

2017

Knotted numbers, mnemonics, and narratives : khipu scholarship and the search for the khipu code" throughout the twentieth and twenty first century"

Veronica Lysaght
University of Toledo

Follow this and additional works at: <http://utdr.utoledo.edu/theses-dissertations>

Recommended Citation

Lysaght, Veronica, "Knotted numbers, mnemonics, and narratives : khipu scholarship and the search for the khipu code" throughout the twentieth and twenty first century"" (2017). *Theses and Dissertations*. 2133.
<http://utdr.utoledo.edu/theses-dissertations/2133>

This Thesis is brought to you for free and open access by The University of Toledo Digital Repository. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of The University of Toledo Digital Repository. For more information, please see the repository's [About page](#).

A Thesis

entitled

Knotted Numbers, Mnemonics, and Narratives: Khipu Scholarship and the Search for the
“Khipu Code” throughout the Twentieth and Twenty First Century

by

Veronica Lysaght

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the

Master of Arts Degree in

History

Charles Beatty-Medina, Committee Chair

Roberto Padilla, Committee Member

Kim Nielsen, Committee Member

Amanda Bryant-Friedrich, Dean College of
Graduate Studies

The University of Toledo

July 2016

Copyright 2016, Veronica Lee Lysaght

This document is copyrighted material. Under copyright law, no parts of this document may be reproduced without the expressed permission of the author.

An Abstract of

Knotted Numbers, Mnemonics, and Narratives: Khipu Scholarship and the Search for the
“Khipu Code” throughout the Twentieth and Twenty First Century

by

Veronica Lysaght

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the
Master of Arts Degree in
History

The University of Toledo

July 2016

My thesis explores the works of European and North American khipu scholars (mainly anthropologists) from 1912 until 2010. I analyze how they incorporated aspects of their own culture and values into their interpretations of Inca khipus’ structure and functions. As Incas did not leave behind a written language or even clear non-written descriptions of their khipus, anthropologists interpreted khipus’ purposes with a limited base of Inca perspectives. Thus, every work of khipu literature that I study reflects both elements of Inca culture and the author’s own cultural perspectives as a twentieth or twenty-first century academic. I show how each work is indicative of modern cultural views on writing, as well as academic movements and broader social trends that were prominent during the author’s time.

This work is dedicated to my best friend and twin sister, Paige Lysaght.

Acknowledgements

I owe my thanks and gratitude to those who helped me complete this thesis. Thank you Dr. Charles Beatty-Medina for mentoring me and always believing in me. I am forever grateful that you took a chance and offered to work with me two years ago, even though I barely had any experience with Latin American History! You helped me embrace risks, break the rules, and discover my passion in life. My other two committee members, Dr. Roberto Padilla and Dr. Kim Nielsen, have spent a great deal of time helping me become a stronger writer and researcher. Their classes, critiques, and words of encouragement have motivated me to work tirelessly on this project and enjoy the process. I also would like to state that any errors within this work are my own doing. To my friends in the History Department, your friendship means the world to me. I look forward to keeping and touch as our academic careers all continue to grow and develop. I would also like to thank Gary Urton for giving me advice and insights about my project. Finally, I am grateful for all of the support and love from my sister, Mom and Dad, extended family, and friends. Writing this thesis was the most difficult, yet rewarding and exhilarating academic undertaking of my short life. I cannot thank the people that I mentioned enough for the aid that they have given me.

Table of Contents

Abstract	iii
Acknowledgements	v
Table of Contents	vi
1 The Introduction	1
1.1 My Argument	1
1.2 Chapter One Description	2
1.3 Chapter Two Description	4
1.4 Chapter Three Description	6
1.5 Use of Theory-Said and Foucault	8
1.6 Research Methods	12
1.7 Definition of terms	13
1.8 Chapter Conclusion	13
2 Khipu Scholarship from 1912-1943	16
2.1 Chapter Introduction	16
2.2 <i>A Prospectus of a Quipola</i>	20
2.3 Leslie Locke	21
2.4 Erland Nordenskiöld	28
2.5 Analysis of Henry Wassen	34
2.6 John Reed Swanton	41

2.7	John Reed Swanton.....	46
3	Khipu Scholarship from 1969-200440	
3.1	Introduction.....	49
3.2	Carol Mackey: A Trendsetter.....	57
3.3	Analysis of Marcia and Robert Ascher.....	63
3.4	Analysis of Gary Urton’s Research	67
3.5	Analysis of Frank Salomon’s Text	76
3.6	Conclusion	82
4	Twenty First Century Khipu Scholarship	86
4.1	Introduction.....	86
4.2	Jeffrey Quilter Analysis	90
4.3	Sabine Hyland and the “Naples Documents” Scandal.....	96
4.4	Gary Urton and Twenty First Century Khipu Scholarship	101
4.5	The Khipu Course.....	108
4.6	Galen Brokaw’s Essential Criticisms on the Modern Scholastic Discourse..	111
4.7	Conclusion	116
5	The Conclusion.....	119
	References.....	124

Chapter 1

The Introduction

1.1-My Argument

The question of how Inca khipus conveyed information has intrigued scholars for centuries.¹ Numerous Western academics have viewed khipus as artifacts that hold coded information that is either numerical, mnemonic, narrative, or a combination. Over the past century, many intellectuals attempted to decipher khipus. However, no person has unlocked such a code with certainty. This has been a daunting challenge because precolonial Incas never left behind a written language or an explanation of khipus' functions through any other known communication medium. Colonial Spanish accounts of khipus, while numerous, are all contradictory in their observations and most of them likely provide inaccurate descriptions.² Despite the lack of credible sources explaining khipus' purposes from Inca or colonial perspectives, scholars still continually attempt to fully understand how khipus operated. This study explores khipu scholarship over the

¹ There are a few different ways to spell "khipu." While I use the modern indigenous Quechua spelling (khipu), some scholars that I discuss use the Spanish spelling (quipu).

² In anthropologist Jeffrey Quilter's words, "We have no single authoritative colonial record of an extended investigation of khipu but rather a number of colonial authors who discuss khipu at greater or lesser lengths." Gary Urton and Jeffrey Quilter, eds. *Narrative Threads: Accounting and Recounting in Andean Khipu* (Austin: University of Texas Press, 2002), xvi.

past century and examines how (mainly) anthropologists proposed various possible ways that khipus recorded information.

In my study, I examine North American and European khipu scholars works between 1912 and 2010. I argue that their khipu interpretations reflected their own respective cultures and values as twentieth and twenty-first century academics. My thesis has three chronological chapters and serves as a comprehensive literature review of anthropological khipu scholarship over the past century. I discuss how each academic interpreted khipus through his or her own cultural lens and how each work is indicative of influential academic movements and broader social trends that were prominent during the author's life. The bulk of my thesis analyzes Western knowledge production on Inca khipus.

1.2 Chapter One Description

Chapter One's scope is 1912-1943. I discuss the work of Leslie Locke, Erland Nordenskiöld, Henry Wassen, and John Swanton. These anthropologists used colonial Spanish writings as a base for forming (primarily mathematical) khipu interpretations. Colonial accounts primarily state that khipus had numerical purposes, but do not explain how they conveyed mathematical data. I explore how these anthropologists, despite limitations with colonial Spanish sources, formed detailed interpretations of khipus' functions that were loosely based in colonial accounts. Their writings reflected their desire to fully unearth a "khipu code" that would reveal fill prominent gaps in knowledge regarding Inca culture.

I also argue that early khipu studies reflected the evolutionary anthropology school of thought. This school analyzed evolution in human behavior and cultural

traditions. Anthropologist Edward Tylor formed this school in 1854 through his book, *Primitive Culture*, which argued that all modern, “civilized” human societies originated from ancient, “primitive” ancestors. Evolutionary anthropologists questioned the origins of human nature and human institutions (such as mathematics, language, and religion). They believed that ancient cultural traditions evolved over time and continued to apply to modern men in their most civilized, evolved stage.³

Social Darwinism also influenced evolutionary anthropology. Social Darwinists argued that humans (biologically and culturally) evolved over time.⁴ Social Darwinists, who emerged in the 1870s, believed in establishing a hierarchy and argued that there were superior, strong humans who would continue to escalate in power and wealth. There were also, then, specific human groups who weakened over time. In the United States and Europe, sociologist Herbert Spencer was one of the most influential Social Darwinists of the late nineteenth century. I show how aspects of his specific theory influenced North American and European evolutionary anthropologists. Spencer believed that ancient humans societies developed language, writing, and mathematics in their most primitive forms in ancient times. Over time, these humans continued to develop the complexity of these systems up until the present. I show evolutionary anthropologists applied this when they indicated that khipus operated as an early version of mathematical recording technology that evolved over time.⁵

³ "The Philosophy of Anthropology," Internet Encyclopedia of Philosophy, accessed June 8th, 2016, <http://www.iep.utm.edu/anthropo/>.

⁴ "The Philosophy of Anthropology."

⁵ John Offer, *An Intellectual History of British Social Policy* (Bristol: Policy Press, 2006), 38, 142.

As evolutionary anthropologists, the academics that I study incorporated aspects of Social Darwinist into their works. However, I show how khipu anthropological literature during the 1930s and 1940s also reflected a broader movement among social scientists to distance academia from Social Darwinism. For instance, the works that I study show how Social Darwinist ideas were less prominent in anthropological khipu literature after 1930, when it gained a negative reputation in North American and European academia because its central principals inspired Nazism prior to and during WWII. Also, many prominent scholars, such as anthropologist Ruth Benedict, produced highly influential studies during the early twentieth century that argued that Social Darwinism was actually highly unscientific. Thus, early twentieth century khipu scholarship reflects broader social changes in thought regarding Social Darwinism during the early 1900s.⁶

1.3 Chapter Two Description

The second chapter spans from 1969-2004.⁷ I study anthropologists Carol Mackey's, Marcia and Robert Aschers', Gary Urton's, and Frank Salomon's projects. They incorporated contemporary indigenous Andean views into their khipu studies.⁸ These anthropologists believed that some indigenous Andeans, many who used khipus in a modern context, could offer insights on ancient khipu use. I discuss in detail how these

⁶ Offer, 38.

⁷ Between 1943 and 1970, there were scholars who discussed khipus and reviewed past works of khipu literature. My second chapter begins in 1969 because that was when academics introduced new, fieldwork based methodologies into the scholarship that set it apart from the early twentieth century.

⁸ The word "Andean" often has a negative reputation among many Andeanist scholars. This is because some academics consider it a polarizing term that indicates that all indigenous people in the Andes region share the same culture and relationship with their historical past. Thus, I want to be clear that when I use this term I am referring to the region defined by the Andes mountain range (Peru, Bolivia, parts of Chile) and I recognize that different peoples who inhabit the Andes region all form unique identities and cultures. Gary Urton, interviewed by Veronica Lysaght, May 2015

anthropologists incorporated modern Andean perspectives into their works in order to form conclusions regarding the Inca past.

These anthropologists embodied the ethnographic school of thought, which became prominent during the 1950s and considered fieldwork with human research subjects necessary to anthropological studies. Anthropologist Bronislaw Malinowski formed this school in the 1930s. Ethnographic anthropologists lived with (usually indigenous) peoples for research purposes. Ethnographic scholarship also became associated with humanitarian work during the later twentieth century. For instance, the United States Army's Project Camelot organization of 1964 recruited anthropologists to live with indigenous peoples in South America and study the origins of counterinsurgency movements. After it was cancelled in 1965, Project Camelot continued to operate under a different name until the 1970s.⁹ I analyze how ethnographic khipu scholars' works reflected the "empathetic," anthropologist's goal of living with indigenous peoples, gaining their trust, and interpreting their culture for Western audiences. I also show how khipu studies responded to criticisms that ethnographers overly Westernized their subjects in their research portrayals. I argue that ethnographic anthropologists' khipu studies also reflected broader trends in social thought in the United States, and a time in history when U.S. government organizations formed a number of initiatives that encouraged academic and non-academic people alike to live with and observe non-Western, indigenous societies.¹⁰

⁹ "The Philosophy of Anthropology."

¹⁰ "The Philosophy of Anthropology."

