

HEADS OR TALES: ANALYZING AND RESISTING CANADIAN MYTHS
THROUGH THE ROYAL CANADIAN MINT'S "CREATE A CENTSATION"
MILLENNIUM COIN CAMPAIGNS, 1999 to 2000

by

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Abstract

“Heads or Tales” is a research essay and project working with Reflection Transformation Imaging (RTI) to analyze Canadian commemorative coins visually and materially. This project examines six coins from the Royal Canadian Mint’s 1999 and 2000 *Create a Centstation* millennium coin campaigns. Analyzing with RTI, a computational photography technique, refers to the interactive process of creating and visualizing digital models embedded with the surface data and shape perception of three-dimensional objects in a two-dimensional format. This project asks readers to participate in a close-reading of each coin (available online at <https://mslafrenie.github.io/Heads-or-Tales/>) and to challenge the myths and colonial narratives constructed throughout both millennium coin campaigns. In performing this close reading, through the active re-lighting of millennium coins, “Heads or Tales” identifies the banal nationalistic power of coins and critically engages with the colonial myths and stories of national becoming etched onto each coin.

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Introduction:

“Create a Centsation!” and “make your mark on history” reads an ad in the May 19, 1998 issue of the *Toronto Star*.¹ The advertisement is for the Royal Canadian Mint’s 1998 millennium coin contest, “Create a Centsation,” launched on April 27, 1998. The contest was one of the largest public-facing design competitions in Canadian history, receiving approximately 50,000 submissions.² Of these, 33,000 were submitted for the campaign referred to as “Drawing on the past.” The remaining entries were submitted to the subsequent campaign known as “Designing our future.”³ The Royal Canadian Mint encouraged Canadians from all walks of life to participate, ensuring Canadians that it was not necessary to be a professional artist, but only to submit a creative idea: “Your idea is what really matters, not your artistic skill. There’s no limit to what you can do!”⁴

Coin designs were submitted by Canadians of all ages, ranging from toddlers to the retired, and were received via mail and the Mint’s contest website: www.centsation.com.⁵ In addition to their designs, participants were asked to provide their contact information and a brief explanation of their submission.⁶ The contest itself was adjudicated by a panel comprised of young Canadians with post-secondary backgrounds in art and design. These students, organized into two selection committees, one for each year of the campaign, were tasked with selecting 24 designs—a coin for each month of the 1999/2000 years.⁷

¹ Royal Canadian Mint, "Make your mark in history: Create a Centsation," *Toronto Star*, May 19, 1998.

² “Celebrate the arrival of the new millennium,” Royal Canadian Mint, last modified June 8, 2001, <https://web.archive.org/web/19990429023258/http://www.centsation.com/en/menu-en.html>.

³ Royal Canadian Mint, "The April Coin Reflects Our Northern Heritage," *Toronto Star*, April 2, 1999.

⁴ Royal Canadian Mint, "Make your mark in history."

⁵ Accessible via the Wayback Machine

⁶ “How to Participate,” Royal Canadian Mint, Last modified June 8, 2001, <https://web.archive.org/web/19990429035221/http://www.centsation.com/en/participation.html>.

⁷ To learn more about the members of each committee see Appendix A.

While the “Create a Centsation” campaigns celebrated the millennium, the series of coins designed and released by the Royal Canadian Mint in 1999 and in 2000 had very different objectives, both of which can be broadly defined by their aim to commemorate and celebrate being Canadian and living in Canada. The 1999 campaign focused on “the milestones and achievements that Canadians have identified as significant events that have shaped Canada’s history” in the last thousand years.⁸ The 12 winning designs featured icons, inventions and symbols closely linked to Canadian identity such as the log drive, owls and polar bears, trains, and airplanes. However, some designs were more abstract and spoke to Canadian sentiments such as multiculturalism and ‘pioneerism’.⁹ Alternatively, the 2000 campaign focused on “Canadians’ ideas about where we are going as a society and what life will be like during the next thousand years.”¹⁰ The 12 coins from this campaign feature a design and the value it represents. Many of these values were optimistic and envisioned Canada’s future as accomplished, harmonious, innovative and stewardly.¹¹

Until recently, very little attention has been given to the study of numismatics in Canada, particularly commemorative coins. While much has been produced to commemorate the history and identity of Canada – both in terms of who we are and who we envision ourselves becoming – commemorative coins and their visual characteristics have not been studied extensively. The most recent work on Canadian currency is Emily Gilbert’s chapter “Forging a National Currency Money, State-Making and Nation-

⁸ Royal Canadian Mint, "Winnipeg Launches Canada's May 25-cent Coin - The Voyageurs - at Historic Junction of Red and Assiniboine Rivers," *Canada NewsWire*, May 3, 1999.

⁹ While it has often been referred to as pioneerism or the “pioneer spirit” this phenomenon should be and is best described for what it was: settler colonialism.

¹⁰ Royal Canadian Mint, "Winnipeg Launches Canada's May 25-cent Coin."

¹¹ See Appendix B for a list of all the coins organized by theme, release date and designer.

Building in Canada” (1999).¹² Gilbert’s incisive analysis of Canadian nationalism and currency offers little attention to the study of coins, instead focussing on a broader history of currency and Canadian banknotes. This makes James A. Haxby’s *Striking Impressions: The Royal Canadian Mint and Canadian Coinage* (1984) the only comprehensive work on the history of the Royal Canadian Mint (the Mint) and specie.¹³ With this in mind, the study of commemorative coins calls for a different approach—a prioritization of the visual and a close-reading of the digital. What happens to our analysis if we focus our attention on the visual characteristics of coins? Is it possible to enhance our reading of the visual through digital tools and digitization? How might this change our ability to read the three-dimensional nature of the ‘relief’?

In analyzing these coins as objects and interrogating the three-dimensional nature of the relief on each coin this project draws attention to and questions the layering of meaning revealed through close reading. My research therefore explores the visual characteristics of coins through Reflectance Transformation Imaging (RTI)¹⁴ and investigates Canadian commemorative coins as markers of the nation. I argue that the symbols and designs featured on commemorative coins, particularly millennium coins, represent, construct, and uphold national narratives that are anything but collective. These

¹² Emily Gilbert, “Forging a National Currency Money, State-Making and Nation-Building in Canada,” in *Nation-States and Money: The Past, Present and Future of National Currencies*, eds. Emily Gilbert and Eric Helleiner (London: Routledge, 1999), 25-46.

¹³ For context, the Royal Canadian Mint, founded in 1908, is responsible for producing medals and specie in Canada. While the institution itself has been around for 111 years many of the qualities and specie that are recognized as distinctly Canadian have a much shorter history. In 1931, as per the Discontinuance Proclamation of December 1, 1931, the Royal Canadian Mint became independent from the British Royal Mint. While the Mint was entirely Canadian at this point the first Canadian commemorative coin was not produced until 1935 – a coin commemorating King George V. See James A. Haxby, *Striking Impressions: The Royal Canadian Mint and Canadian Coinage* (Ottawa: Royal Canadian Mint, 1986), for the broader history.

¹⁴ A computational photography technique. Further explanation can be found further in the section: *Understanding RTI*. See pp. 7-10 below.

symbols and designs remain silent in key ways about who and what they neglect in their storytelling. However, through visual and material investigations such as with RTI, the narrative and “banal” power of commemorative coins can be revealed and in turn undone. In performing a close reading with RTI we become active participants in narrating national symbols and stories instead of passive recipients of state imaginings.

This project is informed by and draws on Michael Billig’s theory of *Banal Nationalism* (1995). Billig posits that nations, particularly those in the West, are not static, but rather on-going projects in need of continuous reproduction. Moreover, he states that this reproduction is not limited to loud and vibrant iterations, but present in small, daily and banal processes.¹⁵ Billig expounds that citizens of a nation are reminded daily of their place in the nation and among nations but that “this reminding is so familiar [and] so continual, that it is not consciously registered as reminding.”¹⁶ It is this ability to go unnoticed that makes these symbols (i.e. flags, currency, stamps etc.) banal and easily accessible when required to draw a nation together for efforts such as war, elections, commemorations and so on. Moreover, in noticing these symbols, or as W.J.T. Mitchell suggests in *What Do Pictures Want? The Lives and Loves of Images* (2005), asking them what they want, we need to read and perform with these coins in a new way. In order to recognize and read for each coin’s banal power we need to read closely and read slowly. Thus, through our examination of the relationship between the Canadian nation-state and commemorative coins, I endeavour to analyze the stories embedded in the symbols and designs etched onto these coins. Using Benedict Anderson’s *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (1986), specifically his argument for

¹⁵ Michael Billig, *Banal Nationalism* (London: Sage, 1995), 5.

¹⁶ Billig, *Banal Nationalism*, 7.

community furthering a strong sense of horizontal comradeship¹⁷ and Billig's banal nationalism, I position coins at the intersection of these theories and analyze them as tangible markers of dominant national narratives as well as myths in Canada.

From a practical and methodological approach my research emphasizes the value and importance of investigating materiality and coins through close reading. Here, my project furthers the framework of digital materiality referenced in Sydney Shep's chapter, "Digital Materiality" as performative. Shep posits that the experience of and relationship with an object (i.e. a coin) is born from our interaction with it.¹⁸ This understanding of digital materiality as performative and relational in meaning-making is best defined by Dr. Johanna Drucker when she states, "what something *is* has to be understood in terms of what it *does*, how it works within machinic, systemic, and cultural domains."¹⁹ Thus, in my research each coin's materiality is not lost, but rather translated and examined in a new way with Reflectance Transformation Imaging (RTI). Through these RTI models, I layer the six coins with new meaning and a new materiality that reinforces and expands their previous functions as currency and markers of the nation. In this secondary function (i.e. as RTI models) their materiality is accessible to readers and researchers alike in a participatory and performative method of analysis. In this way my RTI models and my investigations of digital materiality can be produced and performed by my audience through a Web RTI Viewer. Therefore, RTI not only operates as a method of visual investigation it also functions as a performance of digital materiality.

¹⁷ Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London: Verso, 2006).

¹⁸ Sydney J. Shep, "Digital Materiality," in *A New Companion to Digital Humanities*, eds. Susan Schreibman, Ray Siemens, and John Unsworth (New York: John Wiley & Sons Inc.), 386-396.

¹⁹ Johanna Drucker, "Performative Materiality and Theoretical Approaches to Interface," *Digital Humanities Quarterly* 007, no. 1 (July 1, 2013), paragraph 4.

Extending my material investigations of coins even further, I turn to Vasileios Balaskas' recent study of materiality, iconography and numismatics.²⁰ Here, Balaskas positions coins as material markers of the nation they represent and as objects imbued with social and economic value. Balaskas regards coins as social agents, representative of the nation's authority and relationship with their own histories.²¹ In short, coins have power and this power rests in their visual characteristics and their ability to be used uncritically.²² This highlights the intricate relationship between a nation's coins and a nation's narrative identity. The power of commemorative coins then rests on this dynamic of displaying a relevant and collective system of national symbols. Thus, in order to represent and brand the nation as a whole, the iconography represented on coins must be immediately recognizable and possess a strong enough association with the national imagination.²³ Commemorative coins by their very nature are tied to and invested in the narration of a shared national past and future. All of which is dependent on a coin as a material object that must be used and the relationship between those who created it and those who use it.²⁴

The visual power of coins and their ties to the nation can also be identified through the coin production process. Indeed, the final designs struck on all coins must be approved by the government itself, or its agents.²⁵ In this way, the requirement of government approval for final designs highlights the active role played by the state in

²⁰ Vasileios Balaskas, "The Iconography of a Nation: Materiality and Coin Production in Twentieth-Century Greece," *Journal of Modern Greek Studies* 37, no. 2 (2019): 215-35.

²¹ Balaskas, "The Iconography of a Nation," 217-8.

²² Balaskas, "The Iconography of a Nation," 232.

²³ Balaskas, "The Iconography of a Nation," 219.

²⁴ Balaskas, "The Iconography of a Nation," 220.

²⁵ Haxby, *Striking Impressions*, 8.

determining the social and national value of coinage.²⁶ While these coins *reflected* on a national past and *designed* a national future, in order to do so effectively, they needed to depict stable and dominant national themes. As Balaskas writes: “The selection of coin iconography is based on the quest for national stability and the creation of a successful brand image. Decorative patterns entangle people in things and in the social projects those things entail, generating some form of social dependency.”²⁷

While previous studies of commemorative coins have focused on commemoration and national histories or broadly on the history of currency, the aim and approach of this project is to merge these investigations of coinage—continuing where James A. Haxby left off in 1986²⁸—through a visual and digital analysis with Reflectance Transformation Imaging (RTI). Using RTI as a method of investigation, my research and analysis asks the following questions of millennium coins: What image or vision of Canada is being constructed? Whose voices and experiences are included/excluded? How does RTI enhance our examination? What new meaning is gleaned from performing this close reading of coins? And how does asking these questions change the power dynamic and relationship we have with commemorative coins?

