIMENSIONS: Overall: 38.2 × 25.5 cm (15 1/16 × 10 1/16 in.)

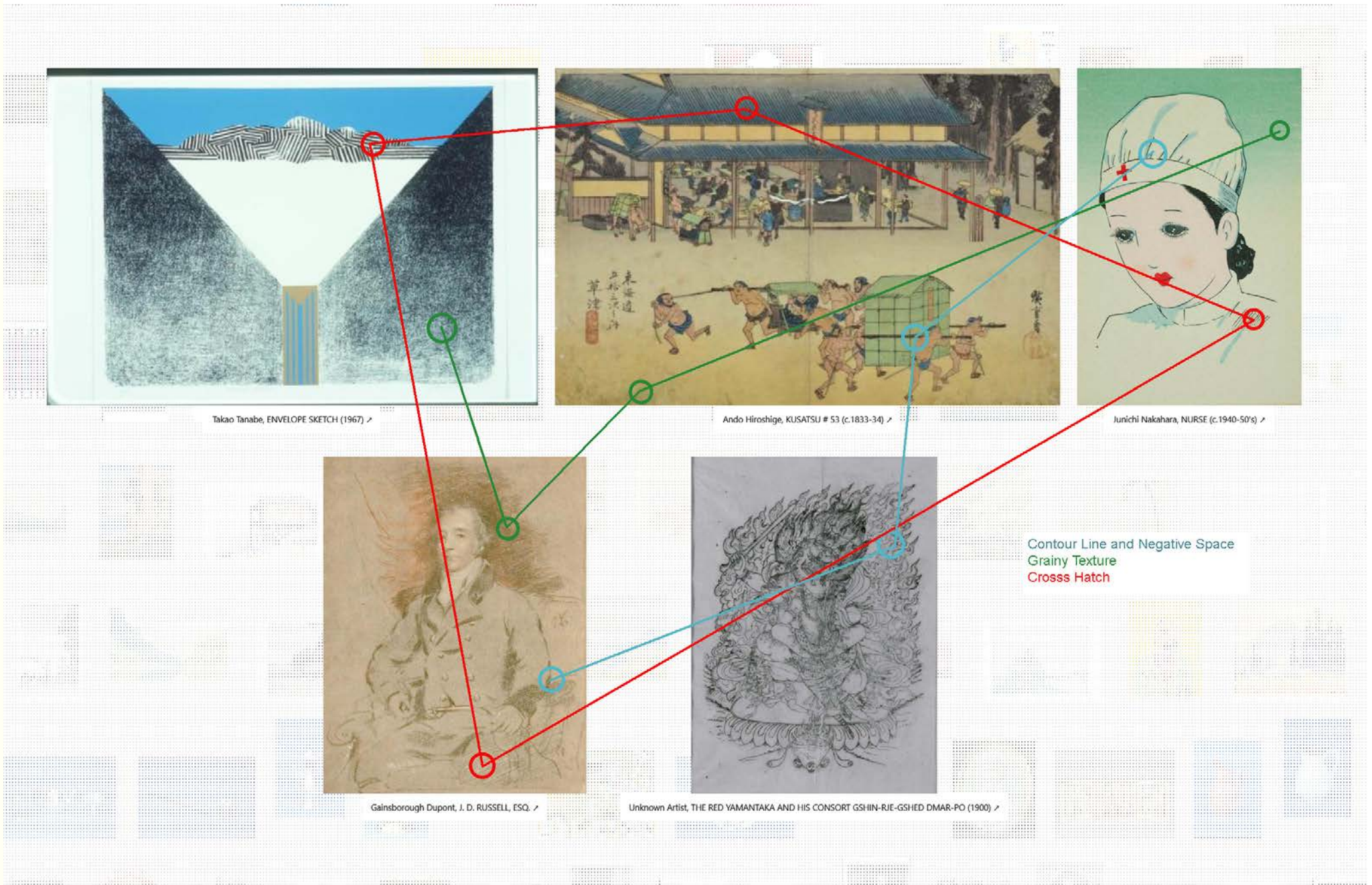
CLASSIFICATIONS: FINE ART