As ethnographic scholars, I explore how khipu experts responded to *lo Andino*, which was a prominent ideological framework during the later twentieth century. *Lo Andino* scholars believe that aspects of modern, indigenous Andean identity remained unchanged since the precolonial period. Anthropologist John Murra officially introduced the term during the 1980s. The framework has caused much debate in Anthropology, Archeology, and Art History over whether or not this is a useful scientific tool. The largest criticism that *lo Andino* has drawn was that it ignores the dynamics of historical change over time and forces contemporary Andeans to fit a false and romanticized mold of the precolonial past. The khipu scholars that I examine rejected *lo Andino* and its central principals. Even so, their works all drew conclusions about Incas based on observations of modern Andean peoples who used khipus. I argue khipu scholars had a complex relationship with *lo Andino*, in which they argued that change over time affected all aspects of Inca culture but also contradictorily drew conclusions about ancient peoples using observations of contemporary Andeans.¹¹

1.4 Chapter Three Description

Chapter Three focuses on 2001-2010. I study works from anthropologists Jeffrey Quilter, Sabine Hyland, and Gary Urton. I also use Galen Brokaw's writings, which critique the recent state of khipu scholarship. Besides Brokaw, these studies argued that khipus only constitute as complex communication devices if they acted as a system of writing. I show how these anthropologists pushed Inca scholarship to achieve the same

¹¹ Parker VanValkenburgh and Gary Urton, "Harvard University Andean Art History and Archeology Working Group" (paper presented at the VanChiVard conference and workshop, Nashville, Tennessee, March 29-31, 2003), 4.

successes in ancient artifact decipherment as Maya scholarship. In the 1960s, scholars deciphered ancient Maya glyphs. The symbols proved to be a complex form of writing, despite many previous Mayanists' beliefs otherwise. Twenty first century Andeanists deliberately wanted Inca khipu scholarship to "catch up" to Maya scholarship, and prove that khipus were also communication tools that scholars could read. Anthropologists argued that past scholars who posited that khipus were mnemonic (could only be read by the khipu-maker) oversimplified khipus and held academics back from deciphering khipus. I show how recent khipu studies reflect modern views of alphabetic writing systems as the height of non-verbal communication technology in the Western world. I further argue that why Western khipu scholars problematically viewed mnemonic devices as synonymous with "primitive" and "uncomplex" compared to a usually alphabetic) writing system.¹²

Recent khipu scholars' works reflected issues with the "The Crisis of Representation," which was a term that anthropologist Dell Hymes coined in 1974. Hymes "criticized anthropologists for imposing Western categories – such as Western measurement – on those they study, arguing that this is a form of domination and was immoral, insisting that truth statements were always subjective and carried cultural values."¹³ Hymes' "Crisis" originally described ethnographic scholars but also applied to recent scholars of ancient peoples in anthropology, archeology, and history. Most recent khipu anthropologists, for instance, argued that Western writing systems possibly applied to khipus. In response to criticisms of overtly Westernizing their subject, many scholars

¹² Quilter and Urton, xi.

¹³ "Internet Encyclopedia of Philosophy."

argued that their impositions of Western structures onto ancient peoples could lead to new discoveries. This embodies the “reflexive turn” response to “The Crisis,” which argued that Western scholars can make new discoveries by analyzing non-Western peoples through their own cultural lens. In this historical context, anthropological khipu literature reflected a broader trend among anthropologists, archeologists, and scholars from many disciplines who argued that ancient communication structures were comparable to modern Western systems.¹⁴

1.5 Use of Theory-Said and Foucault

I study modern knowledge production on khipus and Inca culture. I examine the most influential works in khipu scholarship and show how North American and European scholars conceptualized khipus within their own cultural academic frameworks. Academics typically examine knowledge production to better understand how authors perceived their subjects through their own cultural lenses. For example, Edward Said’s *Orientalism* argued that post-Enlightenment Western Europeans’ writings reflected their own imperialistic desires to conquer and paternalistically “civilize” Asian peoples. Said maintained that any academic who analyzed “the Orient” reflected his or her own cultural biases of Middle Eastern culture in the publication. He stated that:

The most readily accepted designation for Orientalism is an academic one, and indeed the label still serves in a number of academic institutions. Anyone who teaches, writes about, or researches the Orient—and this applies whether the person is an anthropologist, sociologist, historian, or philologist—either in its specific or its general aspects, is an Orientalist, and what he or she does is Orientalism.¹⁵

¹⁴ “The Philosophy of Anthropology.”

¹⁵ Edward Said, *Orientalism* (New York: Pantheon Books, 1979), 2.

Over the past century, many intellectuals reflected this quote by describing Incas (a non-Western people) through their academic publications. In this process, scholars inevitably portrayed Incas with biases rooted in the author's own contemporary culture. This study will show that works in Inca scholarship are often indicative of the "exotic" and "otherness" qualities that Incas hold in Western culture as a "mysterious" ancient society that we know so little about. By studying knowledge production on Incas, academics can better understand the extent that an author's writings reflected his or her own Western values and culture.

My use of *Orientalism*, while appropriate for this study, differs from Said's application in two key ways. For one, Said analyzed Western writings on Middle Eastern peoples during the seventeenth and eighteenth century. My analysis is on twentieth and twenty first century Western scholars' perceptions of ancient Incas. My project's historical dynamics greatly differ from Said's. The scholars that I study usually praised Inca culture and passionately asserted that more academics and amateurs alike should view Incas as highly complex peoples. Said's subjects mainly degraded Middle Eastern peoples in their writings. A key aspect of Said's definition of Orientalism in academia, however, involves Western scholars' restructuring non-Western societies (mainly through writings) to reflect their own cultural values. This applies to my project because I study how intellectuals' academic publications reflect various aspects of their twentieth and twenty first century culture. I examine, for example, how their khipu interpretations reflect their cultural views of what constitutes as a complex communication device and specific academic movements that were prevalent during their time. Thus, Orientalism

allows me to illuminate how academics described khipus and Incas through their societal perspectives as modern Western intellectuals.¹⁶

I study modern knowledge production on Inca khipus because this body of literature allows us to better understand how modern academics perceived and depicted ancient Incas from within their own cultural framework. This thesis is a literature review on khipu scholarship over the past century. No person has published any articles or books that extensively analyzes how this large body of research reflects each author's own respective culture as a twentieth or twenty-first century academic. Through my project, I show how Western khipu scholars interpreted Incas and their khipus to reflect concepts more relevant in their own modern than ancient Inca society. For example, I deal with contemporary cultural standards of complexity and scientific achievement in ancient societies. My thesis is an original academic paper that illuminates how intellectuals have conceptualized and portrayed Incas from until 1912-2016.

Michel Foucault's theory on the author function from his "What is an Author" article applies to this thesis. He argued that an author functions as a name that potentially adds value to and authority to his or her work. The connotations that readers associate with the author affects how they receive the works. Two ways that Foucault described the author function were as literary constructions and unifying constructions. As a literary construction, an author's name affects the work's value. For instance, new studies from Gary Urton (a leading khipu scholar) will likely reach a wider audience than those from an academic who is just starting out in the field. As a unifying construction, an author

¹⁶ Said, 7.

gains authority by engaging his or her work with a broader dominant discourse. The author incorporates themes and ideas that have been present in past texts of the same genre that appeals to a specific audience. Foucault exemplifies how literary elements of Ann Radcliffe's Gothic novels appeared in numerous Gothic works that followed her even after her death. Although decades of Gothic novelists all wrote very different texts, they all carried similar themes that Gothic literature enthusiasts came to expect. According to Foucault, the author is a socially constructed role where a name can add value to their work, and authors gain authority in their field by engaging with the dominant themes, ideas, and questions within their area of expertise.¹⁷

Foucault's discussions of the author function apply to my thesis. As a unifying construction, I argue that the past century of khipu scholars built a dominant discourse that centered around the questions of what khipus were and the type of information that they conveyed. Each work that I discuss is different in its proposition of a "khipu code." Even so, khipu scholars who I discuss all gained authority in their field by discussing khipus in a way that appealed to Western academics. I also argue that an author's name adds value to a work. For instance, leading khipu scholar Gary Urton proposes khipu interpretations that he admits he cannot prove and are mainly speculative. Even so, his name adds value to his works, as he is a renowned anthropologist who has dedicated his life to khipu study. In my study, I show how an author's name adds more value to an

¹⁷ Michel Foucault and Paul Rabinow ed. *The Foucault Reader* (New York: Pantheon Books, 1984), 101-11.

academic work than the extent that fellow scholars consider a khipu interpretation to actually provide definite insights on the “khipu code.”¹⁸

Foucault also discussed transdiscursive authorship, which also applies to my thesis. An author’s work base often goes beyond textual discourses. Foucault argued that an author could be transdiscursive, and express ideas consistent with his or her author function through non-textual mediums. Visual art pieces, lectures and interviews, for example, can be a part of an author function. In my third chapter, I discuss a class on khipu interpretation at the Massachusetts Institute of Technology that Gary Urton co-taught. Because the class involved placing narrative structures onto Inca khipus (which is a consistent aspect in Urton’s most successful publications) than it counted as part of his author function. Transdiscursive authorship, then, also concerns my thesis.¹⁹

1.6-Research Methods

I read a century’s worth of academic khipu publications for this project. I also studied two collections concerning khipus from the Harvard Peabody Museum of Archeology and Ethnology in Cambridge, Massachusetts. While in Cambridge, I talked with Dr. Gary Urton about his methodologies and approaches to khipu studies. In the end I decided to employ works that best exemplified the dominant schools. My main primary source base for my thesis are the eleven works of academic khipu literature that I critically analyze. While at the Harvard Peabody Museum, I also studied two collections which both have a role in this project. The first collection consisted of six Inca khipus. I observed these khipus and allowed myself to understand how various aspects (such as

¹⁸ Foucault, 101-5.

¹⁹ Ibid.

colors and structure) seemingly form patterns that anthropologists have been interpreting for over a century. The second collection contained various letters and paperwork that laid out Harvard's acquisition process for gaining the khipus. From this collection, I learned of James Phair's 1827 khipu study and used this in my work. Finally, my discussion with Urton informed many of my descriptions and analyses of his teaching methodologies and khipu theories. Thus, I used a variety of research mediums in writing my thesis.²⁰

1.7 Definition of Terms

The terms “mnemonic,” “narrative,” “chronical” and “numerical” frequent this thesis. When discussing scholars that use them, I explain how these khipu scholars understood these words. For clarification, “mnemonic” in anthropological khipu scholarship refers to a “khipu code” that could only be understood by the khipu maker. Among khipu scholars (especially in the twenty first century), “narrative” khipus refer to khipus that were part of a standardized writing system. Unlike mnemonic khipus, which only the khipu maker could understand, most khipu scholars describe narrative khipus as comparable to a universal, alphabetic writing system. “Numerical” khipus can have mnemonic or narrative functions (views differ between anthropologists that I discuss). They are khipus that specifically recorded mathematical data. Khipu scholar who argue that khipus were chronicles believed khipus represented a series of events in a particular order in a mnemonic form.

1.8 Chapter Conclusion

²⁰ Gary Urton, interviewed by Veronica Lysaght, Peabody Museum of Archeology and Ethnology, May 2015.

As a historian, I am interested in how anthropologists presented the Inca past. My thesis operates as a critique on the past century of khipu scholarship, which has involved describing Inca khipus with limited Inca perspectives. Written documentation of Incas only began with colonial Spaniards who (at best) only had a limited understanding of khipus. Non-written communication mediums that Incas left behind, such as depictions on cloth and architecture, rarely portray khipus.²¹ Thus, modern scholars described Incas khipus with a severely limited source base of Inca views. In this process, prominent khipu scholars over the past century problematically risked describing Inca people with traits that more describe Western than Inca culture. I propose that the limited source base encourages speculation that may, or may not, ultimately serve to understand Incan civilization. However, this speculation shifts the discourse from one on Inca cultures to one on how Westerners can imagine or fantasize on how alphabets are created in the absence of written language.