Understanding RTI

Reflectance Transformation Imaging, or RTI for short, refers to “a computational photography technique”²⁹ used to capture information about objects and materials in the three-dimensional world. Invented in 2001 by Tom Malzbender, of Hewlett-Packard (HP)

²⁶ Balaskas, “The Iconography of a Nation,” 223.

²⁷ Balaskas, “The Iconography of a Nation,” 224.

²⁸ Haxby, *Striking Impressions*, xi.

²⁹ Jacqueline F. DiBiasie Sammons, “Application of Reflectance Transformation Imaging (RTI) to the Study of Ancient Graffiti from Herculaneum, Italy,” *Journal of Archaeological Science: Reports* 17 (February 2018): 184.

Labs,³⁰ RTI is an application that enhances the surface and shape perception of objects through digital photographs. RTI can generally be described as a three-step process: capturing images, processing a texture map, and visualizing the RTI model.³¹ By capturing a sequence of photographs—approximately 30-60 in total—of a fixed object under constant conditions but varying light positions, an RTI model can be built. However, in order to achieve optimal results, the object must never move, the camera angle and position must be unchanged throughout the process, and the light source must illuminate the object from as many directions as possible. RTI requires this luminance or lighting technique in order to recognize the surface normal³² and synthesize this data into its virtual representation: “When an object is illuminated from different directions, the reflection patterns of each segment of the surface are captured in the corresponding pixel of each photograph and subsequently, through a set of mathematical calculations made by RTI software [...] the normals are identified.”³³ Thus, information captured in the normal—via varied lighting—allows the RTI Builder to discern the topography of the object and replicate it digitally. How this information is conveyed depends on the method used by the researcher: the dome method or the Highlight method.³⁴

³⁰ Originally known as Polynomial Texture Mapping (PTM). *Reflectance Transformation Imaging: Glossary of Photographic and Technical Terms for RTI* (Cultural Heritage Imaging: 2014), 8.”

³¹ Silvia N. Manrique Tamayo, Juan Valcarcel Andres, and Julia Osca Pons, "Applications of reflectance transformation imaging for documentation and surface analysis in conservation," *International Journal of Conservation Science*, 4 (2013): 539.

³² *Reflectance Transformation Imaging: Glossary of Photographic and Technical Terms for RTI* (Cultural Heritage Imaging: 2014), 9. The mathematical term for the directional vector that is perpendicular to the surface of an object at a specific point. Reflectance Transformation Image (RTI) software calculates the surface normal at each point of an object, using information derived from the lighting angles at each pixel in each of a series of images. Normal information, in the form of surface shape, is included along with color information for each pixel in the resulting RTI image. This enables viewer software to show the surface shape of the subject in great detail.

³³ Manrique Tamayo, Andres and Pons, "Applications of reflectance transformation imaging," 537.

³⁴ Eleni Kotoula and Maria Kyranoudi, "Study of Ancient Greek and Roman Coins Using Reflectance Transformation Imaging," *E-Conservation Magazine*, 25 (2013): 76.

I selected the Highlight method for this project which allowed easier capture and required less equipment. Highlight RTI operates in a similar fashion to the aforementioned process except it requires the use of glossy black spheres. Equipment for this method includes, “a digital SLR camera, a tripod, a light source and a glossy black sphere, whose dimension is relative to the size of the object under examination.”³⁵ Once the images are captured, stored, and uploaded to the RTI Builder software,³⁶ the data processing begins. Users select the image set for the model, identify the black spheres in a single image, and recognize the highlight on those spheres in order for the software to execute sphere and highlight detection. Once detected, the RTI Builder will “calculate the exact position of the light source by identifying the position and angle of the specular highlight reflected on each of the black spheres,”³⁷ and apply it to all files in the image set. Lastly, users must choose to crop and fit their model. Using the PTM or the Hemispherical Harmonics (HSH) fitter, the RTI Builder will complete the fitting and produce in polynomial texture map or reflectance transformation imaging format (*.ptm or *.rti).³⁸

The RTI model produced by RTI Builder, in essence, becomes an interactive image where viewers can manipulate light conditions and rendering filters in order to examine the object closer.³⁹ This interactivity permits viewers to analyze and amplify surface details of the object as if it were under continuous raking lights.⁴⁰ Because RTI

³⁵ Kotoula and Kyranoudi, "Study of Ancient Greek and Roman Coins," 76.

³⁶ Developed in 2006 by the University of Minho and the Cultural Heritage Institute.

http://culturalheritageimaging.org/What_We_Offer/Downloads/RTI_Hlt_Capture_Guide_v2_0.pdf

³⁷ Manrique Tamayo, Andres and Pons, "Applications of Reflectance Transformation Imaging," 540.

³⁸ Kotoula and Kyranoudi, "Study of ancient greek and roman coins," 77.

³⁹ DiBiasie Sammons, "Application of Reflectance Transformation Imaging (RTI)," 186.

⁴⁰ Manrique Tamayo, Andres and Pons, "Applications of reflectance transformation imaging," 537.

models contain data at a pixel level the RTI Viewer can retrieve the 3D data and display it in a 2D space as if it occupied a space in the 3D world.⁴¹ By moving the mouse cursor around the light controller (a large circular area towards the right of the model in RTI Viewer) users can see the object at ‘high noon’ when positioned in the center and at the ‘horizon’ when positioned towards the outer edge of the object. This explains why some angles reflect brightly while others are much darker.⁴²



Figure 1: RTI Viewer with cursor positioned in light controller at Northeastern horizon. RTI screenshot capture. May 4, 2020.

RTI and Millennium Coins

The study of coins, particularly the process of displaying and documenting them, has been a complicated and arduous process for many. Indeed, their principal metallic and reflective characteristics, not to mention their size, has made it difficult to replicate the

⁴¹ Mark Mudge, Jean-Pierre Voutaz, Carla Schroer, and Marlin Lum, “Reflection Transformation Imaging and Virtual Representations of Coins from the Hospice of the Grand St. Bernard,” Presented at the 6th International Symposium on Virtual Reality, 2005, 30.

⁴² Mudge, et al., “Reflection Transformation Imaging and Virtual Representations,” 30.

experience of hands-on examination when studying the aesthetic features of coins.⁴³ With RTI, the 2D (sometimes referred to as 2.5 dimensions) image displays just as much, if not more, information than can be seen under physical examination—due in part to its ability to capture surfaces without loss of data.⁴⁴ Therefore, when analyzing coins visually and materially, RTI enables a more thorough and accessible examination.

To create my RTI models I spent four months testing the capture process with various research assistants. My supervisor and I experimented with the intensity of the light, the exposure and focus settings of the camera, as well as the type of coins under observation. The camera (a Canon 5D Mark II with a 50 mm macro lens, f-stop of 3.5 and 400 ISO) was mounted on a copy stand without the accompanying lights, and a portable light with barn doors attached (Feliix brand, 5K light, set at full intensity on the colour white) was used to illuminate the coins. The reflective black spheres (black bracelet beads purchased at Michael's Craft Store) were 14mm in size and stabilized by a hole in the middle. The light was manipulated by my research assistant before each photographic capture and the distance (25 inches in length) was confirmed by string to ensure consistency between shots. Each image was then captured remotely by triggering the camera attached to my computer (using Canon's EOS Utility Program).

Every coin was photographed an average of 30-40 times with the light positioned at various points in order to create a "virtual light dome" or 'umbrella coverage'.⁴⁵ Photographs were captured along four axes in the following directions: north/south, east/west, northwest/southeast, and southwest/northeast. Setup of the equipment required

⁴³ Mudge, et al., "Reflection Transformation Imaging and Virtual Representations," 30-1.

⁴⁴ Mudge, et al., "Reflection Transformation Imaging and Virtual Representations," 37-8.

⁴⁵ DiBiasie Sammons, "Application of Reflectance Transformation Imaging (RTI)," 187.

five to ten minutes and the shooting took approximately fifteen to twenty minutes per coin. The equipment setup is key to producing optimal models but is also discernible in the final RTI image. In the end what the RTI Builder captures is the coin and its situation in relation to the light, the room and me. This is perhaps most noticeable in the failed and blurry models created during the trial stage.

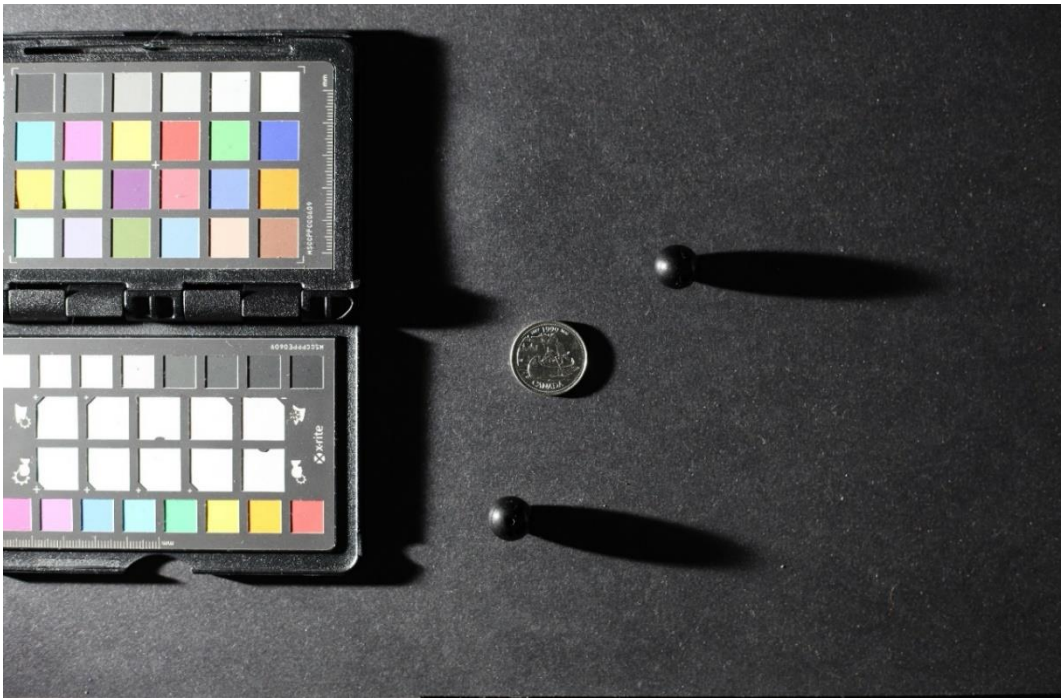


Figure 2: An unedited image of the RTI coin capture process. *The Voyageurs*, May 1999. Coin capture. February 21, 2020.

The final six RTI models provide a different way of viewing coins for visual analysis. With the default rendering mode, viewers can see the various elements of the coin's design competing for attention (i.e. dents, reliefs, reflection, etc.) which is not normally experienced with direct physical examination. Moreover, through manipulation of the simulated light source viewers are provided with an experience that is familiar to holding a coin up to a light or turning it around in their hands. With the specular enhancement rendering mode, available in the offline version, of which photos are

provided throughout this essay, the models provide an opportunity for close reading and immersion into the coin design. In working with these RTI models under specular enhancement, we are provided with more detail and texture as well as the ability to enhance our vision by zooming in to see and analyze specific aspects of the coin under analysis.

Myths of the Wilderness

Designed by Marjolaine Lavoie of Québec, *The Log Drive* depicts “the courage and valiant contribution of the raftsmen to Canada’s development and prosperity.”⁴⁶ The design features an unidentified raftsman at work sending logs down river. The background setting is difficult to discern and contains no recognizable landmarks or signifiers of location. In fact, this was the goal.⁴⁷ In order to make this coin resonate with Canadians it needed to be devoid of geographic references. The coin, then, becomes a synecdoche, where the raftsman, is both familiar and unfamiliar to its audience, allowing the landscape to stand for the whole of Canada, and making it possible for all Canadians to have a stake in this story. Carol Payne expresses this point in her examination of landscape photography and portraiture, particularly those painted by the Group of Seven: “Specific terrains come to stand in for the whole—not only the whole of an industry, such as the lumber industry, or a particular region of the country, but often the entire country.”⁴⁸ This coin also speaks to the log driver’s enduring place in popular culture,

⁴⁶ “Millennium Coins: March 1999,” Royal Canadian Mint, last modified June 18, 2000, <https://web.archive.org/web/19991201072651/http://www.rcmint.ca/en/millennium/millenniumcoins/1999march.html>.

⁴⁷ Royal Canadian Mint, “Millennium Coins: March 1999.”

⁴⁸ Carol J. Payne, *The Official Picture: The National Film Board of Canada’s Still Photography Division and the Image of Canada, 1941-1971* (Montréal, Québec: McGill-Queen’s University Press, 2013), 116.

particularly in reference to Wade Hemsworth’s folk song “The Log Driver’s Waltz”.⁴⁹ Written in the 1950s and adapted into a *National Film Board* (NFB) Canadian Vignette in 1979, the log driver holds a special place in the memories of Canadians across multiple generations. The log driver is ultimately understood as a character to be celebrated as strong, capable, and irresistible to women.