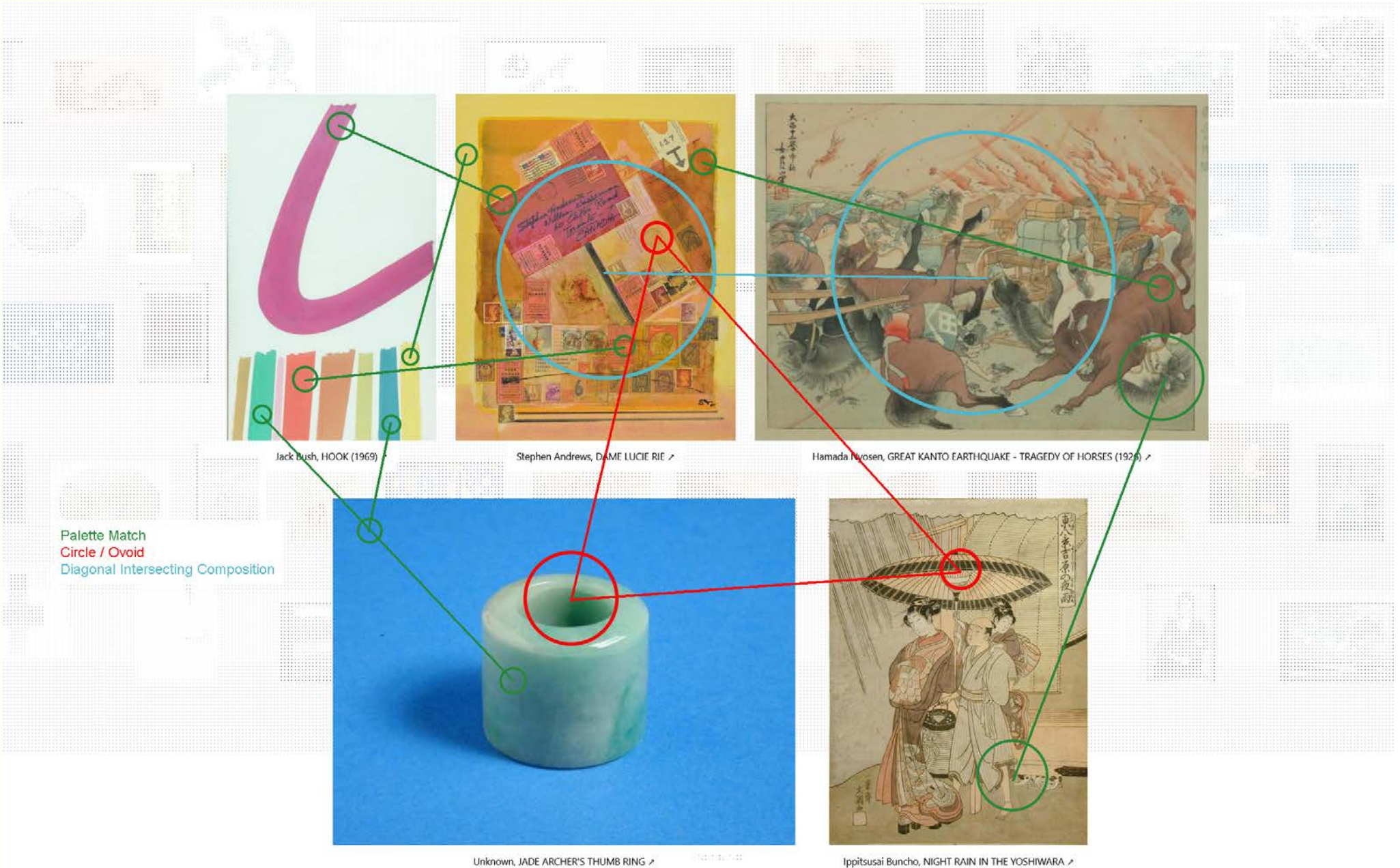
One of six 'constellations' or visual webs that formed the individual processing of a selection of sets.