My thesis examines how changes in intellectual movements and broad social trends over time influenced changes in academic khipu portrayals over the past century. I first study how early khipu scholars' works reflect evolutionary anthropology and its broader influences from Social Darwinism. Beginning in the 1960s, ethnographic anthropology became the dominant school of anthropological thought. Ethnographic khipu studies reflected a change from the early to later part of the century, where anthropologists believed that they could understand issues from indigenous perspectives through fieldwork research. Much like evolutionary anthropologists, ethnographic khipu

²¹ Quilter and Urton, 22.

scholars believed that past ancient cultural traditions survived over time by evolving until the present. I then study recent khipu scholars who responded to “The Crisis of Representation.” The “Crisis” criticized both ethnographic and modern scholars from other schools of thought who believed that they could avoid Westernized portrayals of their human subjects. I show how recent khipu anthropologists (and scholars of ancient cultures from other disciplines) accepted the inevitability of incorporating Westernized perspectives onto ancient cultures and argued that they could use them to decipher khipus. My thesis analyzes how a century of anthropological khipu studies reflects changes over time of general khipu portrayals within the context of broader, historical movements and academic cultural trends.²²

²² “The Philosophy of Anthropology.”

Chapter 2

Khipu Scholarship from 1912-1943

2.1 Chapter Introduction

This chapter's focus is khipu scholarship from 1912 until 1943. During this time, scholars established what are still the dominant questions in khipu studies. The principal line of inquiry in understanding the khipus is, and has been, how they convey information. As an unwritten form of communication, khipus have challenged academics and been posited as a "mystery" to anthropologists who view them as critical to understanding Inca culture. Early twentieth century efforts to decipher khipus began with Leslie Leland Locke's seminal work, *The Ancient Quipu: A Peruvian Knot Record* in 1912.²³ Working off early colonial sources that described khipus' numerical properties, Locke argued that they recorded mathematical sums on a base-ten system. Beginning with Locke's studies, this chapter provides a chronology of khipu scholarship in the United States and Sweden. From these countries, a new discourse on khipus emerged that distanced them from earlier Inca and colonial Spanish descriptions.

²³ Leslie Leland Locke, *The Ancient Quipu, A Peruvian Knot Record* (New York: American Museum of Natural History, 1912), 1-14.

The contributions made by scholars in this chapter are important because each played a role in forming a dominant discourse on khipus and Andean culture. This chapter examines the work of anthropologists Leslie Leland Locke, Erland Nordenskiöld, Henry Wassen, and John Reed Swanton. I also briefly discuss historian James Phair's study, *A Prospectus of the Quipola*, from 1827. Phair's analysis of khipus as mysterious artifacts that hold coded information about Inca culture carried over to the early twentieth century and affected Locke's, Nordenskiöld's, Wassen's, and Swanton's research.²⁴ Phair also illuminated how nineteenth century scholarship was different than twentieth century scholarship, as Phair believed that scholars could never fully unlock the "khipu code" with the given dominant source base of contradictory colonial writings. Beginning with Locke in 1912 and ending with Swanton in 1943, I show how early twentieth century scholars developed a new and innovative discourse that involved fully proposing how khipus functioned despite limitations from colonial accounts.

Before examining the works that make up the bulk of this chapter, it is imperative to understand the issues with earlier sources. The only written documents on khipus are colonial Spanish accounts ranging from 1583 until the mid-seventeenth century. Scholars generally agree that these writings all contradict each other and most demonstrate only a limited understanding of khipus. Because colonial Spanish writers interpreted khipus through their own cultural lens, they often believed that the khipus were primitive recording devices from godless and unsophisticated indigenous peoples. Even colonial

²⁴ James Phair, *A Prospectus of the Quipola*, (London: Westminster Review, 1827), 229.

writers who respected khipus were still outsiders to Inca culture and probably could not interpret them. Mathematician and khipu scholar Marcia Ascher pointed out in 1981 that:

Whatever we may or may not have in common with sixteenth-century Spaniards, they shared close to nothing with the Incas. We can make sense out of Spanish accounts only in terms of our framework, and the Spanish, for their part, rendered what the Incas said from inside a Spanish framework.²⁵

Early twentieth century scholars sifted through colonial writings and identified accounts that they believed were the most reliable khipu descriptions. Generally, persons with both Inca and Spanish parentage wrote these accounts. Garcilasso de la Vega, for example, had a Spanish father and an Inca mother. For over twenty years, he lived among the Inca people of Cusco. His descriptions of khipus as numerical devices were foundational to khipu scholarship. Using colonial, bare bones descriptions of khipus, early twentieth century academics attempted to show exactly how they operated as numerical and narrative devices.²⁶

I also explore how early twentieth century khipu scholarship developed in accordance with the early evolutionary anthropology school of thought, which was highly influential from the 1870s until the mid-twentieth century:

Also from the middle of the nineteenth century, there developed a school in Western European and North American anthropology which focused less on race and eugenics and more on answering questions relating to human institutions, and how they evolved, such as ‘How did religion develop?’ or ‘How did marriage develop?’ This school was known as cultural evolutionism.²⁷

²⁵ Marcia Ascher and Robert Ascher, *Code of the Quipu: A Study in Media, Mathematics, and Culture* (Ann Arbor: University of Michigan Press, 1981), 3.

²⁶ Ascher and Ascher, 1-11.

²⁷ "Internet Encyclopedia of Philosophy."

Evolutionist anthropologists argued that ancient civilizations developed cultural trends that represented elements of human nature at its earliest form.²⁸ For example, James Frazer was an evolutionary anthropologist who argued in 1922 “that societies evolved from being dominated by a belief in Magic, to a belief in Spirits and then a belief in gods and ultimately one God.”²⁹ Frazer thought that modern monotheistic religions were an evolved version of ancient spiritual beliefs. Early twentieth century khipu scholars embodied this school of thought. They were primarily interested in how Incas developed khipus as a part of their mathematical culture. Furthermore, many of the scholars that I discuss indicated their beliefs that aspects of the modern Western mathematical, spiritual, and narrative culture held “primitive origins” with Inca khipus. Evolutionary anthropologists used aspects of Spencer’s Social Darwinist theory in forming their ideas, which was highly influential in academia during the early twentieth century. I show how early anthropological khipu studies reflected both evolutionary anthropology and popular views of Social Darwinism during the early twentieth century.

Chapter One and Chapter Two are related because they both discuss methodologies relevant to twentieth century khipu scholarship. Chapter Two continues to elaborate on modern perspectives of Inca khipus by examining the viewpoints of contemporary academics of the late twentieth century who analyzed them within the context of indigenous Andeans. I study the work of Carol Mackey, Marcia and Robert Ascher, Frank Salomon, and Gary Urton, who analyzed structural similarities between modern and Inca khipus.

²⁸ Ibid.

²⁹ Ibid.

2.2-A *Prospectus of a Quipola*

This study begins with James Phair's 1827 article, *A Prospectus of a Quipola*. Phair believed that khipus were numerical devices, as many colonial Spanish accounts such as Jose de Acosta's and Garcilasso de la Vega's writings stated this. In his introduction, Phair discussed the allure that khipus held within the academic community. He stated that "Even if it [a khipu] is nothing, it does not remove the interest that attaches to the contemplation of a new exertion of human intellect, in remote regions and an unknown age."³⁰ Phair believed that the khipus potentially held a vast wealth of information about Inca culture that academics desperately craved. However, he then acknowledged that they also possibly conveyed "nothing" especially useful for understanding Incas.³¹ As artifacts that intellectuals knew so little about, khipus held a special romantic appeal to academics who wished to better understand the Incas. This idealistic allure that khipus held in the nineteenth century transitioned into the early twentieth century, as scholars attempted to "decode" khipus and use them to shed light on the mysteries of the Inca.

Also in his introduction, Phair stated that

"It would be desirable to have no lacunae in evidence, and to possess a set of Quipos authenticated by the mark of the Peruvian who composed them, and witnessed by a number of respectable housekeepers. But as there is no hope of this at present, it remains only to examine such specimens as happen to be offered."³²

Without more substantial explanatory sources regarding khipus' functions, Phair believed that scholars lacked the resources to ever fully comprehend the khipus. Although sources

³⁰ Phair, 229.

³¹ Ibid.

³² Ibid., 233-234.

that could fill the “lacunae” in evidence and precisely explain how the khipus worked never appeared to scholars, academics in the early twentieth century began proposing full and complex khipu structures that had no foundations in colonial Spanish writings. Their goals to better understand the khipu, similar to the intellectuals that Phair described, were fueled by khipus’ appeal as a coded device among Western academics. However, the methodologies that early twentieth century scholars adopted differed from those from Phair’s time. Beginning in 1912, academics began proposing specific khipu interpretations that suggested exactly how the khipus recorded data, even though colonial Spanish or Inca descriptions never outlined such a code. Twentieth century scholars attempted to fill the “lacunae in evidence” that Phair previously accepted as a historical rupture that no person could fix given that the most extensive source base on khipus came from largely unreliable colonial accounts.³³

2.3-Leslie Locke

Almost a century after Phair, Locke published *The Ancient Quipu, a Peruvian Knot Record* in 1912. He argued that khipus were numerical devices that recorded mathematical sums on a base ten system. Locke used the Spanish and Inca chronicler’s writings, Garcilasso de la Vega, to form his conclusion. De la Vega mentioned that khipu knots represented numbers in base ten notation, and that these numbers represented tax information (amount of food or goods that Incas paid to those in power). While Locke

³³ Ibid., 233; I came across Phair’s article while doing research at the Houghton Library at Harvard University in June 2015. I have never seen even a remote reference of Phair in other scholars’ works even though he is an important component within the discourse of khipu scholarship. *A Prospectus of a Quipola* provides a cautionary warning that, as enticing as khipus are, scholars do not have a reliable enough source base to ever completely understand their functions.

acknowledged that most colonial Spanish accounts of khipus were contradictory, he stated that “The most reliable information given be one who actually understood and used quipus is Garcilasso de la Vega.”³⁴ Locke believed that de la Vega’s writings were reliable because he was born in the Inca capital of Cusco in 1539 to an Inca noblewoman and Spanish warrior. De la Vega spent much of his life surrounded by Inca culture and traditions and identified as both Inca and Spanish. Thus, these accounts were seemingly less rooted in an outsider’s perspective than other colonial writings. However, de la Vega did not provide a key or explain exactly how khipus operated as devices that recorded numbers on a base ten system. Locke proposed that the knots at the bottom of khipus’ cords (which he called long knots) represented single digits, the next highest section’s knots (that he named single knots) represented tens digits, the next was the hundreds place, and that this pattern continued until the top of the cord. While Garcilasso de la Vega’s observations were a key source base, Locke’s specific interpretation of the knots as representations of base-ten notations was his own creative undertaking.³⁵

Locke also used other sources to form his interpretation, such as “specimens of ancient quipus exhumed from Peruvian graves and in the collections of various museums.”³⁶ Most of the forty-two Peruvian khipus that he studied were housed in The American Museum of Natural History in New York City. Locke analyzed how these khipus exhibited patterns that supported de la Vega’s statements. For example, Locke found that the number of individual knots on the bottom of the khipus’ cords, which he called long knots, never exceeded nine. Locke concluded that these knots must represent

³⁴ Locke, *The Ancient Khipu, A Peruvian Knot Record*, 4.

³⁵ *Ibid.*, 3-9.

³⁶ *Ibid.*, 5.

single digits, as there was a section farther up the cord for knots that represented numbers in the tens place. He was the first anthropologist to compare physical khipus with colonial writings in his interpretation. Thus, Locke introduced this methodological practice into the scholarship. Along with de la Vega's writings, physical Peruvian khipus were vital to Locke's research.³⁷

Locke was the first anthropologist to propose a model for how khipus conveyed information that the academic community, well until the present, generally accepts as correct.³⁸ Many believed that he successfully deciphered a portion of the "khipu code" that had been tantalizing anthropologists for centuries. Locke, as well as nineteenth century scholars like Phair, all had to grapple with the same source base of colonial accounts in their attempts to understand khipus. Locke's research was groundbreaking because his academic study first strayed from colonial Spanish writings and proposed a full description of khipus' functions, as de la Vega never detailed exactly how khipus recorded base ten numerals. The statements that the knots on the bottom of the cords, for example, represented the ones place within a base ten system was Locke's own creative interpretation of how khipus worked based on de la Vega's accounts. Locke's methodological practices inspired the specific procedures that academics over the next century used in their attempts to decipher the khipus.³⁹

The language that Locke used to describe Inca khipus also became foundational to the discourse of khipu scholarship. Whether or not scholars who followed him agreed

³⁷ Ibid., 1-15.