Figure 3: *The Log Drive*, March 1999. RTI screenshot capture under specular enhancement. February 24, 2020.

Entrenched in colonial narratives of nation-building, this coin celebrates the lumber industry and the settlers who dominated and controlled Canadian trade. Certainly, lumber, considered by some to be a staple, was a key industry for many parts of British North America in the nineteenth century. As part of his *Staples Thesis*,⁵⁰ Harold Innis argues that the exploitation of specific industries (i.e. fur, lumber, wheat, cotton, meat)

⁴⁹ *Canada Vignettes: Log Driver’s Waltz*, directed by John Weldon (Montreal: National Film Board of Canada, 1979), video.

⁵⁰ Here, I refer to Harold Innis’ theory as a point of reference and a method of framing the ways in which the lumber industry and other early forms of capitalism have been valued and prioritized.

acted as a catalyst for major economic and infrastructural developments in the nineteenth century such as railroads, trade networks and canal systems.⁵¹ While Innis' Staples Thesis is helpful in conceptualizing Canadian history, it is important to recognize its limits and its reliance on a colonial framework of narration. Peter C. Van Wyck describes this best when he laments about Innis' inability to move beyond his Western framework of knowing, and explains that there are some things that Innis simply cannot see.⁵² In this way, we can acknowledge the power of these early industries and recognize the familiar colonial references to the Staples Thesis as a popular representation etched onto Canadian specie, without normalizing it as the only or inevitable narrative of the nation. This is reflected in almost half of the 1999-coin designs selected, as many drew on a past that explicitly referenced colonial activities such as logging, building national railways, displaying a "pioneer" spirit, opening up the North with airplanes, and the arrival and the "exploration" of the voyageurs.

The Voyageurs coin, designed by Sergiy Minenok, "depicts voyageurs and an aboriginal guide paddling a canoe through the Canadian wilderness along a shoreline of rock outcrops and trees [...]."⁵³ Minenok, a professional artist and recent emigrant from Kiev, Ukraine, previously found artistic success at home, having had his art featured on a stamp and on commemorative coins in Ukraine.⁵⁴ Admitting that the initial design inspiration came to him via popular culture in his childhood, such as novels written by James Fenimore Cooper and other forms of popular culture, Minenok, had a romanticized

⁵¹ Harold A Innis, *Staples, Markets, and Cultural Change: Selected Essays*, ed. Daniel Drache (Montreal: McGill-Queen's University Press, 1995), 21.

⁵² Peter C. Van Wyck, "Innis and I on the Highway of the Atom," in *Harold Innis and the North: Appraisals and Contestations*, ed. William Buxton (Montréal & Kingston: McGill-Queen's University Press, 2013), 348.

⁵³ Robert Aaron, "Journeys of the Voyageurs Recalled," *Toronto Star*, May 15, 1999.

⁵⁴ Royal Canadian Mint, "Winnipeg Launches Canada's May 25-cent Coin."

understanding of Canadian history and the voyageurs.⁵⁵ Although he claimed to have conducted research to guarantee the accuracy of his design aesthetically, his belief that “being new to the country was an advantage in developing his winning design because it allowed him to view our cultural icons, such as the Voyageurs, with fresh unbiased eyes,” falls flat.⁵⁶ His depiction of the voyageurs is anything but original, it is reminiscent of many nineteenth century artists—especially Frances Anne Hopkins’ *Shooting the Rapids* (1879),⁵⁷ however Hopkins’ canoe is decidedly larger. Minenok’s coin design is therefore situated within familiar, hegemonic, and colonial narratives of exploration, the fur trade, and adventurism.



Figure 4: *The Voyageurs*, May 1999. RTI screenshot capture under specular enhancement. May 19, 2020.

⁵⁵ “The Voyageurs,” Royal Canadian Mint, last modified June 18, 2000, <https://web.archive.org/web/19991201085906/http://www.rcmint.ca/en/millennium/millenniumcoins/1999may.html>.

⁵⁶ Royal Canadian Mint, “Winnipeg Launches Canada’s May 25-cent Coin.”

⁵⁷ See Appendix C for a picture of *Shooting the Rapids* by Frances Anne Hopkins (1879).

Shifting our attention to the narratives conveyed by *The Log Drive* design and *The Voyageurs* design, we can see that both coins rely heavily on myths of the wilderness. *The Log Drive* design is situated within national narratives of development and effectively represents Canadian notions of abundant natural resources and the wilderness. Building on this narrative of development, *The Voyageurs* design relies on a romanticized history of the voyageurs and their accomplishments, particularly that of thriving in the unknown and moving through nature by ‘befriending’ Indigenous communities.⁵⁸ The trope of landscape as a marker of identity and the obsession with depictions of Canada as vast untouched wilderness are themes that run through both coins and are best described by John O’Brian’s term “wildercentrism”. O’Brian defines this as the inextricable link between Canadian national identity, northern geography, and the climate.⁵⁹

The construction of wildercentric narratives is present in both designs, visually, through absence. The absence of people and the emphasis on the individual is clear in *The Log Drive* coin. There are no other loggers, raftsmen, or signs of settlement. The raftsman is caught in motion—his work is on-going. He becomes a synecdoche for the other settlers that we know exist but cannot see. The singular raftsman can be further understood as part of another common landscape narrative: man and his ability to conquer the wild, explore the land, and trade its resources. Similarly, *The Voyageurs* coin depicts active conquest and “exploration” by using this canoe and the individuals paddling as an example of navigating the wilderness. The Canadian Shield, vaguely

⁵⁸ Caroline Podruchny, *Making the Voyageur World: Travelers and Traders in the North American Fur Trade* (Toronto: University of Toronto Press, 2006), 1.

⁵⁹ John O’Brian, “Wild Art History” in *Beyond Wilderness: The Group of Seven, Canadian Identity, and Contemporary Art* ed. John O’Brian and Peter White (Montreal: McGill-Queen’s University Press, 2017), 31.

recognizable in the background of the coin comes to signify the wilderness that is yet to be “explored” and made known to the voyageurs. The land in this image is uninhabited too. The only people that exist in this frame are people who move *through* the land, instead of people who live on or with the land. In both coins, nature is rendered savage, and wild—it is in need of taming.⁶⁰ This understanding of the environment fits into the common Western ideal of “wilderness” that views Indigenous systems of land management as insignificant and unworthy of acknowledgement within a framework of settlement and occupation.⁶¹ Thus, the raftsmen, settlers, and voyageurs in general are likened to “explorers”, toiling and struggling valiantly, alone, in the pursuit of future prosperity. Their “courageous” struggles earn them admiration and tie their labour, or grit, to Canadian nation-building.

This imagery and ideology of “exploring” and navigating the “unknown” is tied specifically to the symbol of the canoe in Canada. *The Voyageurs* coin, then, furthers our reading of the wilderness myth by perpetuating the ideology of the canoe. Although Canadian art and culture is known for its continual appropriation of Indigenous iconography to tell stories of national becoming and development, in this instance the canoe symbolizes the tenuous relationship between Canadian and Indigenous stories and symbols. Daniel Francis explains that in a Canadian context, the canoe, while a tired symbol, “emerges as the mother image of our national dreamlife, the symbol of our oneness with a rugged northern landscape, the vessel in which we are recreated as

⁶⁰ O'Brian, “Wild Art History,” 26.

⁶¹ Nigel Dudley, *Authenticity in Nature: Making Choices about the Naturalness of Ecosystems* (Abingdon, Oxon; New York: Earthscan, 2011), 13.

Canadians.”⁶² In a sense, the canoe signifies for many Canadians a transformation of the land and of their identities from British to Canadian, which is entirely colonial, but also tied closely to Canadian experiences, culture and leisure activities. The canoe then functions as a means for settlers to perform rituals such as tourism and sport, as well as a statement of rights to the land and its transformation.⁶³ This appropriation of Indigenous land and cultural activities is what made many colonists feel that their new identity was distinct from Americans and the British.⁶⁴ Indeed, many colonists believed that they could make Indigenous cultural practices and activities Canadian, through the systematic repetition, organization, and “modernization” of activities such as sports, clothing, and travel.⁶⁵ By and large, it is this notion of “elevation” that fuels myths of the wilderness and colonial conceptions of development and civilization.

In order to understand the erasure of Indigeneity in Canada we must understand the logic of imperial expansion. Kylie Crane describes imperial expansion best when she notes that in order to imagine nature as conquerable, and in-human, settler-Canadians must also understand “[I]ndigenous peoples of territories into which imperial forces advanced [...] as passive, as resources, [and] as manageable.”⁶⁶ The logic of imperial expansionism then relies on a specific understanding of the wilderness as confined to the physical environment and as Jonathan Bordo argues, is dependent on a narrow structure of existence that requires “both the marginalizing of [Indigenous] presence from the land

⁶² Daniel Francis, *National Dreams: Myth, Memory, and Canadian History* (Vancouver: Arsenal Pulp Press, 1997), 128-9.

⁶³ Jessica Dunkin, *Canoe and Canvas: Life at the Encampments of the American Canoe Association, 1880-1910* (Toronto; Buffalo; London: University of Toronto Press, 2019), 50.

⁶⁴ Gillian Poulter, *Becoming Native in a Foreign Land: Sport, Visual Culture and Identity in Montreal, 1840-85* (Vancouver: UBC Press, 2009), 1; 5.

⁶⁵ Poulter, *Becoming Native in a Foreign Land*, 6.

⁶⁶ Crane, *Myths of Wilderness in Contemporary Narratives*, 12.

and the disappearance of [Indigenous] presence from representation.”⁶⁷ This means that *The Log Drive* design not only centers a Canadian colonial narrative through its allusion to the wilderness, but it also perpetuates myths of landscape wilderness in order to visualize this *memory* as nationalistic.

Turning now to a material examination, I use RTI to ask new questions of *The Log Drive* coin by examining data loss, wear and tear and texture. When first loaded in the RTI Viewer software, viewers may notice a lack of clarity until the light is focused. The coin is difficult to view due to the simultaneous perspectives of information captured and represented by the software that are competing for the viewer’s attention—most of which are not commonly visible during interaction with a physical coin. If anything, the viewer has a harder time reading this coin when the simulated light source is positioned at high noon. However, once the light position is moved towards the horizon (in any direction) the coin is instantaneously legible. Furthermore, close examination of this coin reveals its surface as grainy and marked or scuffed. This may be a result of the striking process in which circulation coins are only struck once and therefore less clearly defined. Or perhaps this is due to the finish of the coin as circulation coins tend to have a less glossy finish which makes them cheaper but often less easily captured. *The Log Drive* coin was struck for circulation, which means that it is susceptible to more dents and scratches on the surface than a numismatic coin made of different material and struck multiple times would be.

⁶⁷ Jonathan Bordo, "Jack Pine – Wilderness Sublime or the Erasure of the Aboriginal Presence from the Landscape," *Journal of Canadian Studies/Revue d'études canadiennes* 27, no. 4 (1992): 122.

Under the specular enhancement filter,⁶⁸ RTI captures data that would normally be lost through photographic examination and data that might go unnoticed through direct coin examination (i.e. depth). What we gain with RTI is information about the coin's use (signs of wear and tear) as well as the ability to make minute details and 3-D layers accessible through different senses (i.e. physical attributes like dents, reliefs and gradients can be investigated visually instead of tactilely).

Visually we can discern the differences between the foreground, the middle ground, and background. The materiality of the raftsmen's clothing and the environment also becomes clearer with this close examination—most of which is lost or clouded during traditional photographic investigations. Through RTI, we can see that the raftsmen are wearing what looks like suspenders (the straps visible down the middle of his back), a t-shirt with rolled up sleeves, tall work boots, and a hat. Looking closer at his physical attributes we can infer his strength due to his muscular body and his role of driving logs down river. The RTI technique invites new interpretations and examination of *The Log Drive* coin by presenting depth, both literally and figuratively, to the stories, details, and materiality of the coin design. It enables us to immerse ourselves in, and to fully see, the coin design as a snapshot of a scene that might have occurred—it reanimates the raftsmen and removes the “noise” or distractions of the coin's materiality such as dents, contrast, and blurriness.

⁶⁸ *Reflectance Transformation Imaging: Glossary of Photographic and Technical Terms for RTI*. Cultural Heritage Imaging, 2014, 9. “An image enhancement technique that yields improved perception of surface shape by photographically acquiring the reflectance functions of a surface, extracting per-pixel surface normals from these reflectance functions, and then rendering the resultant surface with added specular highlights computed from the surface normals.”