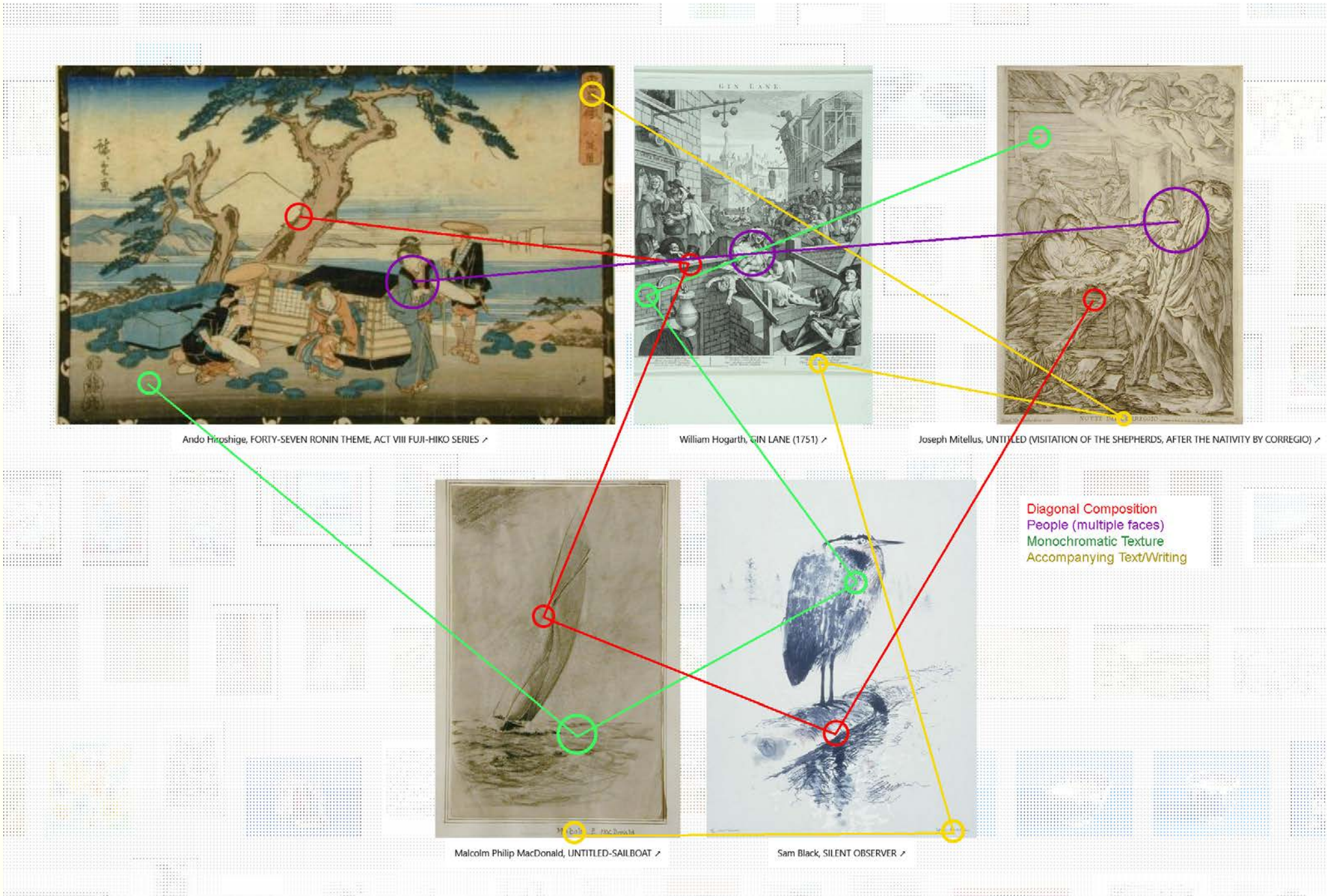
Two of six 'constellations' or visual webs that formed the individual processing of a selection of sets.