³⁸ It is useful to note that Locke argued that the khipus were strictly numerical recording devices. He never suggested that khipus operated as calculating devices as well. Ibid., 12.

³⁹ Ibid., 1-15.

with all of Locke's conclusions, his khipu terminology has become the standardized, professional language in the field. For instance, Locke called the knots on the bottom of the khipu long knots. Locke also first used the term, "single knot." Single knots represent numbers in the tens, hundreds, or thousands place based on their placement on the cord.⁴⁰ He also first used the terms of "main cord" and "pendant cord." The main cord is the cord that all of the pendant cords, or cords that actually hold knots, attach to.⁴¹ Nordenskiöld, Wassen, and Swanton all used this language to describe the khipus even though they had different interpretations of them. The terms that Locke coined regarding the khipus have established Locke as an authoritative figure in the field.

Some of Locke's conclusions have also caused controversy among scholars. For instance, Locke stated that "The knots were used purely for numerical purposes."⁴² He did not believe that khipus had any narrative properties. Although many other colonial writers suggested that khipus were a written language, de la Vega stated that khipus were only numerical and the Inca aspect of his identity made him, according to Locke, a superior khipu authority. Some academics agreed with this. Archeologist Charles Mead, for example, stated in his forward to Locke's work that "The mystery has been dispelled and we now know the quipu for just what it was in prehistoric times, and what it is, in its limited use today, simply an instrument for recording numbers."⁴³ Numerous scholars, however, disagreed with Mead's statement and continued to argue that khipus held a

⁴⁰ Ibid., 4-15.

⁴¹ Ascher and Ascher, 123.

⁴² Locke, *The Ancient Khipu, A Peruvian Knot Record*, 6.

⁴³ Ascher and Ascher, 158.

more complex code. For example, anthropologist John Swanton (who this chapter later discusses) argued in 1943 that khipus conveyed non-mathematical data.⁴⁴ Although most khipu scholars considered Locke as the father of modern khipu scholarship, many believed that his numerical interpretation was only a fragment of a larger and more intricate code. *The Ancient Quipu: A Peruvian Knot Record* marked a point in khipu scholarship where he inspired scholars, through his conclusion that khipus were only numerical, to try to prove that they were still more complex. Rather than quell the mysterious aura that khipus held for nineteenth and twentieth century scholars, Locke influenced generations of academics after him who proposed their own interpretation of the still elusive “khipu code.”⁴⁵

Michel Foucault’s discussions of authorship in his “What is an Author” article apply to Locke. Foucault stated that:

an author’s name is not simply an element in a discourse (capable of being either subject or object, of being replaced by a pronoun, and the like); it performs a certain role with regard to narrative discourse, assuring a classificatory function.⁴⁶

According to Foucault, the author’s name represents ideas that pertain to a broader discourse. Locke was the first prominent anthropologist to propose a detailed khipu code though an academic work. The anthropologists who followed Locke all had a role in building Locke as an authority figure because they all specifically responded to his base-ten theory. In this process, Locke’s name became an authoritative one in khipu

⁴⁴ John Reed Swanton, *The Quipu and Peruvian Civilization* (Washington: [U.S. G.P.O.], 1943), 1.

⁴⁵ Locke, *The Ancient Khipu, A Peruvian Knot Record*, 1-16.

⁴⁶ Foucault, 104.

scholarship. Locke's authoritative author function primarily stemmed from his engagement with his proposal for a khipu code (which had enticed numerous Western scholars) that so many fellow anthropologists also read and responded to well until the twenty first century.⁴⁷

Locke's work applied evolutionary anthropology, which had been a prominent academic movement since the 1800s. Early evolutionists' scholars aimed to better understand how old human societies developed cultural traits and institution (such as religion, languages, or mathematics), and how these traditions evolved over time. Locke questioned how Incas khipus represented an early version of a base-ten mathematical recording device, which is a numerical concept that applied to Locke's time in the early twentieth century. He mainly used de la Vega's writings and Peruvian khipus to form his conclusions. In 2001, anthropologists Ryan Brown and George Armelagos observed that early evolutionary anthropologists avoided racially categorizing ancient peoples because they believed that human nature on a broad scale, rather than individual ethnicity, dictated humans' development of institutions that they studied (such as mathematics or language.):

one of the underlying reasons for the decline [of racial classification in anthropology during the late nineteenth century] is the arbitrary nature of racial classifications: The boundaries between races depend on the specific traits used and the classifier's own cultural norms. Other reasons include the lack of correlation of traits used in classification and the existence of alternative methods for explaining human variation.⁴⁸

⁴⁷ Foucault, 7.

⁴⁸ Ryan A. Brown and George J. Armelagos, "Apportionment of Racial Diversity: A Review," *Evolutionary Anthropology* (2001): 1.

Locke used colonial sources and physical khipus to form his conclusions, and avoided racial classifications of Inca peoples in his work. Locke focused on understanding how did khipus represented a standardized mathematical system (which was a human institution) in ancient Inca culture.

As an evolutionary anthropologist, Locke's work reflected prominent Social Darwinist influences during the early twentieth century. Sociologist Herbert Spencer's Social Darwinist views were especially influential during Locke's time, as Spencer first developed Social Darwinist theory in 1877. Spencer argued that people evolved over time and that natural selection would dictate that the strongest human specimens would continue to pass on the most desirable physical, intellectual, and cultural traits to the next generation. Although Spencer first coined the term, "survival of the fittest," evolutionary anthropologists were more interested in how early "versions" of human culture evolved over time and continued to apply to modern culture in modified forms. In *A System of Synthetic Philosophy*, Spencer also argued in that humans evolved from simple beings into more complex and sophisticated versions over long periods of time. Unlike the "survival of the fittest" notion, this concept strongly applied to evolutionary anthropology.⁴⁹ Mathematician David Smith's 1912 introduction to Locke's work is indicative of Spencer's beliefs regarding Social Darwinism. He stated that "he [Locke] is able to read the various authentic [khipu] specimens...It would seem, therefore, that we have the earliest known decimal notation of the Western World."⁵⁰ This quote illuminates how other scholars were interested in Locke's study because it provided an ancient version of mathematical base-

⁴⁹ "The Philosophy of Anthropology."

⁵⁰ Locke, *The Ancient Khipu, A Peruvian Knot Record*, 1.

ten notations that still applied to modern Western peoples in different forms. Locke's work thus reflects Spencer's Social Darwinist belief that modern human traditions originated from ancient societies.⁵¹

2.4-Erland Nordenskiöld

Following Locke, anthropologist and archeologist Erland Nordenskiöld attempted to decipher khipus in *The Secret of the Peruvian Quipus and Calculations with Years and Months in the Peruvian Quipus* in 1925. This work consists of two essays where Nordenskiöld proposed that khipus conveyed calendrical and astrological information. He also claimed that khipus' numerical sums had spiritual significance in Inca culture. For instance, the khipus that he studied often incorporated the number seven in their sums, which Nordenskiöld believed to be a mystical number in Inca culture. In both essays, Nordenskiöld proposed that "quipus are calendrical or astrological in nature and that, therefore, the numbers involved are either mystical or astronomical."⁵² As evidenced by the name of his book, Nordenskiöld believed that Locke only partially deciphered khipus and that they still held many secrets. According to Nordenskiöld, these "secrets" involved khipus' calendrical purposes and otherworldly meaning that khipu sums held among Incas.

In "The Secret of the Peruvian Quipus," Nordenskiöld argued that khipus numerical sums' had great spiritual meaning in Inca culture.⁵³ He believed that Incas

⁵¹ Robert C. Bannister, *Social Darwinism: Science and Myth in Anglo-American Social Thought* (Philadelphia, PA: Temple University Press, 1979), 142-5.

⁵² Erland Nordenskiöld, *The Secret of the Peruvian Quipus and Calculations in Years and Months in the Peruvian Quipus* (Göteborg: AMA Press, 1925), 2.

⁵³ As the ethnographic director at the Göteborg Museum in Sweden, he made some short trips to Peru and Bolivia between 1903 and 1905 to study khipus on the museum's behalf. Nordenskiöld, 2

would never bury their dead with khipus if the artifacts only conveyed, as Locke previously argued, tax information and practical numerical data. Thus, Nordenskiöld stated that “Locke advances no satisfactory explanation for the use of the quipus found in graves” and:

that a quipu placed in a grave should yield no information whatever about the living. From an Indian point of view, it would have been criminal to deposit in the grave a khipu containing, for instance, a statement of the population of the district, and the supposition that khipus were placed in graves to do any harm, may be ruled out. To deposit a statement about the living in a grave would have been paramount to entombing the living...It is not probable either that a statement was placed in the grave with a corpse about, for instance, the number of a man’s llamas, if these passed into the position of the living. That would be giving the dead man power over the animals.⁵⁴

Because khipus often ended up in graves, Nordenskiöld concluded that khipus were meaningful to the Inca afterlife. He argued that from an “Indian point of view,” placing “statements about the living” in graves would be an abomination.⁵⁵ Regarding khipus’ functions, no Inca has left behind a detailed description in any form and the “Indian point of view” on this matter is scarce.⁵⁶ Also, Nordenskiöld did not reference any colonial writings that supported his claim that Incas would never bury someone with an object that described mortal affairs. Even so, Nordenskiöld passionately asserted that khipus were related to the afterlife Inca culture because of their gravesite locations. This element of Nordenskiöld’s khipu description reflected his own personal belief that an object in a gravesite must have spiritual significance, rather than a source base of colonial Spanish or Inca perspectives.⁵⁷

⁵⁴ Ibid., 8-9.

⁵⁵ Ibid., 8.

⁵⁶ Ibid., 8.

⁵⁷ Ibid., 1-36.

The Secret of the Peruvian Quipus also argued that khipus were calendrical and mystically incorporated the number seven within their cords. Nordenskiöld's key sources were Inca khipus themselves rather than colonial texts; he studied eight Peruvian khipus from the Göteborg Museum in Sweden and the Museum für Völkerkunde in Berlin. Nordenskiöld proposed that khipus acted as calendars and kept track of the annual cycles of planets and the moon. This is because three khipus that he examined seemingly recorded the number of days of Mercury's revolution around the sun. All of the khipus that Nordenskiöld studied also had the number seven in either the total sum or at least one of the individual pendant cords' sums. Nordenskiöld suggested that "seven" had spiritual, even "magical" significance in Inca culture because it, in particular, continually appeared on the khipus and thus possibly pertained to the mystical properties that he believed khipus held as gravesite-related artifacts. He formed his argument regarding the number seven based on his observations of physical khipus alone rather than colonial writings or any Inca descriptions. Thus, "The Secret of the Peruvian Quipus" explored khipus' possible astrological, calendrical, and mystical functions in Inca culture through proposals that were greatly distanced from colonial Spanish and Inca perspectives.

In "Calculations with Years and Months in the Peruvian Quipus," Nordenskiöld elaborated on the arguments that he dealt with in his previous essay. He aimed to:

publish all the calculations I have found in quipus that have anything to do with the moon, as well as further proofs to show that the figures to be found in the quipus express days...additional proofs will be seen in the quipus here published in confirmation of what I have already stated about number 7 being of great (presumably magical) importance in the calculations of Indians.

Nordenskiöld's main source base was eight more Peruvian khipus from the Göteborg Museum and the Museum für Völkerkunde in Berlin. He also used a few colonial

Spanish writings in this essay, including de la Vega's accounts, that detail how the Incas conceptualized a lunar year. Based on de la Vega's observations, for example, Nordenskiöld concluded that the Incas based their calendar around the movement of the moon. Without any colonial source's direct support, Nordenskiöld then suggested that khipus' total sums and the number of pendant cords represented the moon's presence in the sky that night. For example, he argued that one khipu's final sum was 29.5 when divided by the total number of pendant cords and that "29.5 is almost the exactly the time of the synodical revolution of the moon."⁵⁸ Much of the khipus' lunar numbers, according to Nordenskiöld, were also affiliated with the number seven. All of the khipus that he studied either had grand or pendant cord totals that were divisible by seven.

Nordenskiöld concluded his essay in stating that:

from the material that I have examined so far I conclude that khipus found in Peruvian graves are just clever combinations of astronomical numbers, and of the number 7, or numbers that presumably had a magic importance for Indian astronomers.⁵⁹

In both essays, Nordenskiöld concluded that khipus were calendrical, astronomical, and mystically incorporated the number seven.