While *The Voyageurs* coin design is also very detailed and enriches visual readings aesthetically, it makes it difficult to read the coin materially without a great deal of energy and manipulation. Under the default view in RTI Viewer, the depth of the design is instantly recognizable. The canoe appears to be gliding across the water's surface and the voyageurs and Indigenous guide are in relief, raised away from the rock formation and trees in the background. Moreover, by manipulating the simulated light source across the surface of the coin, paying close attention to the background, we can see that the rock formations and trees are texturally different—raised in some areas, indented in others—enhancing the reader's ability to imagine the shoreline. However, it is the specular enhancement filter that encourages viewers to engage in a close reading of this design.

With specular enhancement many of the fine details of the coin, only visible when the simulated light source is positioned near the edge, come into focus. We can make out the faces of two paddlers—a strong jaw line, a beard and sideburns, a nose, eyes, and mouth—their clothing, and their accessories. These details become more discernible under this filter, particularly the texture on the canoe, intentional and unintentional, and the symbol on the front of the canoe. Known for their distinctive dress, and described thoroughly in the Royal Canadian Mint press release accompanying the coin launch, the voyageurs are often identified simply by their clothing: “They wore loose fitting shirts (usually red), deerskin leggings, deerskin moccasins without stockings, and breeches that left part of the leg exposed.”⁶⁹ While Minenok's design is not in colour, viewers can still recognize the paddlers' loose fitting shirt, fur hat, feather headwear indicating their

⁶⁹ Royal Canadian Mint, "Winnipeg Launches Canada's May 25-cent Coin."

position in the canoe, and what looks like a sash (tied around the first paddler's waist), an iconic accessory often differing by region.⁷⁰ In recognizing the voyageurs' clothing, viewers can make assumptions about the weather and the time of year imagined by the designer. With these visual details, RTI enables viewers to engage closer and more critically with this design, in this case the size of the canoe requires our attention. The canoe itself is quite small, only carrying three people, which is not an ideal number for portaging or carrying packs: could these figures be symbolic of Métis, First Nations and French communities? If not, what is the purpose of having three people in the canoe? Where might they be going?

By performing this close reading of *The Log Drive* coin and *The Voyageurs* coin we can problematize dominant narratives of the logging industry and the fur trade while engaging critically with Canadian history. Through this engagement we de-stabilize and unpack familiar Canadian notions of the wilderness and its association with national development and prosperity. So, what is at first glance, a commemorative coin celebrating the log drive, now becomes an entry point into broader discussions of colonialism, Indigenous erasure, deforestation, and national pride. And what is originally, a commemoration of the voyageurs' legacy becomes a means through which to critique the legacy itself of the voyageurs as adventurers, nation-builders, and "sons of the wilderness" exploring via canoe.⁷¹

Through reading these details we are encouraged to attempt to situate both coins and their designs geographically and historically. By seeing the suspenders, the details of the river/trees, and a shoreline reminiscent of a Group of Seven painting, we are primed

⁷⁰ Royal Canadian Mint, "Winnipeg Launches Canada's May 25-cent Coin."

⁷¹ Podruchny, *Making the Voyageur World*, 10.

to be curious, as we endeavour to locate where in Canada this is and to determine the identity of the raftsman (ethnic or otherwise). Where is this river? Is the raftsman Canadian? Or is he British? Could he in fact be French? Where is his community? Why should we relate to him? How are we connected to him? Is he intended to represent all Canadians? Likewise, by encountering the voyageurs through their iconic canoe backgrounded by the Canadian Shield, we are encouraged to ask more of this coin and its contradictory locale. Where is this canoe exactly? Which part of the Canadian Shield—Ontario, Quebec, Nunavut, Newfoundland,⁷² the Northwest Territories, Manitoba, Saskatchewan—is depicted here? And how else could we encounter the voyageurs outside of canoeing or portaging? Could this coin have commemorated voyageurs through Métis communities or trade with Indigenous communities?

The active re-lighting of these coins is what enables us to analyze them critically and to reveal this banal nationalistic power. Through manipulating the simulated light source and independently choosing how to view the coin, my audience is invited to participate in this process of de-stabilizing the narratives of both coins. The control and the reading then rests in the hands or manipulation of the simulated light source by the viewer. Under conventional investigations of these coins, in the 3-D form or in a typical 2-D photograph, much of the analytic power is pre-determined by the coin itself or the photographer who captured the image.

Alternatively, through RTI and in enabling viewers to manipulate the RTI models as they wish, their materiality and narrative ability can be questioned and viewed collaboratively. When performing this relighting, viewers, myself included, are

⁷² There were no voyageurs in Newfoundland.

performing their analysis on the coin based on the angles and degrees by which they position the simulated light source. This means that in choosing to re-light these coins viewers can critically engage and perform with them, instead of continuing to carry them around in their pocket as spare change doing their ‘banal’ nationalistic work in the background. Thus, this close investigation or reading against the grain, is facilitated using RTI. This performative process then enables us to reveal the specific banal nationalistic power of these commemorative coins (i.e. narratives of perseverance, surviving and thriving in the wild, befriending Indigenous communities, and developing peacefully or benevolently) and encourages us to challenge their narration and deny their ability to be exchanged uncritically and inconspicuously.

Resisting Colonial Myths

Designed by the famous Inuit artist, Kenojuak Ashevak, the April 1999 coin “Our Northern Heritage” celebrates Inuit art.⁷³ The release of this coin also coincided with the inception of Nunavut as a Canadian territory on April 1, 1999. Unique for many reasons, the story behind this coin is two-fold, as it was not submitted by the artist herself. The winning submission to the Centsation campaign was an idea proposed by Emmanouil Kats, a Toronto resident and recent immigrant from St. Petersburg, Russia, who wanted a design to feature the work of Kenojuak Ashevak specifically.⁷⁴ The design itself was adapted from another well-known piece in Ashevak’s portfolio, “The Enchanted Owl”. Featuring two animals superimposed onto each other: an owl and a bear, this coin is

⁷³ *Heritage Minutes: Kenojuak Ashevak*, directed by Tess Girard and Ryan J. Noth (Toronto: Fifth Town Films, 2016), video.

⁷⁴ Royal Canadian Mint, "The April Coin Reflects Our Northern Heritage," *Toronto Star*, April 2, 1999.

steeped in Inuit tradition and meaning. The owl is a symbol of wisdom, while the bear is symbol of power and kindness.⁷⁵



Figure 5: *Our Northern Heritage*, April 1999. RTI screenshot capture under specular enhancement. February 24, 2020.

Offering a unique perspective into Crown-Indigenous relations and Canadian myths of the North, this coin celebrates a distinctly Inuit story. While Indigenous erasure is common in Canadian artwork and often in conversations about national pride, *Our Northern Heritage* is positioned at the intersection of myth and memory. For many southern Canadians, understandings of the North are filtered through politics and popular culture. Politically, the North has been constructed similarly to myths of the wilderness, in that it has been eyed with imperial expansionism.⁷⁶ For much of the nineteenth and

⁷⁵ Royal Canadian Mint, "Iqaluit, Nunavut Launches Canada's Newest Millennium Coin Image Celebrates Inuit Art and Culture," *Canada NewsWire*, March 30, 1999.

⁷⁶ Nancy C. Doubleday, "Sustaining Arctic Visions, Values and Ecosystems: Writing Inuit Identity, Reading Inuit Art in Cape Dorset, Nunavut," in *Presenting and Representing Environments*, eds. Graham Humphrys and Michael Williams, Geo Journal Library, v. 81 (Dordrecht: Springer, 2005): 173-74.

twentieth century Canadians did not consider the Arctic, or what we now understand as the North, to be part of Canada, but rather as a frontier that had not been explored yet.⁷⁷ Here, I refer directly to a 1946 publication by Lester B. Pearson identifying the North as the new Canadian frontier, replacing the drive to “Go West!” and arguing that northern development would bring the North out of “the blurred and shadowy realm of northern folklore.”⁷⁸ While this was not the first expression of northern expansion or mystery—which can be traced back to imperial exploits in the mid-1800s—it was not the last either.

Since the mid-twentieth century, Inuit art has been understood by many Canadians as a unique and “accurate” representation of Inuit peoples as well as synonymous with a Canadian art form and identity. Regulated paternally by the Government of Canada and various departments from as early as the 1920s, Indigenous art, particularly Inuit art, has become popular domestically and internationally (i.e. souvenirs at tourist sites, official gifts to foreign dignitaries, the Canadian pavilion at Expo ‘67, and even the Vancouver 2010 Olympics).⁷⁹ This relationship can be traced back to shifting perspectives of Canadian identity during the mid-twentieth century. The struggle to identify as a nation independent from Britain and the United States is what drove much of Canada’s identity struggles in the twentieth century and is precisely why

⁷⁷ Janice Cavell, “The Second Frontier: The North in English-Canadian Historical Writing,” *Canadian Historical Review* 83, no. 3 (Toronto: University of Toronto Press, 2002): 364-5.

⁷⁸ L. B. Pearson, “Canada Looks Down North,” *Foreign Affairs (Pre-1986)* 24, no. 000004 (07, 1946): 638; 642.

⁷⁹ Leanne S. Pupchek, “True North: Inuit Art and the Canadian Imagination,” *American Review of Canadian Studies* 31, no. 1–2 (June 2001): 201-02; Nelson H. H. Graburn, “Authentic Inuit Art: Creation and Exclusion in the Canadian North,” *Journal of Material Culture* 9, no. 2 (July 2004): 144. “Inuit arts and crafts would be rendering a service to the nation by replacing the inauthentic souvenirs from other countries with authentically Canadian examples. This attempt to call upon the Inuit and their arts as metonyms of everything truly Canadian is repeated later in history [...]”; Colette St-Onge, “Symbols of Authenticity: Challenging the Static Imposition of Minority Identities Through the Case Study of Contemporary Inuit Art,” (master’s thesis, University of Ottawa, 2012), 12.

Inuit art appeals to many. Pupchek links this desire for community stability with the positioning of “Inuit art as an appropriate rhetorical resource for national identity,” which also affirmed it as a desirable method of national expression.⁸⁰ Art can then be understood as a way of creating and stabilizing the nation, thus as Inuit art comes to represent Inuit communities and is considered “authentic” to their lifestyle, traditions, and experiences, it was also co-opted as an “original” art form springing up from within Canadian boundaries.

If Inuit art is so closely entwined with Canadian identity, how do we reconcile myths of the North that focus solely on resource extraction, perceived spirituality (i.e. God’s country, legends etc.) and untouched or insignificantly settled landscapes? What should we make of Ashevak’s coin design? Ashevak deliberately chose to adapt a previous work, the “Enchanted Owl,” and included another animal, a bear. Her design locates northern heritage in living beings rather than attaching it to land and chooses to celebrate Nunavut and the North through animals, both imbued with specific meanings in her culture. Ashevak’s depiction of Northern heritage is not about possessing or extracting resources from the land, it is about the wisdom imparted by animals. The North in her eyes is about the power and kindness of animals. Indeed, the heritage she refers to, understands the North as anything but barren land and carves out a space for the North as a tangible place instead of being synonymous with Canada as a whole.

Appearing as though she designed this coin with a specific audience in mind, the Inuit, her design potentially places non-Indigenous peoples in Canada outside of this commemoration. The coin reclaims the North, Inuit heritage and maybe even Inuit art.

⁸⁰ Pupchek, “True North,” 205.

This reclaiming is especially clear in the coin's title, "Our Northern Heritage" and in Ashevak's signature in Inuktitut. Who does this possessive pronoun represent? Whose heritage is this? And how should our reading be informed by the co-celebration of this coin launch with Nunavut's recognition as an independent territory? The mere existence of this uncertainty and ambiguity in reading creates a gap in meaning that should not be ignored. If we read against the grain of the millennium commemoration can we imagine a more nuanced vision and relationship with the North? At the very least, this coin offers its audience an opportunity to extend the history and heritage of the North beyond the last millennium and beyond the borders of what we know as Canada today.

Materially, the *Our Northern Heritage* coin design is beautifully intricate and instantly recognizable as a product of Kenojuak Ashevak's meticulous handiwork. Given that Ashevak's work is often created through carvings and metal plates, her design translates quite well onto a coin and stands out in the millennium series for its cohesive design and easy readability. Unlike other coins selected for the 1999 and 2000 campaigns, *Our Northern Heritage* lends itself to quick identification and recognition without any distracting or extraneous details. All of these qualities enhanced the RTI capture process of this coin by making it easier to highlight and focus on the design more clearly. In RTI Viewer, the detailed design and texture is visible before using the specular enhancement filter. The differing textures and the depth of the design stand out the most when the light controller is positioned along the x and y axes towards the edge of the horizon. This positioning allows for shadowing along the edges of the owl and bear's heads, backs, and feet, that highlights these elements in relief from the coin itself and provides depth to the animals.