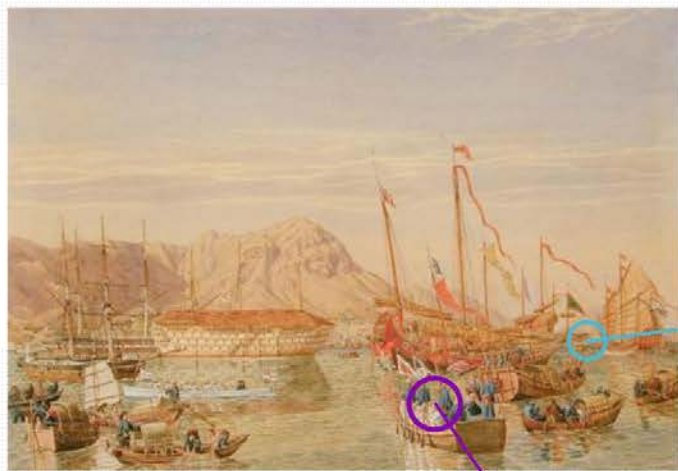
Three of six 'constellations' or visual webs that formed the individual processing of a selection of sets.



Four of six 'constellations' or visual webs that formed the individual processing of a selection of sets.



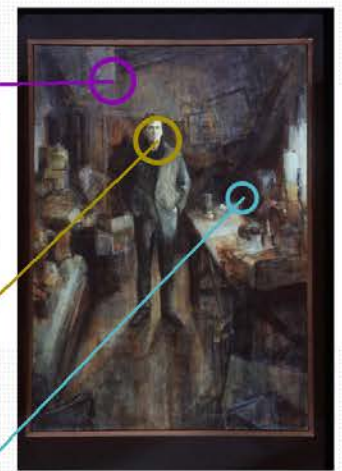
Five of six 'constellations' or visual webs that formed the individual processing of a selection of sets.



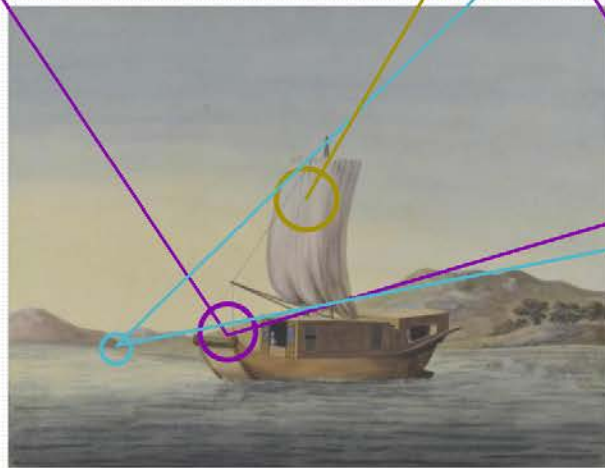
Oliver J. Jones. HONG KONG >



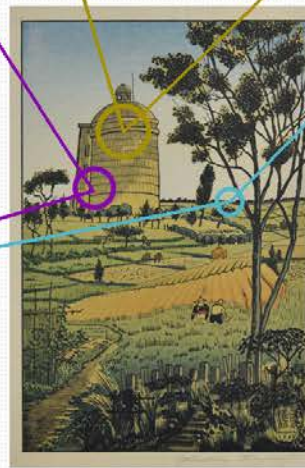
Inoue Yasuji. IMPERIAL FAMILY AT YASUKUJI SHINTO SHRINE (1888) >



Myfanwy Pavelec. BOB'S STUDIO (1972) >



Unknown Artist. A TRAVELLING BOAT OF ONE OF THE UPPER PROVINCES OF CHINA (c. 1820) >