Nordenskiöld's two articles shows how khipu interpretations that were greatly distanced from colonial texts descriptions started became more prevalent in the scholarship by the 1920s. Nordenskiöld often used terms like "magical" and "mystical" in his research.⁶⁰ He did not reference Inca or colonial descriptions of khipus as objects

⁵⁸ Ibid., 43.

⁵⁹ Ibid., 48.

⁶⁰ Ibid.,47.

of religious purposes within the Inca Empire.⁶¹ Like Phair, Nordenskiöld believed that khipus held many secrets regarding the most fantastic and mysterious aspects of the Inca Empire. However, rather than accept (as Phair had done) that there were not enough sources that allowed scholars to fully understand what information khipus conveyed, he constructed a largely fictional version of Inca culture where khipus' numerical purposes had supernatural meaning. Nordenskiöld's work shows that the mystery and exotic fascination that khipus held for Western scholars since Phair's time continued to fuel academic khipu literature until the mid-1920s.⁶²

Nordenskiöld credited Locke's khipu theory as the basis for his work. According to anthropologist Ante Christensen, "The Swedish anthropologist, Erland Nordenskiöld, was the first scholar to interpret the content of the quipus."⁶³ He was the first khipu scholar to examine what type of information khipus conveyed based on Locke's base-ten interpretation from 1912.⁶⁴ Nordenskiöld began his work by praising Locke's "excellent book on Peruvian quipus" and provided a detailed description of Locke's terminology and base-ten notational theory that Nordenskiöld himself used to describe khipus in his

⁶¹ Ibid., 48.

⁶² In modern times, much of Nordenskiöld's conclusions have been discredited. According to anthropologist Antje Christensen, "He [Nordenskiöld] assumed that the numbers indicate days and that the quipus contain astrological numbers. Unfortunately, his analysis lacks structure, and his calculation methods are rather far-fetched." Antje Christensen, "The Peruvian Quipu," in *History of Science and Knots* ed. J.C. Turner (Singapore: World Scientific), 74.

⁶³ Christensen, 74.

⁶⁴ After Nordenskiöld's publication, Locke read it and believed that this work was a positive contribution to the field. In 1927, Locke stated in another edition of his 1912 study that "Nordenskiöld, in accounting for the practice of placing quipus in graves, has predicated as a theory that grave quipus were calendrical in nature and may have been used for astrological purposes. The frequent appearance of astronomical numbers in the published quipus gives substantiation to this theory." Leslie Locke, *A Peruvian Quipu* (New York: Museum of American Indian Heye Foundation, 1927), 4.

work.⁶⁵ In his study, Nordenskiöld agreed with Locke's original conclusions and further argued that they were only a fragment of a larger and more intricate "khipu code."⁶⁶

Nordenskiöld use of Locke's name and research helped solidify both of their reputations as authoritative academic authors and khipu experts. By building on Locke's base-ten theory, Nordenskiöld set Locke's work as the foundations of the larger "khipu code" that many anthropologists would seek.

Nordenskiöld's implications that the number seven had similar "magical" connotations in both ancient and early modern culture is indicative of key ideas regarding the early evolutionary school of thought in anthropology. Early evolutionary anthropology in the 1920s largely dictated that:

Primitive' social organizations, within European Empires for example, were examples of the 'primitive Man,' the nature of humanity, and the origins of its institutions could be best understood through analysis of these various social groups and their relationship with more 'civilized' societies.⁶⁷

As a prominent European anthropologist during the 1920s, Nordenskiöld's work assumed that Incas were an early version of modern peoples. Although it may seem baffling that Nordenskiöld would fervently argue that the number seven had magical significance in Inca culture without even colonial sources to support him, it is less so when considering the dominant culture of scholastic anthropology during his time. As the quote above suggests, early evolutionary anthropologists believed that modern humans' cultural traits originated from old indigenous societies. These traits allegedly evolved over time and continued to describe modern Western culture in their most "civilized" form. In this

⁶⁵ Nordenskiöld, 2.

⁶⁶ Christensen, 74-80.

⁶⁷ "Internet Encyclopedia of Philosophy," 3.

context, Nordenskiöld very possibly believed the mystical meaning that “seven” held in early modern times as a lucky number had its magical origins with the Inca as ancient indigenous people.

Nordenskiöld’s study indicates influences from popular Social Darwinist thought during the early twentieth century. In Europe (Nordenskiöld’s home continent), Social Darwinist ideas were common among intellectuals in both the arts and sciences during the early 1920s. Prior to Darwin’s and Spencer’s works, however, early nineteenth century Enlightenment thinkers such as Georg Hegel (who believed that human cultures developed and advanced through stages over time) had incorporated the notion of human cultural evolution into intellectual circles. The notion of human evolution, which inspired Social Darwinism and had been prominent in European academic circles for decades, applied to “The Secret of the Peruvian Quipu.” Nordenskiöld never explicitly mentioned Social Darwinism in his study. However, he indicated Incas were “early” versions of modern men who conceptualized certain cultural mathematical concepts (such as “seven” as a mystical number) in their most primitive form. Thus, his research indicates ideas that pertained to Social Darwinism and human cultural evolution that been present ideas in European academic circles for near a century.⁶⁸

2.5-Analysis of Henry Wassen

Following Nordenskiöld in 1931, anthropologist Henry Wassen was the next khipu scholar to contribute to twentieth century khipu scholarship in “The Ancient Peruvian Abacus.” This article claimed that khipus were strictly numerical recording

⁶⁸ Bannister, 142-5.

devices and that Incas used specially designed tables to perform the mathematical calculations that khipus recorded. He argued that “I believe I shall be able to prove that in the Peru of pre-Columbian time computing tablets were used as an auxiliary when keeping count by the means of quipus.”⁶⁹ Wassen proposed that Incas used wooden or stone tables with a grid design to perform calculations. Each grid had varying numbers of small holes where Inca people placed small stones or corn kernels that, Wassen believed, aided them in doing complex mathematical computations.⁷⁰ Wassen published his research while translating Felipe Guaman Poma de Ayala’s writings about Inca khipus into English. Felipe Guaman Poma de Ayala (1535-1616) was a Quechua and Spanish-speaking nobleman from Peru who had both Inca and Spanish heritage. His 1615 work, *El Primer Nueva Corónica y Buen Gobierno*, criticized colonial Spanish power in Andean territory through numerous hand-drawn images and captions. Because Poma de Ayala partially identified as Inca, Wassen believed that Poma de Ayala’s images and writings of khipus were more reliable sources on khipus than other colonial accounts.⁷¹ One image depicts a *kipucamayoc* holding a long khipu. On the bottom left-corner, Poma drew a “a rectangular figure, consisting of 4 or 5 squares, each systematically marked with a number of circles or dots.”⁷² Wassen believed that this figure was in the image with the khipu because Poma de Ayala wanted to show that khipus were recording devices while Incas used these rectangular tables to perform the calculations.⁷³

⁶⁹ Henry Wassen, *The Ancient Peruvian Abacus* (Göteborg: 1931), 190.

⁷⁰ Molly Leonard and Cheri Shakiban, “The Incan Abacus: A Curious Counting Device,” *Journal of Mathematics and Culture*, 2010: 81-4.

⁷¹ Quechua was the Inca language.

⁷² Wassen, 192.

⁷³ *Ibid.*, 203-7.

Along with Poma de Ayala's drawing, Wassen also incorporated colonial Spanish writings on these calculating tables to supplement his argument that khipus were recording devices while the tables were the calculating mechanisms. Wassen used Father José de Acosta's writings on these tables to support his conclusion. In Acosta's book, *Historia Natural Moral de las Incas*, Acosta likely acknowledged the tables in stating that:

To see them [Incas] use another kind of calculator [computing tables], with maize kernels, is a perfect joy. In order to carry out a very difficult computation for which an able computer would require pen and paper, these Indians make use of their kernels. They place one here, three somewhere else and eight, I know not where... Whether this is not ingenious and whether these people are wild animals let those judge who will!⁷⁴

Acosta did not clearly or specially refer to the table that Poma de Ayala drew as supplements to the khipus and Wassen discussed this in his essay. Even so, this quote indicates that Incas used specially designed table to perform calculations, and Wassen logically concluded that these devices were the khipu supplements that Poma de Ayala drew.⁷⁵

While Poma de Ayala and Acosta suggested that these tables were calculating devices that *khipucamayocs* used to perform their calculations, neither of them stated exactly how the tables operated. Each table consisted of five columns and four rows. Wassen suggested that the top row represented the ten thousands place, the next the one thousands place, the next the one hundreds place, then the tens place, and finally the single digit section on the bottom. This theory was "in accordance with the decimal

⁷⁴ Ibid., 204.

⁷⁵ Ibid.; It is useful to note that scholars have discovered archeological evidence of these tables. During the 1930s, however, academics had not yet discovered these tables. Thus, Wassen only had writings and Poma de Ayala's image to work with.

system [that] is used in quipu computation and thus directly corresponds to an individual quipu cord in which the knots indicating units are at the bottom, the tens next above them, and so on.”⁷⁶ Each row has ten holes spread across it. Wassen believed that Incas who used these tables used different types of stones, kernels, or placeholders to represent each figure that they were adding, subtracting, or multiplying. For example, an addition problem might have been done with black stones representing the first figure and brown stones representing a number that they added to the first one. After placing the equation on the grid, Wassen suggested that they used a different placeholder to represent the final sum that the *kipucamayocs* then recorded onto the khipus.⁷⁷

In “The Ancient Peruvian Abacus” Wassen used colonial sources (such as Poma de Ayala and Acosta) as a base for his proposal regarding khipus and calculating tables. However, elements of his khipu description also have no colonial sources. One example of this was involves Wassen’s suggestion that the tables has the same base-ten structure as Locke’s proposal for khipus. Wassen stated that the Inca calculating table worked “in accordance with the decimal system [that] is used in quipu computation corresponds to an individual quipu cord in which the knots indicating units are at the bottom, the tens next above them.”⁷⁸ This referenced Locke’s theory. The specifics of how khipus operated as a base-ten system, as we remember, had no direct foundation in colonial accounts. Interestingly, Wassen never mentioned Locke’s name even though he clearly applied Locke’s base-ten theory in “A Peruvian Abacus.” Without acknowledging Locke,

⁷⁶ Ibid., 198-99.

⁷⁷ Ibid., 202-11.

⁷⁸ Ibid., 198-99.

Wassen incorporated some of the elements of Locke's proposal into his research. This shows how Locke's khipu theory, despite potential flaws, had become such an engrained, authoritative part of the discourse by the 1930s that academics rarely questioned him.

Wassen also referenced Nordenskiöld. "The Ancient Peruvian Abacus" first appeared in *Origin of the Indian Civilizations in South America*, which consisted of articles from various ethnologists and anthropologists that Nordenskiöld edited. When discussing khipus, Wassen stated:

bookkeepers and treasurers were found in all the cities and villages of the realm, and that they kept records of everything that happened—months and years as well as feasts and holidays. This information is highly interesting as it corroborates with the results arrived at by Nordenskiöld in his quipu investigations.⁷⁹

Wassen implied that he agreed with Nordenskiöld's proposal that khipus were calendrical, but did not discuss whether or not he accepted with Nordenskiöld's arguments regarding the number seven or the khipus' mystical properties in Inca culture. Nordenskiöld's claim that khipus were calendrical, however, had little basis in colonial Spanish sources. According to Nordenskiöld, de la Vega stated that Incas based their calendar around the moon. However, his proposal that khipus pertained to the movement of the moon and planets had no foundations in colonial accounts. Wassen fully accepted elements of Locke's and Nordenskiöld's khipu observations in his work. Thus, "The Ancient Peruvian Abacus" incorporated their views as scholars who formed much of their interpretations independently from colonial and Inca descriptions.

Scholars' use of sources from people who identified as partially Inca more reflected the colonial culture of the sixteenth century than precolonial Inca perspectives.

⁷⁹ Ibid.