Moreover, when viewed under the specular enhancement filter, the texture and materiality of this coin becomes even clearer. Not only is the texture of the surface revealed (i.e. scratches surrounding the outer edges of the coin), but so too is the texture of the design enhanced. Under this material and specular interrogation, it is easy to appreciate the intentionality and care that Ashevak must have dedicated to this design. The stamping texture becomes more evident through RTI analysis as the manipulation of light reflects and refracts off different grooves and points etched on the coin. Ashevak's background and experience in metallic work stands out particularly because of the layers of each animal's features (i.e. the owl's beak and feet; the bear's snout) and the sharpness of her design. The stillness and flatness of *Our Northern Heritage* is also worth mentioning, particularly in juxtaposition to the movement and the division of space (i.e. a foreground, middleground, and background) present in the colonial designs examined previously. Ashevak's design not only resists mythic representations of the North through grounding her design in Inuit culture, but it also resists western notions of art, linear narrative, and perspective.

In seeing and acknowledging the details of Ashevak's work up close, viewers are encouraged to ask questions about the generative process, as well as the compositional aesthetic. What tools did she use to create these textures? How did she superimpose the forms of both animals? Why are these animals superimposed? What is revealed or rather gained through RTI analysis of *Our Northern Heritage* is the physicality and style of the design. This close reading and the nuances of Ashevak's design parallel the ways in which this coin can be understood as resisting hegemonic depictions and myths of northern-ness in Canada. Her design is filled with texture, depth and imbued with Inuit

knowledge such as wisdom, power, and kindness. When read together, these components allude to the complexities of Inuit lifestyles, traditions, and stories. Just as RTI brings us closer to understanding the materiality of this coin, so too does this design bring us closer to understanding and potentially de-stabilizing narratives of the North as simple, monolithic, unimportant, and inherently Canadian.

The Nation Imagines Itself

In the subsequent campaign, submissions focused on designing a Canadian future. Each coin featured an original design and accompanying values such as ingenuity, pride, health, community etc. This iteration of the millennium campaign showcased the imagination and optimism these designers had for Canada future, such as freedom, celebration, achievement etc. The three coins under examination from the 2000-series, *Designing Our Future*, are the *Creativity*, *Community*, and *Family* coins. All three coins highlight the values of Canadians at the end of the millennium and their visions of the future. Although intended to focus on the future, some of these designs are rooted squarely in the past.

The *Creativity* coin, also known as “Expressions for All Time,” is another millennium coin specifically dedicated to Canadian artwork. Although somewhat confusing, this highly detailed and interconnected design was intended as a testament to Canadian art forms across generations. From left to right we can see a canoe filled with a significant amount of people, a twisting tree that transforms into a wire-frame pattern at its base, and finally, a tall totem pole-esque figure made entirely out of the same wire-frame pattern. When read as a whole, the *Creativity* coin looks very similar to *The Voyageurs* design with its non-descript locale and the individuals paddling in the canoe.

While this coin is positioned in the future it is closely linked to, and entrenched in, myths of the wilderness and in the relegation of Indigenous communities to the historical past instead of the present or future.



Figure 6: *Expression for All Time*, October 2000. RTI screenshot capture under specular enhancement. February 24, 2020.

Designed by 22-year-old University of Waterloo Engineering student, Eric (Kong Tat) Hui, this coin celebrates Canadian creativity throughout three millennia. According to a Royal Canadian Mint press release, the canoe and the paddlers are said to pay tribute to “the strong spirit of our native Canadians [which] is portrayed on the faces of an Inuit sculpture.”⁸¹ This representation situates Indigenous cultures and Inuit art specifically, in the past, or rather the first millennium of Canadian history. The twisting tree that transforms into a wire-frame pattern at the bottom is representative of another, or

⁸¹ Royal Canadian Mint, "Royal Canadian Mint Launches 25-Cent Creativity Coin – Coin Captures Canadian Artistic Expression," *Canada NewsWire*, October 4, 1999.

second millennium of Canadian art: the Group of Seven. The style is reminiscent of the jack pine tree commonly depicted in Group of Seven paintings and is said to reinforce “the importance of self-identity in artistic expression.”⁸² With this reference to the Group of Seven, Hui equates an entire millennium of Canadian art with the work of a group of white men whose influence was far-reaching, but only produced art together for roughly a decade. And the third millennium is meant to be forward-looking so as to highlight the art form of the future: computer technology.⁸³ All three millennia blur into each other, connecting from left to right, implying the passage of time and a cohesive relationship from “millennium to millennium” and from one art form to another. While this coin claims to be forward-looking it is the second coin in the entire series that features a canoe and directly links it with Indigeneity in Canada. This stands in stark contrast with the designs created by Indigenous artists in this series: they did not choose a canoe to represent themselves or their communities.⁸⁴

Although confusing to read initially, the details of the *Creativity* coin, particularly the faces of the paddlers and the unknown totem pole-esque figure, become easier to separate from the rest of the design through RTI analysis. Here, RTI does not enhance our viewing of the design as a cohesive picture, but instead enables a more thorough engagement with each element of the design independently. Designed as discrete representatives of Canadian art throughout “the millennia” but positioned as one picture, RTI presents a unique opportunity to deconstruct the blending of art forms on this

⁸² Royal Canadian Mint, "Royal Canadian Mint Launches 25-Cent Creativity Coin."

⁸³ Royal Canadian Mint, "Royal Canadian Mint Launches 25-Cent Creativity Coin."

⁸⁴ Of the 24 designs selected for both campaigns of the Millennium Coin contest only 3 artists are Indigenous: Kenojuak Ashevak, Wade Stephen Baker, and Jason Edward Read. See Appendix B for details on all the designers.

coin. Changing the rendering mode to specular enhancement and zooming in 200% on the bottom left of the *Creativity* coin, we can re-light it specifically for the purposes of enhancing our ability to see the canoe and Inuit paddling. I have positioned the simulated light source (in the green light controller) in the upper left quadrant or along the North-West axis to create contrast and see the details of the canoe and paddlers. Under this lighting, we can examine the faces of the paddlers and begin to determine their features.



Figure 7: Fullscreen view of *Expression for All Time*, October 2000. RTI screenshot capture under specular enhancement. June 18, 2020.

The first paddler appears to be wearing a hat of some sort that fits closely to their head. Examining their arm further we can see a flannel or plaid-like texture with an elbow patch. In the front of the canoe there appears to be a long-haired figure using binoculars or a spyglass. This figure might be looking at the terrain around them or into an unseen and unknown wilderness, their gaze is truly undetermined. However, a close reading of this individual might also imagine it as signifying a forward look to the future

given the individual's gaze and the way their canoe overlaps with the wire-frame on the right. Shifting our gaze toward the left, away from the person with binoculars, there appears to be someone holding an oblong object: maybe a flute or a spear? These figures are designed ambiguously and never elaborated on by Hui, the designer. Directly underneath the previous figure we can see two faces without bodies—could this be a way to indicate their status as children? The answer is unclear. If this is the case, we might also see the two paddlers at the back of the canoe as older or more mature than the two disembodied heads. Thus, through reading closely, we can use RTI to see and read each person in the canoe individually.

Moving forward in time and to the center-right of the *Creativity* coin, we can see the jack pine tree, a clear reference to the Group of Seven. What is unique about this part of the coin design is the jack pine's ability to signify themes of creativity, nationalism, and wilderness. The jack pine can be read independently from the other two millennia of art etched on the coin, but also in tandem with the totem pole-esque figure and the canoe. In terms of composition, the placement of the tree in the middle, with its branches extending left to the past and its trunk sprouting from the right in the future, positions the Group of Seven as an intermediary art form. It also raises the question of whether the jack pine or the art it broadly signifies—landscape art—has a place in the future. Is landscape art and the Group of Seven solely positioned in the past? And if this is the case, what implications does this logic have on the position of Indigenous and Inuit art in Canada? Or, is it possible to use this very same “logic” to read against the grain of the *Creativity* coin? What meaning can be drawn through analyzing the overlap of the wire-frame pattern connecting the first two millennia with the third or digital millennium? Is this

coin truly imagining the future in a creative way, or is it simply rehashing historic biases and power structures?

Through Hui's description and the visual narrative conveyed by the *Creativity* coin, this design is steeped in mythic and colonial ideals of Indigenous communities and Canadian art. Hui's design situates Inuit art as an old or outdated style of Canadian creativity by organizing his design as a linear evolution of creativity that is continually replaced by a newer style (i.e. the Group of Seven and then computer technology). However, this construction of Canadian creativity undermines the work of Indigenous and Inuit artists that continue producing art every day, especially Ashevak's *Our Northern Heritage* design. Hui's design automatically associates "pastness" with Indigeneity which is mythic and problematic to say the least.

In this way the *Creativity* coin perpetuates myths of the North, myths of the wilderness, and myths of Indigenous cultural stasis: the idea that Indigenous peoples and their customs, art, lifestyles, and cultures are static and outdated. This trope or myth as defined by Robin Jarvis Brownlie constructs and positions Indigenous peoples "outside [of] history and renders them as mere relics of an earlier stage of human development that were doomed to be superseded by those who had taken their land."⁸⁵ The key assumption at the core of this coin and Hui's interpretation of Canadian creativity, is that Indigenous artwork and symbols are synonymous with Canadian creativity, but Indigenous peoples are not. Much like the landscape artwork of the Group of Seven that endeavours to link Canadian-ness with the wilderness—as seen in *The Log Drive* coin, and the *Voyageurs*

⁸⁵ Robin Jarvis Brownlie, "First Nations Perspectives and Historical Thinking in Canada," in *First Nations, First Thoughts: The Impact of Indigenous Thought in Canada*, edited by Annis May Timpson (Vancouver, BC: UBC Press, 2009), 21-2.

coin—the *Creativity* coin works within this framework and envisions a future that is predicated on hegemonic and colonial myths of cultural progress and superiority.⁸⁶ This exclusion and erasure of Indigenous artists in the narrative of this design is further compounded by the erasure of Indigenous peoples from the very landscapes depicted in Group of Seven paintings.

This becomes clear when examining Hui’s imagination of what creativity looks like in the future: it *still* looks like appropriation of Indigenous labour, symbols, and stories. The future element of this coin, described in the Mint’s press release, is superficial and ignores the nuances of the design itself, claiming only that it was “rendered in wire-frames to reflect Canada’s leading role in computer technology as the art form of the new millennium.”⁸⁷ Given that the first two millenniums depicted are described in great detail, the stark lack of description for the future millennium stands out. Where the coin and its designer become reticent, RTI analysis brings us closer to understanding and unpacking the meaning embedded visually in this coin.

Although the official coin description, released by the Royal Canadian Mint, does not specify what this wire-frame structure is, I would be remiss if I did not acknowledge its likeness to a totem pole. Using RTI, we can deconstruct the wire-frame structure and analyze each element in order to understand its meaning visually. In identifying the wire-frame structure as a vertical pole, given its circular structure and width, it becomes difficult to understand this structure as anything other than a totem pole. Continuing upwards, we encounter what looks like wings and a bird’s beak, which are key features of totem poles designed by and for settler tourism. Aaron Glass, a Professor of

⁸⁶ Brownlie, “First Nations Perspectives,” 21.

⁸⁷ Royal Canadian Mint, “Royal Canadian Mint Launches 25-Cent Creativity Coin.”

Anthropology, elaborates on this stereotype in an interview with *The Tyee*, in 2011: “[T]he most reproduced variation [of a totem pole] is a relatively short pole with a Thunderbird or Eagle displaying outstretched wings on top of a Bear holding a person. This type of pole was statistically incredibly rare on the coast.”⁸⁸ Furthermore, this “Thunderbird” or “Eagle” motif, clearly featured on the *Creativity* coin, is indicative of the broader system of commodification and appropriation of Indigenous cultures as national symbols. It is this disconnect that normalizes colonial violence and divorces totem poles from their meaningful and specific contexts.⁸⁹ Thus, the narrative of the *Creativity* coin only becomes recognizable through a close RTI reading of its relationship to previous myths of the North and the wilderness, meaning that the future envisioned by this coin is predicated on the continued appropriation of Indigeneity in Canada.

Similarly, the *Community* coin relies on a collective imagination of Canada’s future that is predicated on a misguided understanding of its national and colonial past. The future it envisions for Canada is global in nature—it literally depicts Canada at the center of the world. Surrounding the world are eleven icons, moving in a clockwise direction starting at the noon position, that appear to be: an apartment building, flowers, a hot air balloon, an airplane, a house, a tree, more flowers, a Canadian flag, a fish, an apple, and a butterfly. In this imagining of Canada, we are encouraged to read this coin and in turn the nation, as playing a major role in the global community. This shift in perspective, from internal or nationally focused values to external or internationally focused values, is especially clear when examining the order in which the last two

⁸⁸ Heather Ramsay, “Totem Poles: Myth and Fact,” *The Tyee*, March 31, 2011.

⁸⁹ Isabelle Lefroy, “Justice Beyond Legalism: Cultural Appropriation of Totem Poles on the Pacific Northwest Coast,” *Revue Québécoise De Droit International* 12, (2019): 79.

millennium coins were released: the *Strong and Free* coin in November 2000 and the *Canada in the World* coin in December 2000. This shift from imagining at home to imagining abroad, happens in the span of one month and encourages Canadians to share the freedoms they have at home with the rest of the world (i.e. Canadian values and mores).