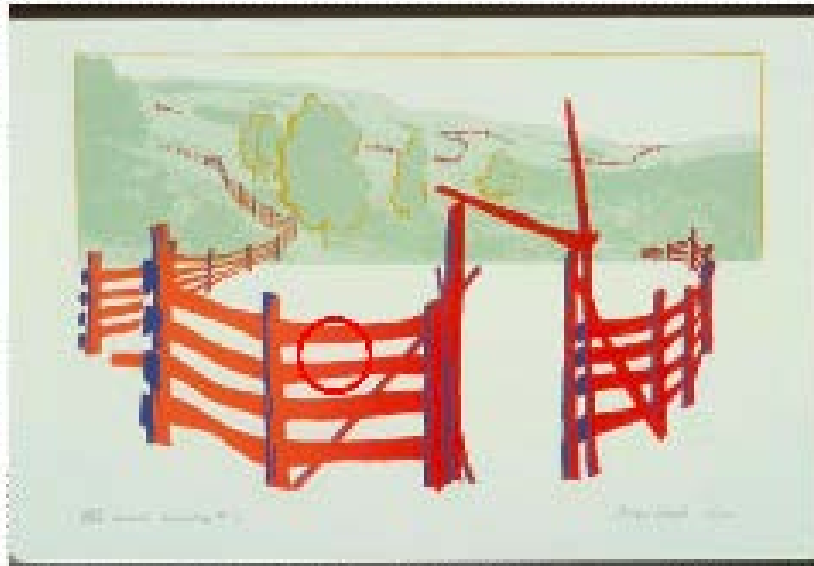
Gihachiro Okuyama. HARVEST (1954) >

Horizon Line / Perspective
Architectural / Structural elements
Centrally-Weighted Subject

Six of six 'constellations' or visual webs that formed the individual processing of a selection of sets.