By using de la Vega and Poma de Ayala's writings, academics like Locke, Nordenskiöld, and Wassen provided a strong Inca perspective to their research. However, these accounts were still greatly distanced from precolonial Inca culture. Regarding Poma de Ayala's work, for instance, Christensen observed that

he wrote that letter [*El Primer Nueva Corónica y Buen Gobierno*] 80 years after the Spaniards had entered the land, so he did not know life before the conquest from personal experience, and a strong Spanish influence can be found in his argumentation.⁸⁰

The Spanish conquest of Inca territory, which began in 1532, had greatly altered Inca khipu culture. For example, the First Provincial Council of Lima in 1551 deemed that *kipucamayocs* could only make new khipus that pertained to Catholicism. Incas were then only allowed to create khipus as memory aids for recalling religious instruction and as penance cords where the numerical values represented the number of sins they committed annually.⁸¹ The council of Lima in 1583 further banned khipu use for most religious purposes, on the grounds that they were crude, pagan devices that could not mesh with Catholicism despite earlier efforts.⁸² This oppressive culture affected the time period when Poma de Ayala (1550-1616) and de la Vega (1539-1616) observed khipus. Thus, these chroniclers interpreted khipus during a time when colonial Spaniards put laws into effect that suppressed Incas from making khipus that did not fit the conquerors' own imperialistic purposes.

Along with Poma de Ayala, Wassen also used Acosta's writings to argue that the Incas used them to get the final numerical sums that khipus conveyed. Acosta's account

⁸⁰ Christensen, 24.

⁸¹ John Charles, "Unreliable Confessions: Khipus in the Colonial Parish," *The Americas* 64 (2007): 11-33.

⁸² Galen Brokaw, *A History of the Khipu* (Cambridge: Cambridge University Press, 2010), 157-70.

further illuminates how colonial Spaniards often had little understanding or respect of Inca mathematical culture. After marveling over how the Incas used the calculating tables, Acosta wrote that “Whether this is not ingenious and whether these people are wild animals let those judge who will! What I consider as certain is that what they undertake to do they are superior to us.”⁸³ Acosta clearly indicated that he was part of a broader colonial culture that frequently portrayed the Incas as primitive, unintelligent, and animalistic. He expressed shock that Incas were capable complex mathematical computing, which also implies that Acosta had little previous exposure to Inca mathematical culture. This did not make Acosta a less reliable sources for Wassen’s purposes of evidencing the existence of ancient calculating tables. However, it illuminated the feelings of superiority and ignorance regarding Inca mathematics that many colonial Spanish writers incorporated into their writings. By using colonial Spanish sources, scholars distanced their studies from Inca perspectives. Although Spanish and Inca people coexisted throughout the sixteenth and seventeenth century, they experienced khipus through starkly different cultural lenses.⁸⁴

Wassen’s work also indicates the beginning of a decline in the academic use of Social Darwinism during the 1930s. Because he studied the development of a human institution (mathematics) among ancient peoples, Wassen incorporated aspects of evolutionary anthropology in his work. However, Wassen’s work less directly reflects the notion of cultural evolution over time. This is likely because, during the 1930s, Social Darwinism lost popularity in Europe. Many sociologists and political scientists

⁸³ Wassen, 204.

⁸⁴ *Ibid.*, 203-5.

negatively attributed Social Darwinism to the problematic foundations of Nazism prior to WWII. Also, prominent anthropologists of the late 1920s (especially North American anthropologist Ruth Benedict) argued that human culture made people unique from animals, and should not be treated as an aspect of human nature that evolves over long time periods the same way as physical traits. Benedict encouraged the application of cultural relativism in anthropology, which meant that individual societies developed unique cultures and that were not biological aspects of “human nature.” Wassen’s lack of prominent Social Darwinist ideas in his work indicates how Social Darwinism lost its reputation as prime social theory during the early 1930s.⁸⁵

However, Wassen still incorporated traits of evolutionary anthropology into his work. Early evolutionary anthropologists were interested in the development of institutions or organized ideas (such as standardized religions, languages, writing forms, or mathematical ideas) within old societies.⁸⁶ Wassen questioned how Incas developed a unique mathematical culture that relied on khipus and special calculation tables. Also similar to Locke and Nordenskiöld, Wassen questioned khipus’ role within an ancient, standardized mathematical system.⁸⁷

2.6-John Reed Swanton

Following Wassen, the next prominent khipu scholar was anthropologist John Reed Swanton. Swanton specialized in precolonial societies from North and South

⁸⁵ Geoffrey Hodgson, “Social Darwinism in Anglophone Academic Journals: A Contribution to the History of the Term,” *Journal of Historical Sociology* 17, no. 4 (2004): 428-31.

⁸⁶ Brown and Armelagos, 34-6.

⁸⁷ Wassen, 203-5.

America.⁸⁸ He published “The Quipu and Peruvian Civilization” in 1943. Swanton argued that khipus chronicled dates and events. He stated that de la Vega, who Locke and Nordenskiöld used in their works, only had a partial understanding of khipus as mathematical devices but failed to recognize their other functions. Swanton believed that khipus were narrative because:

a system of knots of this kind does, of course, lend itself very readily to the expression of numbers and the method of recording these is made very clear by Locke and Nordenskiöld. But it is evident that is of little utility to have the exact number of things unless we know what things.⁸⁹

Swanton suggested that the khipus’ colors, which previous scholars had not analyzed in detail, indicated specific words in a chronicle, mnemonic format. For example, he suggested that a red single knot represented a specific war or event, while the number on the cord represented the date. Furthermore, Swanton pointed out that many colonial Spanish writers, such as Cristoval de Molina (1529-1585), indicated that khipus “expressed qualities as well as quantities.”⁹⁰ Previous twentieth century scholars were reluctant to rely on colonial accounts when chroniclers did not at least partially identify as Inca. Swanton believed that this was a grave oversight and that too many colonial writers stated that khipus recorded histories and stories for there to be no truth in this.

Swanton’s argument that khipus held more than mathematical data was also rooted in his own personal belief that an empire as great and organized as the Incas must

⁸⁸ William Sturtevant, “History of Research on the Native Languages in the United States” in *Native Languages of the Southeastern United States*, eds. Heather K. Hardy and Janine Scancarelli (Lincoln: University of Nebraska Press, 2005), 50.

⁸⁹ Swanton, 4.

⁹⁰ *Ibid.*, 5.

have developed such a structure. This aspect of his argument reflected his own modern cultural views of what constituted as a “great” ancient society. He wrote:

Besides the arguments given above for supposing that this device [a khipu] was a more highly developed and a much more perfect medium of expression than some recent students have thought, I therefore add the fact that something of the kind is called for by the accomplishments in other fields of the people who employed it. It is demanded by the very real splendor of the Andean civilization as a whole.⁹¹

As Incas were highly accomplished in mathematics, architecture, and other sciences, Swanton could not fathom that they would have “missed out” on developing a system for representing events, people, and places. He then pointed out that the Maya and Egyptian hieroglyphs were all integral communication structures to ancient empires and conveyed non-mathematical information in ways that were unconventional to Westerners. He believed that the khipus had the same potential, and that their status as a chronicling device would make Incas as advanced as other vast and scientifically sophisticated precolonial empires. Swanton’s argument that khipus were narrative were partially motivated by his romantic views of what a society like the Incas, in comparison to Maya and Egyptian glyphs, should have.

Swanton’s work shared the values of evolutionary anthropology. A key aspect of this school was that ancient peoples’ culture supposedly represented an earlier version of the more “civilized” modern man’s. In “The Quipu and Peruvian Civilization”, Swanton indicated that a mnemonic recording system or writing structure was something that all ancient civilizations naturally developed. Swanton believed that Incas must have had a recording system (even if it was in a form that was foreign to early modern scholars) that

⁹¹ Ibid., 10.

compared to precolonial Mayans and Egyptians. These three civilizations gained considerable power and a profound understanding of mathematics, architecture, agriculture, and (excluding Incas) systems of recording non-mathematical data. As a society that was so advanced in other scientific areas, Swanton believed it natural that Incas would have developed a dominant, recording system that conveyed words and ideas because it “was demanded of them” to advance technologically in other disciplines.⁹² Thus, Swanton believed that the development of such a system was a part of the evolutionary process that all immensely powerful ancient societies (Maya, Egyptian, Babylonian) adopted no matter their differing locations and culture.

Swanton’s conclusions about khipus also greatly differed from previous khipu studies because he first contested Locke’s statements that the “khipu code” was strictly numerical. “The Quipu and Peruvian Civilization” marked an important transition period in twentieth century khipu scholarship. He was the first major khipu scholar of the century to argue that the khipus held non-numerical as well as numerical information. Although his work was drastically different from his predecessors, Swanton still aimed (like Locke and Nordenskiöld) to unlock as “khipu code.” In sharing this goal, every early khipu anthropologist that I discussed defined their author function with the same goal of “uncovering” a khipu code. Academics who followed Swanton, especially Carol Mackey, Marcia Ascher, Robert Ascher, Frank Salomon, and Gary Urton, also proposed that the khipus had numerical and narrative qualities. My second chapter examines their works in detail. Late twentieth century scholars were part of a dominant trend in the

⁹² Swanton, 10.

discourse of khipu scholarship that Swanton started, where academics challenged Locke's statements that khipus were only numerical and interpreted them as both mathematical and narrative devices. Before Swanton, khipu scholars primarily agreed that Locke's theory that khipus were purely numerical were correct, and then explored aspects of a numerical "khipu code" that Locke possibly missed. "The Quipu and Peruvian Civilization" changed the tide of khipu scholarship and incorporated the notion into the discourse that Locke's previously uncontested statement that khipus were only numerical was possibly very wrong.⁹³

With the dawn of the 1930s, Spencer's Social Darwinist theory became less prevalent in scholarly work. In 1943, historian Richard Hofstadter's influential work, *Social Darwinism in American Thought* argued that the brutality of recent Nazism was based in Social Darwinist views. He categorized it as unscientific and even mythological, as he did not believe humans culturally evolved over time or in natural selection in humans. However, Hofstadter's work actually led to an increase in the scientific use of the term in U.S. academia. In response to Hofstadter, many scholars argued that Social Darwinism was scientific and attempted to seriously reintroduce its ideas into academic circles. Swanton's work is indicative of this reaction. Swanton's work reflects this as he implied that the strongest humans who would continue to evolve hit specific, cultural evolutionary benchmarks (such as developing a mathematical or writing culture). Swanton believed that Incas must have developed a system for recording more than only mathematical data because they were such a vast and successful ancient human empire.

⁹³ Ibid., 1-10.

Thus, Swanton's work reflects elements of the persistence of Social Darwinist ideas and cultural evolution (despite an increase in criticisms from people like Hofstadter and Benedict) during the 1940s.⁹⁴

2.7-Conclusion

As Phair first noted in 1827, khipus appealed to academics because they represent a potential wealth of information on the Incas. Phair expressed his fascination with khipus by stating that "If Cadmus is in Elysium, the inventor of knot-writing must have some place of honor in the land of souls."⁹⁵ Cadmus, who was a beloved monster slayer in ancient Greek mythology, ended up in Elysium. Elysium was a special place in heaven for epic heroes and demigods. Phair's comparison of the inventor of "knot writing" to Cadmus illuminates Phair's belief that khipus were ingenious devices and that their inventor reflected the otherworldly qualities of a mythological hero.⁹⁶ It also indicates that Phair thought that khipus likely constituted as a form of writing, and this was why they were deserving of such poetic praise. Even before Swanton, the notion that khipus recorded more than only numerical sums had entered the scholarship. However, Phair also admitted that the colonial source base that was available to him (and the same base that early twentieth scholars had to work with) on khipus could not show exactly how the khipus recorded items or ideas. Thus, Phair thought that khipus' fantastic purposes would remain hidden unless a new source emerged that explained exactly how they functioned.

Intellectuals of the early twentieth century attempted to fully describe Inca khipus rather than accept that, as Phair and Foucault both believed, there will always be ruptures

⁹⁴ Hodgson, 428-31.

⁹⁵ Phair, 229.