Figure 8: *Canada in the World*, December 2000. RTI screenshot capture under specular enhancement. February 24, 2020.

Although positioning Canada at the center of the world, this design is representative of a specific type of community: global citizenship. According to April Carter, four common characteristics of global citizenship include: ethical commitments to treat all individuals fairly and humanely; a recognition of one's identity and the universality of being human; an understanding of universal moral law and the obligation to respect the rights of others; and, the willingness to support collective goals and be a

part of a shared international political community.⁹⁰ This last characteristic is often associated with calls to action by movements aimed at racial and gender inequities, poverty and preserving the environment. However, global citizenship can also be understood through an adage made popular in the 1990s and featured on an Earth Day (1990) poster: think globally - act locally.⁹¹ The *Community* coin represents these values visually through icons of the environment (a tree, an apple, a butterfly, a fish, and flowers), travel (an airplane and a hot air balloon), and local community (an apartment building and a house).

Textually, this adage is underscored by the Mint's official description which claims that the design is representative of "Canada's continuing leadership and contributions to the global community."⁹² The *Community* coin's description reads like an excerpt from a youth's History textbook, to whom programs and discourses regarding global citizenship were often directed in the 1990s and 2000s. Thus, upon learning that this coin was designed by a child, 12-year-old Michelle Thibodeau, we can begin to understand the relationship between banal nationalism, global citizenship, and youth education. Thibodeau, then becomes an example of the far-reaching power of banal nationalism as she not only understood and articulated Canada's perceived role in the global community, but she had also clearly encountered and absorbed banal nationalism in her classroom and everyday life. Undeniably, the more we question the designer and

⁹⁰ April Carter, "Historical Origins of Global Citizenship" in *Globalization and Global Citizenship: Interdisciplinary Approaches*, eds. Irene Langran and Tammy Birk (Taylor & Francis Group, 2016), 13-24.

⁹¹ Earth Day 1990 is indicative of this value system and global citizenship as it was one of the first successful events celebrated worldwide. The Earth Day poster can be viewed here: <http://collections.museumca.org/?q=collection-item/2010543584>.

⁹² *Millennium Canada Millénaire 2000 (Topographic Map of Canada Version)*. Ottawa: Royal Canadian Mint, 2000. Oval Collector Coin Board.

meaning inscribed on this coin, the more we reveal the contradictions present in understanding community as a Canadian value and practice: What exactly is Canada being lauded for achieving or doing specifically? And what is gained by shaping the narrative in this way?

For much of the late twentieth century, young Canadians understood their place in the global community through peacekeeping, acting as neutral intermediaries, and operating as a soft/middle power. These imaginings are reciprocal in nature because the way Canada imagines itself is often confirmed by its successful communication to and acceptance by the global community. In this sense, I refer to the power of Canada's international image in reflecting and reinforcing a sense of Canadian identity domestically that is predicated on their perceived roles, mores, and values based in community-building and multiculturalism.⁹³ Much like how Canadian art simultaneously subsumes and excludes Indigenous art in order to claim it as its own in the *Creativity* coin, so too does this reflection of *Canada in the World*. This is evident through the ways in which imagining Canada as a benevolent, peacekeeping, and soft power country, obscures the very lethal and deleterious colonial legacies it has and continues to support at home and abroad. The system that permits the relegation of Indigenous peoples to the past or outside of history writ large, is the same system that enables Canada and Canadians to imagine themselves at the forefront of peacekeeping and community-building. In this way, the myth presented by the *Community* coin has everything to do with how Canada perceived itself at the turn of the millennium and previously—it is a reflection what many wanted Canada to be at the time. So, what this coin asks its

⁹³ Evan H. Potter, *Branding Canada: Projecting Canada's Soft Power through Public Diplomacy* (Montreal: McGill-Queen's University Press, 2014), 4.

audience to do, is to forget or ignore all the ways in which Canada is complicit in the same or similar colonial and imperial acts as the nations it is lauded for intervening on behalf of and protecting.

We can unpack this myth through RTI, by visually and materially engaging with each aspect of the *Community* coin. Positioned directly in the middle, this design features a raised circle with a map of Canada clearly defined. In recognizing the map of Canada and the icons/imagery surrounding it, we can draw parallels to the familiar visuals of humanitarian projects—such as *Hands Around the World* and *United Nations* relief projects and funds—that this circle is indeed meant to symbolize the world or global community. What stands out the most about the *Community* coin under RTI investigation is the style of this design. Each icon on the coin, excluding the precise etching of Canada's landmass appears to be drawn in a child-like or amateur style, which was part of the global citizenship appeal of the 1990s. In Canada, global citizenship, particularly in the 1990s and 2000s, was directed at youths in classrooms across the country and called on them to inspire change at local and global levels.⁹⁴

In switching to specular enhancement mode in the RTI Viewer and zooming in 200% we can examine the design style and materiality of this coin further. Through active re-lighting and continuously moving the simulated light source to suit our desired point of examination, we can achieve two feats: simulating the effect of the sun setting/rising around the world, which enhances the visual experience of the coin, and second, we can better determine the different textures and depths of each icon and the

⁹⁴ A prime example of the appeal of global citizenship to Canadian youths is *ME to WE*, formerly known as *Free the Children*. Founded in 1995 by 12-year-old Craig Kielburger, it went on to become a staple in Canadian classrooms regarding global citizenship and doing good abroad. It is also a prime example of the naiveté of global citizenship, given *ME to WE's* recent and on-going history of harm and scandal.

outline of the Canadian map. After identifying the icons surrounding the world, the design appears to be more confusing than before. How do these icons relate to Canada in the world? Perhaps the hot air balloon and airplane might symbolize connection to the global community? Do the floral and nature-based icons represent Canada's role in environmental stewardship? After identifying the icons around the world, we are left with more questions than answers about the design and its description.

When read together, the *Creativity* coin and the *Community* coin work to uphold and construct a narrative of Canada as a nation built on multiculturalism, peacekeeping, and unity. However, through a critical examination of these coins with RTI, we can reveal these narratives for what they are, half truths. Yes, these designs are included in the 2000 campaign and meant to imagine the future, but they are not as futuristic as they could be. Although the *Creativity* coin is situated in the past, the only way it visually conveys futurity is through the design of the totem pole-esque figure. In using a wire-frame pattern, Hui illustrates the future he envisions with computer technology. His design implies a linear progression of time, from left to right, that could be imagined as continuing with new decades and millenniums of creativity added over time. In contrast, the *Community* coin does not convey futurity visually. If anything, Thibodeau's design captures an understanding of global citizenship and community that looks to the past and the present (i.e. 1999). In description and design, the *Community* coin focuses on the present and never acknowledges the future or expresses the concept of time, except in its placement within the 2000 campaign which is forward-looking. The meaning imbued in the coin, however, does imply futurity in its framing and suggestion that Canada's present values should be adopted globally, so Canada's present would then become the world's

future. Although their imaginings of the future are different, it is through reading them together that we can understand their similarities. Both coins represent Canada's contributions to the world as leaders in computer and design technology, and as contributors to global community-building. Together with our close reading of these coins under RTI, we can question these designs and the importance of the myths being conveyed at home and abroad. In recognizing the allusions to global citizenry and multiculturalism made by both coins, viewers are encouraged to read for contradictions and question how these designs truly represent the values ascribed to them. What are we being asked to ignore? If we celebrate Canada's contributions to the global community as benevolent and peaceful, we can easily ignore its subpar reputation for addressing these issues at home.⁹⁵ And, if we celebrate Canada's creativity and leading role in computer and design technology, we can begin to ignore its role in erasing, appropriating, and assimilating cultural differences. In this case, close reading with RTI encourages us to become aware of the contradictory ways in which the nation presents itself to its citizens and demands that this imagination be recognized as flawed.

Subverting the Nation

Inspired by an ancient family crest, the millennium coin for August 2000, *The Ties That Bind*, was designed by Squamish artist Wade Stephen Baker.⁹⁶ In keeping with the theme for the 2000-campaign of millennium coins, Baker's design represents a value that he hoped Canadians would carry with them into the new millennium: family. Baker

⁹⁵ Recent reports such as the *United Nations Declaration for the Rights of Indigenous Peoples* (2017) and *Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls* (2019) illuminate Canada's inability and unwillingness to address the genocide and human rights violations perpetuated throughout and preceding its development as a country.

⁹⁶ Cheryl Petten, "Work of Squamish Artist Graces Millennium Coin," *Raven's Eye*, 2000.

described his design as a “tribute to the family, the fabric of Canadian society [...]” and outlined the significance of the two wolves as symbolizing togetherness.⁹⁷ A professional artist known for his work on totem poles, masks, drums, paintings and logos,⁹⁸ his design asserts a future for Indigenous peoples in Canada by rooting the value of family in his own family’s crest. Through linking the future of family in Canada with an Indigenous past, specifically his own family, Baker’s design resists the common myth of Indigenous cultural stasis.



Figure 9: *The Ties That Bind*, August 2000. RTI screenshot capture under specular enhancement. February 24, 2020.

While Baker’s design resists mythic portrayal it also subverts familial norms and national imaginations of what family means in Canada. This subversion of the nation is subtle and important, particularly because it is almost imperceptible without paying

⁹⁷ *Millennium Canada Millénaire 2000 (Topographic Map of Canada Version)*. Ottawa: Royal Canadian Mint, 2000. Oval Collector Coin Board.

⁹⁸ Petten, “Work of Squamish Artist.”

attention to the relationship between what is said and what is left unsaid. W.J.T. Mitchell touches on this precise tension when he asked: what do pictures want? Mitchell outlines that pictures have desires and the desire of the picture is unique from the desire of the artist.⁹⁹ In other words, what a picture *says* it is doing, is different from what a picture is *actually* doing. So, in claiming that his design is based on the value of family, but instead naming his coin “The Ties That Bind,” Baker embedded a tension into his design and its interpretation. Mitchell describes this tension as a source of power as it creates “a kind of flickering of alternate readings, one that leaves the viewer in a sort of paralysis.”¹⁰⁰

These alternate readings can then be understood as an opportunity to engage with the image in narrating its story, instead of accepting its narration and message at face value. And it is in this space of alternative reading that we question the type of family being represented on this coin because it is not a nuclear family structure at all. In this tension we then find space for new and alternative kinship networks that are at once familiar to many (i.e. Black communities, Queer communities, Indigenous communities etc.) and unfamiliar to others. So, in treating this coin as a picture we must ask it what it wants. And this coin may well want to be read with equal priority to the text that describes its intention. It may in fact be waiting to be asked what it wants and what its narrating.¹⁰¹

Being one of only two coins in the entire 2000 campaign, *Designing the Future*, that explicitly references Indigeneity,¹⁰² Baker’s design, *The Ties That Bind*, speaks to a

⁹⁹ W.J.T. Mitchell, *What Do Pictures Want? The Lives and Loves of Images* (Chicago: University of Chicago Press, 2005), 38.

¹⁰⁰ W.J.T. Mitchell, *What Do Pictures Want*, 45.

¹⁰¹ W.J.T. Mitchell, *What Do Pictures Want*, 47-8.

¹⁰² In the 1999-series, “Drawing on our Past,” five coins directly referenced Indigeneity in Canada.

broader conversation about Indigenous family structures and the importance Indigenous peoples writing their own stories. By participating in this future-oriented millennium series and drawing on his family's past, Baker subverted the nation and took history-writing into his own hands. His design can then be understood as part of an ongoing practice of Indigenous peoples producing their own histories and writing "themselves into new societies in their lands and [naming] and [documenting] the wrongs of colonization."¹⁰³ Through Baker's ability to imagine a future where family is valued, especially Indigenous families, his design encourages us to ask: How have Indigenous understandings of family and kinship been devalued? And by asking this question we can situate his design within a longer history of Indigenous resilience and resistance to colonial violence and familial disruptions. So, in order to see a future where Indigenous families are valued, Canadians must understand the legacies of colonization and the disruptive systems—blood-quantum policies, forced sterilization, the residential school system, and the Sixties Scoop, to name only a few examples of colonial violence—that this coin resists.

Like Ashevak's design, Baker's *Family* coin truly shines under RTI investigation, due in part to his familiarity with painting, carving and metal plates. The intricacy of his work and the relief of the design can be appreciated instantly by rotating the simulated light source in a circular motion, even before switching to specular enhancement mode. However, it is once again the specular enhancement mode that truly enables viewers to temporarily immerse themselves in the story and iconography of this coin. With even more surface information displayed, specular enhancement encourages us to imagine this

¹⁰³ Brownlie, "First Nations Perspectives," 23.

design as a wood carving or a brightly coloured painting. The balance created in the design through the mirroring of the two wolves creates a striking and clear picture to read with RTI. Here, we can examine the preciseness of Baker's work with the connection between the two wolves barely visible at the top of the coin where their noses meet. Moreover, in this close examination we see the alternate name for this coin depicted in the fusion or tying of the two wolves' tails together completing the reference to *The Ties That Bind*.