1890-1895



1890-1895



1890-1895

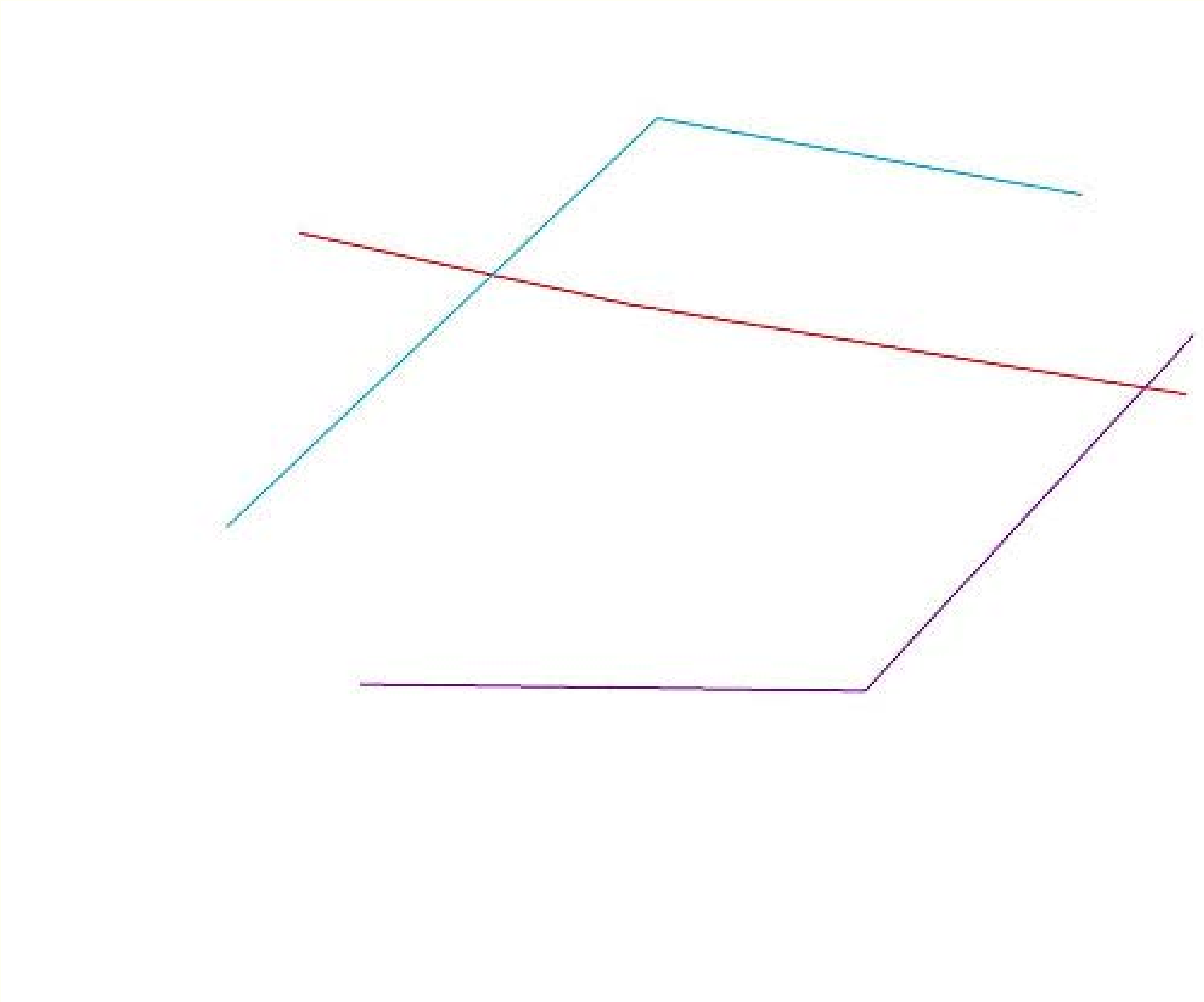


1890-1895



1890-1895

A gif that shows the sequence of how these webs were formed in real-time.



And a gif that shows just the lines that were formed in creating these linked connections.

The Interconnectedness of All Things Lineage

Lorilee Wastasecoot

The Public Access to the Arts and Citizen Engagement: Single Phase Initiative Project was created to explore automated visual storytelling using images from the Art Gallery of Greater Victoria's (AGGV) collections database and an AI software created by Noya Kohavi called Lineage. This learning process and project was collaborative and community centered involving artists Howie Tsui, Brendan Tang, Carol Sawyer and AGGV and Remail facilitators Marina DiMaio, Emily Luce and Michelle Jacques.

The Lineage software is a visual database that uses algorithms to group similar images together. Howie Tsui, Carol Sawyer, Brendan Tang and myself curated sets of images from our areas of specialization and personal interest from the AGGV collection. Once our curated groupings were assembled they were deposited into the Lineage software. Through my research and interactions with Noya and project collaborators, I came to understand that what the software was doing was deep learning and teaching itself to think and act like the human brain.

In my process, I searched the AGGV database for women artists and Indigenous art in the collection. However, AGGV does not have a lot of art created by First Nations and Inuit artists that made me noticed that the collection is fairly biased in that way. Nonetheless, getting warmed up and still trying to figure out what exactly I was supposed to do, I played around not fully knowing what I should be looking for. I searched for pieces of art in the database using phrases or conceptual terms like 'beaded dreams' and 'love.' I then searched for images that had 'feathers', 'cedar', or 'teeth' in their composition gradually using more artistic technical terms as I searched that referred to line quality, density, fluidity and colour using text like 'rough lines', 'deep purple', 'flat orange lines', 'fluid red', and 'loose patterns' to see what the AGGV database came up with. I then grouped the ones I found interesting and seemed to be connected.

Putting this project and research into context, I needed to first ground myself in the culture of my own people and the importance of oral storytelling as an art in our communities to help me understand the intersections of technology and the creation of contemporary Indigenous art today.

Storytelling is an important part of Cree and Indigenous culture across Turtle Island. Our stories were passed down orally to children, families and community. The stories shared culture and language. Storytelling was a form of artistic expression that required the listeners to use their other senses and imaginations while the stories were being told. These stories were used as inspiration for other artists in the community for the making



of totem poles or house beams, dances, plays, carvings, regalia and ceremonial objects. This storytelling continues today, but has evolved in other ways to include the use of automated visual and digital storytelling tools and platforms (like the Lineage software that creates visual digital data and databases,) such as social media, eBooks, images, videos, audio files and media gifs.