⁹⁶ Ibid.

in knowledge that scholars cannot fill. As part the of evolutionist school of thought in anthropology, the academics that I discussed were interested in how Incas developed their (primarily) mathematical culture through khipus and also how Incas possibly represented an early version of early twentieth century human culture. Their works also reflected changes in the ways that Social Darwinism affected North American and European culture during the early twentieth century. Through their texts, early twentieth century scholars proposed khipu interpretations that often had only a loose base in colonial Spanish descriptions. In this process, anthropologists distanced themselves from colonial writings (the only written sources on khipus from people who actually observed them) by imposing structures onto the khipus that were possibly almost entirely fictional. All of these scholars created khipu interpretations and had no direct foundations in Inca or colonial khipu descriptions. Taking inspiration from Locke in 1912, early twentieth century khipu scholars proposed exactly how that khipus functioned despite the gaps and flaws that colonial sources (especially) provide.

Locke, Nordenskiöld, Wassen, and Swanton also all distanced their research from Inca perspectives. The khipu anthropologists who I discuss analyzed physical Inca khipus for their research. However, they primarily interpreted them through colonial Spanish writings or (such as with Nordenskiöld) their own personal beliefs regarding khipus that had no strong basis in colonial or Inca descriptions.⁹⁷ Many different Spanish writers all indicated that that either a numerical or narrative “khipu code” exists. Numerous, albeit

⁹⁷ Christensen, 24.

contradictory, colonial accounts imply that khipus had vital numerical and narrative functions within the Inca Empire. These writings inspired academics to sift through them in hopes that at least one expresses genuine knowledge of khipus' purposes.⁹⁸ These early twentieth century scholars may one day prove to be entirely correct and their creative risks will pay off. However, they also risked crystalizing khipus and Inca peoples with fictional traits that more describe contemporary than precolonial perspectives.

⁹⁸ Ibid., 24-6.

Chapter 3

Western Khipu Scholarship from 1969-2004

3.1-Introduction

This chapter analyzes North American khipu scholarship from 1969 to 2004. Beginning in the late 1960s, a new school of anthropologists emerged who incorporated modern indigenous Andeans' perspectives into their khipu studies. Carol Mackey, Marcia and Robert Ascher, Gary Urton, and Frank Salomon are the most prominent anthropologists who incorporated these views in their studies. They also argued that aspects of the khipus that previous scholars largely ignored, such as color schemes and spacing between the cords, recorded qualitative as well as quantitative information. The scholars that I discuss developed a new methodology that incorporated the perspectives of modern indigenous Andean peoples who used khipus in everyday life in their interpretations. As scholars searched for the elusive "khipu code", they attempted to find similarities in the structure and use of ancient and modern khipus. These intellectuals took a new direction by attempting to use modern Andean perspectives to decipher the meaning of ancient khipus.

This chapter continues to analyze academic khipu literature. Chapter Two provides a chronology of later twentieth century khipu scholars' works. I study how their

arguments built off previous research while moving the field forward by introducing new ideas to the dominant discourse. This chapter also sets the stage for chapter three, where I further analyze how late twentieth and twenty first century khipu scholarship reflects scholars' cultural understandings of what constitutes civilized and sophisticated communication device.

One prominent academic movement that khipu scholars disagreed with, because they believed that it wrongly misrepresented indigenous peoples, was an ideological framework called *Lo Andino*. In its simplest form, *lo Andino* describes the continuity of modern Andean indigenous identity through traditions that have supposedly remained unchanged since the precolonial period. According to archeologist Parker VanValkenburgh, *Lo Andino*:

entails the presumption that there are certain institutions, practices, and beliefs that have been held onto or adhered to within communities, or between communities, over long periods of time – if not from the earliest occupation of the Andes by humans. These features are represented as though they are autochthonous parts of the landscape, not products of human social interaction, contestation, and change...⁹⁹

Lo Andino problematically assumes that indigenous Andean societies maintain traditions that have inexplicably resisted change over time. VanValkenburgh clarified that:

the persistent argument that the Andes has been home to distinctive social and cultural formations should not be seen as negative. However, anthropological perspectives on the Andes have suffered from the general problems of the direct historical approach – that is, a tendency to reify changing societies as static structures.¹⁰⁰

⁹⁹ VanValkenburgh and Urton, 4.

¹⁰⁰ VanValkenburgh and Urton, 2.

Another issue with *lo Andino* is that it assumes that certain precolonial traditions, on a broad regional scale, have not changed over time and continue to define modern indigenous identities. However, anthropologists who did fieldwork in the Andes region noted that different native societies relate to the Inca past differently. Urton, for example, observed that indigenous peoples in Peru often proudly defined their modern identity through traditions that were rooted in the Inca culture. More native societies in Bolivia, however, believed that Inca traditions clash with their Catholic views and rejected them.¹⁰¹ For these reasons, the khipu scholars that I examine found *lo Andino's* principals detrimental to anthropological studies and avoided endorsing its principals in their work.

From the 1960s until the early 2000s, many anthropologists used *lo Andino* in their research. The khipu scholars that I study grappled with *lo Andino* because it had significantly influenced the culture of Andean ethnographic fieldwork during the middle and late twentieth century, even if these particular ethnographic scholars refused its principals. I analyze how each work's response to *lo Andino* reflected the author's efforts to form their studies to avoid its use and central idea that and any aspect of indigenous culture remained unchanged for hundreds of years. However, I further argue that khipu anthropologist's relationship with *lo Andino* is complicated, and that their research shared goals with *lo Andino* in drawing conclusions about the Inca past based on contemporary indigenous perspectives.

The khipu scholars who I study were part of the ethnographic school of thought, which emerged in the late 1930s and gained prominence during the 1960s. Ethnographers

¹⁰¹ Veronica Lysaght, in discussion with Gary Urton, June 2015.

believed that fieldwork research was necessary research component to anthropological study. Similar to evolutionary anthropology and its ties to Social Darwinism, many ethnographic scholars also studied culture (to an extent) as a part of human biology. American anthropologist Clifford Geertz (1926-2006) believed that “culture can be reduced to biology and that culture also influences biology, though he [Geertz] felt that the main aim of the ethnographer was to interpret.”¹⁰² While ethnographers like Geertz studied both human culture and biology together, ethnographic scholars still interpreted indigenous peoples through their own subjective cultural lenses. In this chapter, I show how Western ethnographers had to constantly grapple with the extent that they could objectively and scientifically describe indigenous peoples.

The anthropologists who I study in this chapter also reflect a broader historical context involving the reputation that anthropologists gained during the later twentieth century as Westernized problem solvers and peacemakers in indigenous communities. During the later twentieth century, the U.S government formed a number of organizations that encouraged anthropologists to live in (especially Latin American) countries and attempt to peacefully resolve political and social issues within their designated society. Project Camelot, which emerged in 1964 for example, hired anthropologists and sociologists to study counter-insurgency movements in South America. While the U.S government presented it with peacemaking intentions, critics argued that it was an imperialistic organization meant to use representatives of the U.S. army to halt the

¹⁰² “The Philosophy of Anthropology.”

potential spread of socialism in third-world countries. The Center for Research on Social Systems, which followed Project Camelot, had virtually the same goals.¹⁰³ In this chapter, I analyze how khipu literature reflects aspects the growing culture of anthropologists whose work became socially viewed as humanitarian and the historical backdrop of organization like Project Camelot, which painted Western anthropologists as valuable aids to the U.S. government.¹⁰⁴

Before we understand how scholars disagreed with the central principals of *lo Andino*, it is important to understand how academics used it in full confidence during the later twentieth century. Even before the term “*lo Andino*” entered Andean scholarship, intellectuals began centering their research around its principals. In 1962, for example, anthropologist Tom Zuidema wrote *The Ceque System of Cuzco: The Social Organization of the Capital of the Inca*. Zuidema wrote that “The principal aim of this study has been to describe and explain the particular system on which the social and political organization of Cuzco was based.”¹⁰⁵ He conclusions regarding Incas’ political and social structures through fieldwork with modern indigenous Andeans. This aspect of his project assumed that elements of the ancient Incas’ societal structures persevered over time and continued to describe contemporary indigenous peoples. As an ethnographic anthropologist, fieldwork research with modern indigenous Andeans was also a component of his study. Based on his fieldwork research, Zuidema stated that “Although

¹⁰³ Joy Rohde, "Gray Matters: Social Scientists, Military Patronage, and Democracy in the Cold War," *Journal of American History* 96, no. 1, (2009): 301.

¹⁰⁴ "Internet Encyclopedia of Philosophy."

¹⁰⁵ Tom Zuidema, *The Ceque System of Cuzco: The Social Organization of the Capital of the Inca* (Leiden: Proefschrift, 1962), 7.

the development of Indian society since the Spanish conquest must certainly be taken into account, it is nevertheless noticeable how much of the pre-conquest culture has been preserved.”¹⁰⁶ Zuidema’s work illuminates how fieldwork research and *lo Andino* began to affect Andeanist scholarship during the mid-twentieth century.

In 1984, anthropologist John Murra embodied *lo Andino* in “Andean Societies,” which argued that modern Andean peoples’ distinct use of cloth as status symbol had not changed since precolonial times.¹⁰⁷ Like Zuidema, Murra’s methodologies included fieldwork with modern people who inhabited the central Andes. Based on fieldwork research, Murra concluded that ancient practices regarding cloth culture also described modern Andean peoples. Murra also introduced the term “*lo Andino*” into anthropological scholarship. Anthropologist Olivia Harris disapproved of Murra’s (and Zuidema’s) work for centering around the “preference for understanding the quality of lived experience in the past, rather than the dynamics of historical transformation” in 1990.¹⁰⁸ Anthropologist Zachary Chase stated in 2003 that “In presenting Andean cultural achievement as a complex, Murra conflates its “autochthonous” nature with its uniqueness.”¹⁰⁹ Chase criticized Murra for assuming that unique aspects of indigenous culture were simply inherent aspects of modern indigenous peoples who inhabited the Andean region.¹¹⁰ Murra’s work shows that, by the 1980s, *lo Andino* had become a more established framework within anthropologist Andean scholarship. The criticisms that his

¹⁰⁶ Zuidema, 13.

¹⁰⁷ Zachary Chase and Steven Kosiba, “University of Chicago: Lo Andino Position Paper,” (paper presented at the VanChiVard conference and workshop, Nashville, Tennessee, March 30-31, 2003), 1.

¹⁰⁸ VanValkenburgh and Urton, 2.

¹⁰⁹ Chase and Kosiba, 3.

¹¹⁰ Ibid.

work received from colleagues (including Harris) show that many anthropologists who followed Murra found serious issues with this framework. The most common critique of Murra's work was that he falsely described indigenous people by painting them as people who never changed certain aspects of their culture since precolonial times. Murra's work attracted criticism from those who believed that his arguments severely misrepresented indigenous peoples.¹¹¹

Anthropologists continually debated *lo Andino*'s usefulness until the 1900s and early 2000s. For example, geographer Daniel Gade praised *lo Andino* in 1999 as "the culture complex that has survived the harsh acculturation imposed during the colonial period and the technological changes of the modern world."¹¹² However, many scholars disagreed with Gade's view. To address this growing debate, anthropologists Tom Salman and Annelies Zoomer co-edited *Imaging the Andes: Shifting Margins of a Marginal World* in 2003. The thesis goal was to "provide for a broad and varied discussion on the question about the degree to which the notion of *lo Andino* as a scientific tool and category is still a useful one."¹¹³ This work highlighted a number of articles from anthropologists who believed that *lo Andino* was useful, and works from those who disagreed. Also in 2003, Vanderbilt University held an academic conference where various scholars presented papers concerning their opinions of *lo Andino*. Some scholars, including Gary Urton, attended the conference and argued that *lo Andino* "failed to fully appreciate the historical

¹¹¹ "The Philosophy of Anthropology."

¹¹² VanValkenburgh and Urton, 2.

¹¹³ Tom Salman and Annelies Zoomer, eds., *Imaging the Andes: Shifting Margins of a Marginal World* (Aksant: Amsterdam University Press, 2003), 3.

dimensions of social process in the [Andean] region.”¹¹⁴ Others, such as Tom Dillehay, proposed *lo Andino* as useful. He stated that:

There also is the question of *lo andino* within *lo andino*, implying variation within the ways and means Andean societies maintained themselves through local or self-generated reconstruction and accommodation as they interacted with other Andean societies in the past and changed themselves according to their own local (and perhaps less regional or pan-Andean) structures.¹¹⁵

Before Spanish colonization, Incas expanded their empire by conquering smaller indigenous groups who were culturally different than the Incas. Over time, the subjugated people altered traditions over time as they adapted to Inca rule. In this context, Dillehay proposed that *lo Andino* could be useful for analyzing how these peoples perfectly preserved aspects of their culture through this process. The examples that I discussed show how, well until the twenty-first century, debates surrounding *lo Andino*'s usefulness permeated Andeanist scholarship.