Figure 10: Fullscreen view of *The Ties That Bind*, August 2000. RTI screenshot capture under specular enhancement. June 29, 2020.

The closer we look with RTI, under specular enhancement, the more we see the minute and meticulous detail etched onto this coin. The style of the design appears mostly consistent, apart from the facial features which use finer lines than the rest of the body. This is especially clear when the simulated light source is positioned in the bottom left quadrant, roughly at the south-south-west position. From this angle the wolves' teeth and eyes are illuminated completely, further enhancing the shape and form of the wolves,

making them appear life-like. The wolf on the right even appears to be displaying emotion with a furrowed brow and bared teeth. But how does this serve our investigation? In taking the time to read this coin closely, we can imagine these wolves as three-dimensional, and we can ask new questions of these wolves: Why are they positioned in a circle? Are they protecting themselves or someone else? How are they related to each other? How do these wolves represent the designer's family? By working with RTI to read this coin we can read the value of family in new ways and push back against the official description of the *Family* coin. If we see family as something to be protected, as a tie that binds us physically, and as a value to be projected into the future, we can begin to see this coin as a unit of family. By bringing us closer to the design, RTI encourages us to question what lies beyond the frame of this coin and to imagine that there might be other wolves and other ways to represent this value.

While hegemonic understandings of family often rely on the nuclear family as the default, the *Family* coin resists and subverts this narrative. In ascribing the value of "family" to this coin, Baker's conceptualization of family is inadvertently recognized and legitimized as a valid type of family structure. And, in this expanding of the meaning of family, close readers can fill this tension between the description and the design with their own understanding of family. Undeniably, this coin presents an opportunity to acknowledge and read alternative kinship networks into the national imagination and the future. Thus, the *Family* coin maps out a future and a past for Indigenous and potentially, Black alternative kinship networks.

Conclusion:

Over the course of two years, the millennium coin campaigns captivated “Canadians and open[ed] doors to a broader community of collectors.”¹⁰⁴ Both Millennium campaigns captured the attention of thousands, many elated by the opportunity to design their own coin, and introduced more than 40,000 new clients to the Mint.¹⁰⁵ The widespread success of this program is reminiscent of the 1964 search for a new Canadian flag: Canadians had strong opinions and stories that they wanted to be heard. And, like the flag debate, the millennium coin campaigns provided an outlet for many Canadians, young and old, to reflect on their own identities and imagine their own futures. Indeed, each coin design submitted was an attempt at narrating a nation and a national experience. However, the designs featured on the 24 millennium coins are not as ingenuous as many would consider them to be. The aim of this project has been to examine and de-stabilize the power of numismatics to operate as material markers of banal nationalism. Essential to this understanding of banal nationalism and the millennium coin campaigns is the notion that to challenge the ways in which commemorative coins go unnoticed is to undo their power. To notice and debunk a coin’s re-telling of national colonial myths then enables us to encounter how a nation’s currency and memories support its claim to power and legitimacy.

From written description to RTI model creation, this project analyzes the materiality of commemorative coins and their reliability as narrators. In each case, when a myth was perpetuated by a coin it has been identified (i.e. myths of the wilderness and

¹⁰⁴ Canada, Royal Canadian Mint. *Change Your Perception: 2000 Annual Report* (Parable Communications, 2000), 5.

¹⁰⁵ Canada, *Change Your Perception*, 21.

the canoe, myths of the North, and myths of Indigenous cultural stasis), historicized and juxtaposed with another coin in the series that challenges it (i.e. *Our Northern Heritage* coin and *The Ties That Bind* coin). Returning to Dr. Johanna Drucker's point, cited in my introduction, in order to understand what something is, we have to know what it does and how it works within the domains and frameworks it occupies.¹⁰⁶ This means that in order to truly understand the power of commemorative coins, we have to be aware of the broader systems, domains, and frameworks they operate within—we have to understand how these coins mark the nation materially.

When left unchecked, these millennium coins tell a story of convenience—they tell stories of national becoming and national forgetting too. Consequently, it is through engaging critically via RTI that we shift from passive to active (i.e. memory to remembering). In this sense, remembering becomes an active engagement with, and a purposeful recalling of the nation and its colonial origins, instead of the passivity desired by banal nationalism. So, with RTI, we read for power and engage with the details that are meant to be skimmed. The more we engage with the banal power of these coins, the less stable their representations of the nation become. Thus, by uncovering the power at work in millennium coins we can disentangle ourselves from them and re-define how we interact with each coin.

The process of “slow viewing” or using RTI as a “digitally mediated method of investigation”¹⁰⁷ stands in contrast to how digital culture and digital humanities has normally understood the role of digital tools, particularly regarding distant reading. Indeed, this methodology has broader implications beyond this study and the field of

¹⁰⁶ Drucker, “Performative Materiality,” paragraph 4.

¹⁰⁷ Thank you to Drs. John Walsh and Shawn Graham for suggesting these terms/concepts.

numismatics. By encouraging viewers and researchers to engage in this study of the materials, concepts, sources, and theories, we can prioritize close qualitative analyses over broad quantitative studies/projects. This methodological approach has multiple and widespread applications in the fields of digital humanities and public history at large: in classrooms, museums, community-based projects, and online. What my research asks of my viewers and my colleagues is to engage with the banal as an entry point into deeper and more nuanced analyses. In performing their analysis in this way, researchers/readers can use this approach to question, unsettle, and identify the banal details that are often abandoned in the process of fast viewing, distant reading, and big data collection projects.

Through our insistence on this methodological approach, in this case with RTI, we are prompted to reconsider and reconfigure how we engage with our subject of study: we are forced view and analyze the familiar in an unfamiliar way. So, in re-lighting and insisting on a slow viewing of millennium coins, RTI destabilizes the power embedded in each coin design and transfers the power from the coin to the reader. In this way, the power lies in our ability to determine our own understanding and method of reading these symbols, in this case the designs, instead of allowing the symbols/stories to be defined for us. Thus, my project proposes a new methodology and invites others to rethink their means of engagement (i.e. where the simulated light source is positioned, which filters they use, reading the official description, questioning the meaning, and the design choices of each artist etc.).

Although this project serves as an entry point into the field, there is still more work to be done in the field of Canadian numismatics, specifically on coins. The Royal Canadian Mint is known world-wide for its numismatic designs, innovations, and

production of coins for other nations, but has rarely been the subject of critical analysis. While the international community can appreciate the work of the Mint in Canada, it is important that other scholars direct their research critically at Canadian specie. Perhaps in popularizing the field of numismatics in Canada, greater access to the Royal Canadian Mint's fonds and related archival material will also be facilitated.

In the grand scheme of nationalism, coins are about as everyday and banal as you can get. They are used to purchase goods, to start sports games, to scratch lottery tickets, and to make difficult decisions. But they are also used to tell stories of national importance and national becoming. They are banal and they are powerful. And it is about time that we started critically engaging with them and listening to what they have to say.

Bibliography

Primary Sources:

Millennium Canada Millénaire 2000 (Topographic Map of Canada Version). Ottawa:

Royal Canadian Mint, 2000. Oval Collector Coin Board.

Millennium Canada Millénaire (1785 Replica Map of Canada Version). Ottawa: Royal

Canadian Mint, 1999. Oval Collector Coin Board.

Secondary Sources:

Aaron, Robert. "Journeys of the Voyageurs Recalled." *Toronto Star*. May 15, 1999.

Anderson, Benedict. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. London: Verso, 2006.

Balaskas, Vasileios. "The Iconography of a Nation: Materiality and Coin Production in Twentieth-Century Greece." *Journal of Modern Greek Studies* 37, no. 2 (2019): 215–35. <https://doi.org/10.1353/mgs.2019.0016>.

Billig, Michael. *Banal Nationalism*. London: Sage, 1995.

Bordo, Jonathan. "Jack Pine — Wilderness Sublime or the Erasure of the Aboriginal Presence from the Landscape." *Journal of Canadian Studies* 27, no. 4 (January 1993): 98–128. <https://doi.org/10.3138/jcs.27.4.98>.

Brownlie, Robin Jarvis. "First Nations Perspectives and Historical Thinking in Canada." In *First Nations, First Thoughts: The Impact of Indigenous Thought in Canada*, edited by Annis May Timpson, 21–50. Vancouver, BC: UBC Press, 2009.

Canada. Royal Canadian Mint. *Change Your Perception: 2000 Annual Report*. Parable Communications, 2000.

<http://publications.gc.ca/collections/Collection/F71-2000E.pdf>

- Carter, April. "Historical Origins of Global Citizenship." In *Globalization and Global Citizenship: Interdisciplinary Approaches*, edited by Irene Langran and Tammy Birk, 13-24. Taylor & Francis Group, 2016.
- Cavell, Janice. "The Second Frontier: The North in English-Canadian Historical Writing." *Canadian Historical Review* 83, no. 3 (September 2002): 364–89.
<https://doi.org/10.3138/CHR.83.3.364>.
- Crane, Kylie. *Myths of Wilderness in Contemporary Narratives Environmental Postcolonialism in Australia and Canada*. Basingstoke: Palgrave Macmillan, 2012.
- DiBiasie Sammons, Jacqueline F. "Application of Reflectance Transformation Imaging (RTI) to the Study of Ancient Graffiti from Herculaneum, Italy." *Journal of Archaeological Science: Reports* 17 (February 2018): 184–94.
<https://doi.org/10.1016/j.jasrep.2017.08.011>.
- Doubleday, Nancy C. "Sustaining Arctic Visions, Values and Ecosystems: Writing Inuit Identity, Reading Inuit Art in Cape Dorset, Nunavut." In *Presenting and Representing Environments*, edited by Graham Humphrys and Michael Williams, 167-180. GeoJournal Library, v. 81. Dordrecht: Springer, 2005.
- Drucker, Johanna. "Performative Materiality and Theoretical Approaches to Interface." *Digital Humanities Quarterly* 007, no. 1 (July 1, 2013).
- Dudley, Nigel. *Authenticity in Nature: Making Choices about the Naturalness of Ecosystems*. Abingdon, Oxon; New York: Earthscan, 2011.

- Dunkin, Jessica. *Canoe and Canvas: Life at the Encampments of the American Canoe Association, 1880-1910*. Toronto; Buffalo; London: University of Toronto Press, 2019.
- Edwardson, Ryan. "The Many Lives of Captain Canuck: Nationalism, Culture, and the Creation of a Canadian Comic Book Superhero: The Many Lives of Captain Canuck." *The Journal of Popular Culture* 37, no. 2 (November 2003): 184–201. <https://doi.org/10.1111/1540-5931.00063>.
- Francis, Daniel. *National Dreams: Myth, Memory, and Canadian History*. Vancouver: Arsenal Pulp Press, 1997.
- Gilbert, Emily. "Forging a National Currency Money, State-Making and Nation-Building in Canada." In *Nation-States and Money: The Past, Present and Future of National Currencies*, 25–46. London: Routledge, 1999.
- Girard, Tess, and Ryan J. Noth, dir. *Heritage Minutes: Kenojuak Ashevak*. Toronto: Fifth Town Films, 2016. Video. <https://www.youtube.com/watch?v=wypPbnRee0Y>.
- Graburn, Nelson H. H. "Authentic Inuit Art: Creation and Exclusion in the Canadian North." *Journal of Material Culture* 9, no. 2 (July 2004): 141–59. <https://doi.org/10.1177/1359183504044369>.
- Haxby, James A., and Royal Canadian Mint. *Striking Impressions: The Royal Canadian Mint and Canadian Coinage*. Ottawa: Royal Canadian Mint, 1986.
- Innis, Harold A. *Staples, Markets, and Cultural Change: Selected Essays*. Edited by Daniel Drache. Montreal; Buffalo: McGill-Queen's University Press, 1995.

- Kotoula, Eleni, and Maria Kyranoudi. "Study of Ancient Greek and Roman Coins Using Reflectance Transformation Imaging." *E-Conservation Magazine* 25 (2013): 74-88.
- Lefroy, Isabelle. "Justice Beyond Legalism: Cultural Appropriation of Totem Poles on the Pacific Northwest Coast." *Revue Québécoise De Droit International* (12, 2019): 67-91.
- Manrique Tamayo, Silvia N., Juan Valcarcel Andres, and Julia Osca Pons. "Applications of Reflectance Transformation Imaging for Documentation and Surface Analysis in Conservation." *International Journal of Conservation Science* 4 (2013): 535-548.
- Mitchell, W. J. T. *What Do Pictures Want? The Lives and Loves of Images*. Chicago: University of Chicago Press, 2005.
- Mudge, Mark, Jean-Pierre Voutaz, Carla Schroer, and Marlin Lum. "Reflection Transformation Imaging and Virtual Representations of Coins from the Hospice of the Grand St. Bernard." Presented at the 6th International Symposium on Virtual Reality, 2005, 11 pages. <https://doi.org/10.2312/VAST/VAST05/029-039>.
- O'Brian, John, and Peter White, eds. *Beyond Wilderness: The Group of Seven, Canadian Identity, and Contemporary Art*. Second edition. Montreal: McGill-Queen's University Press, 2017.
- Payne, Carol J. *The Official Picture: The National Film Board of Canada's Still Photography Division and the Image of Canada, 1941-1971*. Montreal, Quebec: McGill-Queen's University Press, 2013.
- Payne, Michael. *The Fur Trade in Canada*. Toronto, ON: J. Lorimer, 2004.