Part of this storytelling creation process involves the searching of collections databases that often involves spending hours looking at images and objects. Perhaps we are looking for that one special object, while other times we don't know what we are looking for or where to start. Collections databases like the AGGV are not automated or trained to think for themselves; they require continuous updates as time passes. This prevents or hinders our searches for up to date information from the collection. In addition, text based collections databases are useful for searching if you know exactly what you are looking for, but can be time consuming, fastidious and/or incomplete in the information and images they produce that can affect accessibility. Therefore, having a visual collections database that can continuously update and independently learn on its own to run searches more efficiently and effectively demonstrates to me how this technology can be used for my purposes as a curator. Technology and art intersect and this project is an important example, experience and exploration that demonstrate how we could use machine learning and automated visual databases like Lineage as tools.

My process and experience being involved with the Lineage project started with using eMuseum found on the AGGV website. In my exploration, I could search for objects, people or exhibitions sorted by relevance, date and title, object number, primary maker and last updated. I could search the collection for specific things or view all of the 20966 objects they have in their collection. However, there was no information available other than the basics like artist name, title, date, medium, dimensions, classification, credit lines, object number and status, preventing me from accessing information on the artist, their community and/or if there was curatorial research or meaningful stories shared by the artists about their work.

I determined that in order to produce the best results using the algorithm generated by the Lineage software it is important to have large amounts of working data from the outset. This was challenging as the AGGV database only has about 14,000 links to images that actually work, leaving about 34% of the objects in the collection visually inaccessible which I think affected the outcomes of what the artists chose to curate within their groupings and what the algorithm/the Lineage software ultimately created. In addition to this, as a group we also discussed the way the objects in the AGGV collection were photographed on a blue background that presented challenges and affected the searches produced in Lineage.



EXPAND FAVORITE VIEW PDF

Beaded Cloth Bracelet

ARTIST: Unknown

DATE: c.1840

When the finished Lineage website was complete in April, we were able to search for things of interest using our groupings from the AGGV database. It did not produce the results I was expecting. I was puzzled at the results that were not connected in a clear or cohesive way. However, even though I was puzzled the results Lineage produced were a great start in this exploration. Lineage produced some totally random and weird things but as time went on and I interacted more with the website, I found if I looked hard enough I could see how some of them were indeed connected, requiring me to shift the way I viewed things, which produced new knowledge for myself.

This project was an important demonstration in how technology and art interconnect. Lineage has shown me how automated visual storytelling tools are useful to artists and curators searching large text based collections databases that can aid visual learners like myself. Technologist and artists can benefit from working together to come up with tools like these to continue to create and pass on knowledge and culture that promotes education, dialogue, reconciliation and the resurgence of Indigenous people while building relationships with other community members.

As an Indigenous woman with a lot of life experience, a business diploma and a Political Science degree, I am not formally trained in computers, art history or fine art. As such, I found myself intimidated after coming onto the team one meeting into the project to replace another artist that had other commitments. The content seemed abstract, and I had a bad case of imposter syndrome. However, the more I was able to connect with the other participants in our group meetings, the more comfortable I became with the project and subject matter.

I found this was a valuable community building collaboration and experience that gave me an opportunity to branch out and meet other artists and people working within the art scene of museums and galleries and new technology, that I would not normally interact with because of our different interests, backgrounds and worldviews.

I am deeply grateful to Carol, Howie, Brendan, the AGGV/Rimai facilitators and Noya for guiding this collaboration and for the new knowledge and ways of looking at things.

Ekosi,

Lorilee Wastasecoot

Curator of Indigenous Art and Engagement, UVIC Legacy Art Galleries

 [VIEW PDF](#)

El Danzante

ARTIST: Reva Brooks (Canadian, 1913 - 2004)

PLACE OF MANUFACTURE: North America





About this Document

This text was created to record the process and discussion surrounding the exploratory Lineage project, hosted by the Art Gallery of Greater Victoria in the Spring of 2021.

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Working prototype of AGGV's collection on Lineage :

<http://www.noyakohavi.com/aggv>

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Images supporting each essay were part of each artists' research for the project from the [Art Gallery of Greater Victoria's online collection database](#), and from the [Lineage database](#).

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