- Pearson, L. B. "Canada Looks Down North." *Foreign Affairs (Pre-1986)* 24, no. 000004 (07, 1946): 638-647.
- Petten, Cheryl. "Work of Squamish Artist Graces Millennium Coin." *Raven's Eye*. 2000. <https://ammsa.com/publications/ravens-eye/work-squamish-artist-graces-millennium-coin>
- Podruchny, Carolyn. *Making the Voyageur World: Travelers and Traders in the North American Fur Trade*. Toronto: University of Toronto Press, 2006.
- Potter, E. H. *Branding Canada: Projecting Canada's Soft Power through Public Diplomacy*. Montréal: McGill-Queen's University Press, 2014.
- Poulter, Gillian. *Becoming Native in a Foreign Land: Sport, Visual Culture and Identity in Montreal, 1840-85*. Vancouver: UBC Press, 2009.
- Pupchek, Leanne Stuart. "True North: Inuit Art and the Canadian Imagination". *American Review of Canadian Studies* 31, no. 1–2 (June 2001): 191–208. <https://doi.org/10.1080/02722010109481590>.
- Ramsay, Heather. "Totem Poles: Myth and Fact." *The Tyee*. March 31, 2011. <http://thetyee.ca/Books/2011/03/31/TotemPoles/>.
- Reflectance Transformation Imaging: Glossary of Photographic and Technical Terms for RTI*. Cultural Heritage Imaging, 2014. PDF. http://culturalheritageimaging.org/What_We_Offer/Downloads/Capture/CHI-RTI-Glossary_v1.pdf
- Royal Canadian Mint. "The April Coin Reflects Our Northern Heritage." *Toronto Star*. April 2, 1999.

Royal Canadian Mint. "Celebrate the arrival of the new millennium." Last modified June 18, 2000. <https://web.archive.org/web/19990429023258/http://www.centsation.com/en/menu-en.html>.

Royal Canadian Mint. "Make your mark in history: Create a Centsation." *Toronto Star*. May 19, 1998.

Royal Canadian Mint. "Millennium Coins: March 1999." Last modified June 18, 2000. <https://web.archive.org/web/19991201072651/http://www.rcmint.ca/en/millennium/millenniumcoins/1999march.html>.

Royal Canadian Mint. "How to Participate." Last modified June 8, 2001. <https://web.archive.org/web/19990429035221/http://www.centsation.com/en/participation.html>.

Royal Canadian Mint. "Iqaluit, Nunavut Launches Canada's Newest Millennium Coin Image Celebrates Inuit Art and Culture." *Canada NewsWire*. March 30, 1999. <http://micro.newswire.ca/releases/March1999/30/c8472.html/26887-0>.

Royal Canadian Mint. "Royal Canadian Mint Launches 25-Cent Creativity Coin – Coin Captures Canadian Artistic Expression." *Canada NewsWire*. October 4, 1999. <http://micro.newswire.ca/releases/October2000/04/c9963.html/26887-0>.

Royal Canadian Mint. "The Voyageurs." Last modified June 18, 2000. <https://web.archive.org/web/19991201085906/http://www.rcmint.ca/en/millennium/millenniumcoins/1999may.html>.

Royal Canadian Mint. "Winnipeg Launches Canada's May 25-cent Coin – The Voyageurs – at Historic Junction of Red and Assiniboine Rivers". *Canada NewsWire*. May 3, 1999.

<http://micro.newswire.ca/releases/May1999/03/c0410.html/26887-0>.

Shep, Sydney J. "Digital Materiality." In *A New Companion to Digital Humanities*, edited by Susan Schreibman, Ray Siemens, and John Unsworth, 386-396. New York: John Wiley & Sons Inc., 2016.

St-Onge, Colette. "Symbols of Authenticity: Challenging the Static Imposition of Minority Identities Through the Case Study of Contemporary Inuit Art." Master's thesis, University of Ottawa, 2012.

The Voyageurs. Directed by Bernard Devlin. Montreal: National Film Board of Canada. 1964. Digital video. <https://www.nfb.ca/film/voyageurs/>

Van Wyck, Peter C. "Innis and I on the Highway of the Atom". In *Harold Innis and the North: Appraisals and Contestations*, edited by William Buxton, 326–53. Montréal & Kingston: McGill-Queen's University Press, 2013.

Weldon, John, dir. *Canada Vignettes: Log Driver's Waltz*. Montreal, QC: National Film Board of Canada, 1979. Video. https://www.nfb.ca/film/log_drivers_waltz/

Appendix A

Selection Committee - 1999 Millennium Coin Series	
Name	Background
Melissa Agostino	Was in her third year of studies in visual arts at York University in Toronto, Ms. Agostino is studying design and printmaking. She has participated in three group exhibitions and held her first solo exhibition of print-related work in January of 1998.
Daniel Thomas Fisher	Mr. Fisher began painting three years ago and he is currently pursuing his Bachelor of Fine Arts in Indian Fine Arts at the Saskatchewan Indian Federated College at the University of Regina.
David Floren	He has an English degree from the University of Victoria. He is currently studying studio-art at the University of British Columbia. His area of study includes photography, intaglio press and printed media.
Caroline Gilbert	She has a college degree in Social Studies and also holds a Bachelor of Arts in Public Communications. She is currently enrolled in the Graphic Design Program at l'Université Laval, Quebec.
Colette Glazebrook	She was a third-year student in the Design Program at the Nova Scotia College of Art and Design, majoring in Digital Communication. Also, Ms. Glazebrook obtained a diploma in Business Administration from the Halifax Business Academy in 1988.
Jan Noestheden	He was a fourth-year student in the Bachelor of Fine Arts Program at the University of Regina. Mr. Noestheden has displayed his work in two solo exhibitions and has participated in five selected group exhibitions.
Richard T. Haines	He holds a Bachelor of Fine Arts from Sir Wilfred Grenfell College (SWGC) School of Fine Arts. He specialized in photography and painting with a Minor in Art History.
Tanja Harrison	She studied Fine Arts and majored in Jewellery and Metals at the Alberta College of Art and Design in Calgary. In 1996, she was elected Vice- President Internal of the Alberta College of Art and Design Students' Association.
Terrence Howell	His interest in visual arts started with photography and has expanded into other areas such as sculpture and painting. He is currently enrolled in the Visual Arts Program at Sir Wilfred Grenfell College, where he continues to focus on photography, sculpture and painting including printmaking.
Masquel Lasserre	He was pursuing his studies in Fine Arts at Mount Allison University. At the age of 14, he completed his first publication in association with the American Forestry Service – 95 illustrations in a botanical field guide.
Corinne McNab	She was a student at the Saskatchewan Indian Federated College at the University of Regina and will graduate in the fall of 1999 with a Bachelor of Administration. Ms. McNab combined her minor in Indian Art with her Administration degree.
Dominique Rey	She was a third-year student in the Bachelor of Fine Arts Program at the University of Manitoba. Her main interests are painting, photography, sculpture, drawing and commercial drafting.

Selection Committee - 2000 Millennium Coin Series	
Name	Background
Matthew Power (YK)	He began drawing frequently during his teenage years and managed to take correspondence art classes beyond the grade 9 level to further his development. After high school, Mr. Power earned his certificate in Commercial Signwriting at the Northern Alberta Institute of Technology. He returned to the Yukon and has honed his skills, working on numerous murals and museum displays.
Keith Tam (BC)	His passion and enthusiasm for art earned him a spot in the Foundation Program at the Emily Carr Institute. He is currently in his second year of the communication design program at the Institute.
Melanie Iu (AB)	She graduated from the University of Alberta's Bachelor of Design program, with a major in Visual Communication Design, and a pathway in Business and Marketing. Ms. Iu has participated in three exhibitions in graphic design, painting, and book arts. She is also a student representative for the Graphic Designer's Society of Canada.
Ms. Donald-Haverty (MB)	Ms. Donald-Haverty is a graduate of the University of Manitoba, where she obtained her Bachelor of Interior Design. After many years of work in her field, she is broadening her experience and is currently attending the University of Winnipeg in their Stage and Costume Design program. Her art and design interests include printmaking, water colour, graphic design, and landscaping.
Bianca Colle (ON)	She is currently studying at the Ontario College of Art and Design, specializing in Graphic Design. She had the honour of being selected as a student delegate for this year's Alliance Graphique Internationale in which Canada is hosting this renowned event for the first time.
Alice Létourneau (QC)	She graduated from the Université du Québec Visual Arts program in 1999. While at the university, she was appointed to the Modular Council and contributed to the review of the visual arts undergraduate curriculum. Currently, she is pursuing her master's in visual arts and media.
Christine Lavoie (NB)	Was a recent graduate of the University of Moncton Visual Arts program. In 1997, she founded two businesses: an art gallery to promote the work of emerging young artists and Éxasolutions - a business that specializes in managing art and cultural projects.
Leyla Loughheed (PEI)	Was finishing her two-year Graphic Design program at Holland College in Charlottetown, PEI. She has also studied Graphic Design for four years in Venezuela where she reached the level of Junior Painter at the Museum of Contemporary Art. In December 1998
Laurie Dalton (NS)	She was in her third year of an honour's art history degree at Acadia University. Her interest in art began to grow in high school where she designed and created an extensive mural. During the current school year,
Marlene Davey (SK)	She was finishing an Indian Studies Honour's Degree at the Saskatchewan Indian Federated College in conjunction with the Department of Arts at the University of Regina. Ms. Davey also has a Bachelor of Arts in Native Studies.
Dean Whitebear (SK)	He was working towards a Bachelor of Arts in Indian Studies with a minor in Fine Arts at the Saskatchewan Indian Federated College. His future goals include working toward a master's degree in Fine Arts.
Allyson Stuckless (NFLD)	Her interest in art began in high school where her art teacher encouraged her to pursue the discipline. Ms. Stuckless is currently in the Bachelor of Visual Arts program at Sir Wilfred Grenfell College.

Appendix B

1999 Millennium Coin Series “Drawing on the Past”		
Month	Theme	Artist
January	A Country Unfolds	Peter Ka-Kin Poon
February	Etched in Stone	Lonnie Springer
March	The Log Drive	Marjolaine Lavoie (Sept-Iles, Quebec)
April	Our Northern Heritage	Kenojuak Ashevak (Cape Dorset, Nunavut)
May	The Voyageurs	Sergiy Minenok (Surrey, BC)
June	From Coast to Coast	Gordon Ho
July	A Nation of People	Maria H. Sarkany
August	The Pioneer Spirit	Alzira Botelho (Edmonton, AB)
September	Canada Through a Child’s Eye	Claudia Bertrand (10) (Beauport, Quebec)
October	A Tribute to First Nations	Jason Edward Read
November	The Airplane Opens the North	Brian R. Bacon
December	This Is Canada	J.L. Pierre Provencher

2000 Millennium Coin Series “Designing the Future”		
Month	Theme	Artist
January	Tomorrow Today (Pride)	Donald F. Warkentin
February	Building for Tomorrow (Ingenuity)	John Jaciw (Windsor, ON)
March	The Power to Excel (Achievement)	Daryl Ann Dorosz
April	Quest for a Cure (Health)	Anny Wassef
May	Our National Treasures (Natural Legacy)	Randy Trantau
June	Hand in Hand (Harmony)	Haver Demirer
July	Celebrating Our Future (Celebration)	Laura Paxton (13) (Thunder, Bay, ON)
August	The Ties That Bind (Family)	Wade Stephen Baker (Vancouver, BC)
September	The Legacy (Wisdom)	Cezar Șerbănescu
October	Expression for All Time (Creativity)	Eric (Kong Tat) Hui (Toronto, ON)
November	Strong and Free (Freedom)	Kathy Vinish
December	Canada in the World (Community)	Michelle Thibodeau (12) (St-Jean-sur-Richelieu, QC)

Appendix C

Hopkins, Frances Anne. "Shooting the Rapids," 1879. Oil on canvas, 91.4 x 152.4 cm.

(Library and Archives Canada, Gatineau, QC).



Appendix D

Accessing RTI models online: <https://mslafrenie.github.io/Heads-or-Tales/>. The six RTI models created for this project are accessible through my website.

Each coin studied in this project can be viewed through the webRTIviewer under the default rendering mode. In order to interact with the coins viewers should click on the lightbulb icon on the left side of the screen, this will turn on the simulated light source. Once this feature has been selected viewers can manipulate the light source or magnify the image however they choose.