In this chapter, I analyze the work of Mackey, the Aschers, Urton, and Salomon. Their khipu studies all involved ethnographic fieldwork and addressed the issues with *lo Andino*. There are some Andean indigenous communities, mainly in Peru, who actively use modern khipus. Different societies used khipus differently. For example, Mackey observed people who used them to account for crops and livestock. Salomon, on the other hand, noted that the khipus primarily had ceremonial purposes among indigenous people in the Tupicochia District of Peru.¹¹⁶ Each of the scholars that I study undertook fieldwork that incorporated modern indigenous Andeans' views into their khipu

¹¹⁴ VanValkenburgh and Urton, 2.

¹¹⁵ Tom Dillehay, “Reflections on *Lo Andino*,” (paper presented at the VanChiVard conference and workshop, Nashville, Tennessee, March 30-31, 2003), 2.

¹¹⁶ Veronica Lysaght, in discussion with Gary Urton, June 2015.

interpretations. These khipu scholars thought that *lo Andino* was an inappropriate concept that misrepresented modern indigenous peoples. I examine how these ethnographic anthropologists, in direct response to *lo Andino* and its central principals, developed khipu scholarship to place modern indigenous Andeans as people who offered heavily filtered (but never perfectly preserved) perspectives of Inca culture. They believed that Inca people shared tentative cultural links with modern indigenous peoples. Like early evolutionary anthropologists, these ethnographic scholars were interested in discovering how khipu use evolved over time, but remained connected to the precolonial past.

3.2-Carol Mackey: A Trendsetter

In 1969, anthropologist Carol Mackey wrote *Knot Records in Ancient and Modern Peru*. She argued that precolonial khipus' knots' different colors and the Inca practice of tying two khipus together both had mnemonic significance within the Inca Empire. She believed that khipus' colors, especially, operated as non-verbal cues for recounting objects. She further argued that the words that knot colors indicated was up to the *khipucamayoc*. For example, she suggested that an Inca *khipucamayoc* likely made a knot a certain color in order to recall for him or herself what was being recorded. Like virtually every khipu expert before her, she credited Locke for unlocking Inca khipus' base-ten structure. However, she also recognized that he did not question whether or not prominent elements of khipus, such as khipu knots' various hues, had a role in the "khipu code."¹¹⁷ In her work, she proposed that these traits had significance among Incas.

¹¹⁷ Carol Mackey, *Knot Records in Ancient and Modern Peru* (Ann Arbor: University of Michigan Press, 1969), 3.

Mackey used three main source bases as evidence for her argument that Inca khipus were mnemonic devices. For one, she extensively used Pedro de Cieza de Leon's (1520-1554) accounts because he wrote that khipus were mnemonic devices and spent many hours observing *khipucamayocs*. Secondly, Mackey compared Inca khipus in North and South American museums, which she called the general sample of khipus, with caches of khipus. Caches are sets of khipus that were made by same *khipucamayoc*. By comparing these two types of khipus, Mackey observed that khipus from the caches showed color-based patterns that did not appear in the general sample or other caches. She concluded that this was because the patterns were mnemonic cues that only aided the *khipucamayoc* who made them.¹¹⁸ Finally, Mackey stated that "to achieve a more complete explanation it was also felt that modern quipu should be studied."¹¹⁹ Between 1965 and 1967, she visited over forty communities that used khipus. She most studied how indigenous peoples in Cusco, Puno, and the Laramarca District of Peru used khipus. Mackey then compared the contemporary khipus with Inca khipus and further concluded that precolonial khipus were mnemonic devices because:

ancient quipu exhibit a standardized format, there was nevertheless, much room for individual innovation and idiosyncrasy. It would appear that color of the pendent cords was totally up to the user. This is the case in modern quipu and there does not appear to be enough standardization in the ancient quipu color patterns indicate that it was any different in Inca times.¹²⁰

Mackey used all three source bases as evidence that khipus' colors and other aspects of their structure were mnemonic. Her study was groundbreaking because she was the first khipu scholar who did such extensive fieldwork research with modern khipu users.

¹¹⁸ Mackey, 3.

¹¹⁹ Ibid.

¹²⁰ Ibid., 6.

When researching indigenous people who still used khipus in Cusco and the Laramarca District of Peru, Mackey found that modern and ancient khipus showed color patterns that indicated that they were mnemonic devices. She studied the similarities between transverse cords' color schemes in precolonial and postcolonial khipus. The transverse cord, also known as the primary cord, is the horizontal cord that attaches to the vertical pendant cords. Ancient and modern *kipucamayocs* sometimes ornamented them with short tassels at the ends. In modern khipus from Cusco and the Laramarca District of Peru, Mackey noted that the tassels were mnemonic cues that, based on the tassels' color, indicated what objects khipus counted. These khipus usually related to herding, and recorded livestock animals. With ancient khipu caches, Mackey observed that individual *kipucamayocs* seemed to prefer certain color schemes on tassels. She could not find any general color patterns that indicated that the hues were part of a standardized code when she compared the caches to the general samples. This indicated that color schemes on ancient khipus also served as mnemonic cues. The ancient tassel showed patterns similar to modern khipus, which were mnemonic aids for contemporary Andean peoples. Thus, Mackey concluded that Incas also likely used the colored tassels memory aid cues.¹²¹

Mackey also found that modern indigenous people in the Paucartambo region tied khipus together when both khipus counted either the same type of objects, dissimilar objects that were related, (such as sheep and pounds of wool), or different objects or animals that were counted on the same day. Regarding this practice, Mackey determined that:

¹²¹ Ibid., 123-30.

Since various explanations exist for modern quipu, is unwise to conclude that any single explanation applied to ancient quipu and since quipu are individual mnemonic devices it is probable that the same alternatives existed in ancient times as exist today.¹²²

Based on her experiences with modern khipus, Mackey thus proposed that ancient khipus that Incas tied in twos were mnemonic choices that could also have numerous explanations, depending on the khipu maker.

Mackey, as part of the ethnographic school of thought, was also a naturalist anthropologist. These anthropologists:

argue that their method [fieldwork research] is ‘scientific’ in the sense that it is based on empirical observation but they argue that some kinds of information cannot be obtained in laboratory conditions or through questionnaires, both of which lend themselves to quantitative, strictly scientific analysis.¹²³

Mackey formed much of her conclusions that ancient khipus were mnemonic from colonial writings and her analyses of ancient khipus in museums. However, a portion of her research involved fieldwork with modern indigenous societies because these perspectives were necessary to help her evidence how ancient khipus acted as memory aids. Although naturalism had been present in anthropology since the 1950s, Mackey was the first academic to extensively use fieldwork research in analyzing Inca khipus. She thus began a new trend as a khipu scholar that would eventually become dominant within the scholarship.¹²⁴

Mackey was an ethnographic anthropologist. She studied and lived with indigenous peoples as a part of her research. Some of the key ideas of ethnographic anthropology were

¹²² Ibid., 179.

¹²³ "The Philosophy of Anthropology."

¹²⁴ Mackey, 8.

influenced by notion, which had become popular during the later twentieth century, that people needed to live with indigenous peoples in order to truly understand life from their perspectives. For example, president John F. Kennedy called the Peace Corps into existence by executive order in 1960. This government organization gave educated volunteers the chance to live and work with impoverished (often indigenous) peoples in countries outside of the United States. This created the backdrop for the emerging popularity of ethnographic anthropology in the West during the 1960s. Although as anthropologists, ethnographers mainly used their fieldwork experiences to answer academic questions. For example, observational research was a key component to Mackey's study on similarities between ancient and modern khipus. Mackey believed ethnographic fieldwork was a vital to her work (along with colonial sources and ancient archeological data), and thus introduced ethnographic anthropological techniques to khipu scholarship.¹²⁵

Although Mackey made conclusions about Inca khipus based on her experiences with modern khipus, she rejected *lo Andino*'s principal that any precolonial practices had remained largely unchanged over time. During the time of Mackey's publication, the term "*lo Andino*" had not entered Andeanist scholarship. However, its principal that precolonial Andean traditions remained unchanged over vast amounts of time had become a part of the scholarship, as evidenced by Zuidema's work from 1962.¹²⁶ However, Mackey

¹²⁵ Molly Geidel and Lipsitz George, "INTEGRATION AND ITS LIMITS: From Romantic Racism to Peace Corps Authenticity" in *Peace Corps Fantasies: How Development Shaped the Global Sixties* (Minneapolis: University of Minnesota Press, 2015), 33-70.

¹²⁶ VanValkenburgh and Urton, 2.

found that many native people did not want her to associate them with khipu use. The main reasons were:

the use of a quipu is an Indian trait; it can be categorized as an old superstition and can therefore be considered against the teachings of the church...the most common reason given for not using quipu was that a particular hacienda was *muy adelante* (very progressive) and such a primitive device would not be used. This is reasonably true in the Department of La Libertad and Puno but less true in Cuzco, which is still one of the more traditional areas.¹²⁷

While many indigenous peoples from Peru used modern khipus, others strongly believed that khipus had no use in the twentieth century. Depending on the region and culture, people related to their Inca past differently. Thus, Mackey showed that postcolonial indigenous Andean identity was not necessarily rooted in precolonial traditions and ideologies, which is a key idea of *lo Andino*. Mackey incorporated a new dominant methodology into khipu scholarship, which involved studying Inca khipus through modern indigenous perspectives. In the process, she distanced her work from *lo Andino's* notion that aspects of contemporary South American culture remained unchanged for hundreds of years.¹²⁸

Mackey observed that changes over time since colonization sometimes drastically affected how Andeans viewed Inca khipus, as evidenced by the indigenous peoples who adopted Catholic views and believed that Incas khipus clashed with their modern Catholic identity. However, Mackey's research also embodied aspects of *lo Andino*. *Lo Andino* scholars argued that academics can make definite conclusions about the precolonial past by observing indigenous peoples' modern practices. In some aspects, Mackey rejected the

¹²⁷ Mackey, 131.

¹²⁸ *Ibid.*, 130-75.

notion that modern khipu usage remained completely unchanged over time. However, much of her arguments involved finding similarities between modern and ancient khipus that would supposedly prove that aspects of khipu culture had not changed over time. Mackey believed that, to an extent, she could understand Inca khipu use based on (mainly) similarities in color patterns and structure between modern and Inca khipus. Her work thus shows contradictions in her grappling with *lo Andino*'s central principals.¹²⁹

3.3-Analysis of Marcia and Robert Ascher

In 1981, Marcia (mathematician) and Robert (anthropologist) Ascher were the next academics to introduce new ideas into khipu scholarship through *Code of the Quipu: A Study in Media, Mathematics, and Culture*. They proposed that khipus conveyed fractions, decimals, and color labels where specific hues represent corresponding objects.¹³⁰ Like Mackey, the Aschers also used de Leon's writings to evidence that ancient khipu colors were more than decoration and represented (likely as mnemonic memory-aids) specific objects. "Code of the Quipu" also conveyed their thesis argument by laying out math problems that challenged readers to design khipus that recorded fractions, decimals, and numerical or color labels with a pencil and paper. For example, one section asked readers to draw a khipu that told the "auto service hours for four weeks" of a hypothetical car shop.¹³¹ Although car usage certainly does not describe Inca culture, the Aschers believed that the concept of color labeling that this problem required was relevant to Incas. On the following pages, the Aschers revealed the problem's answer. They stated that khipu cords

¹²⁹ Ibid.

¹³⁰ Ascher and Ascher, 1-28.

¹³¹ Ibid., 25.

needed to be color-coded where a different color represented a specific day of the week. Readers could express “Monday,” for instance, with the color red. Concerning fractions and decimals, the Aschers also included numerous math problems that required readers to draw fictional khipus that conveyed these concepts. “Code of the Quipu” was unique in the scholarship because it challenged its readers to understand how the khipus possibly functioned through hands-on math problems.¹³²

Another way that the Aschers’ notably contributed new ideas to khipu scholarship was their third chapter, which taught readers to make khipus from household materials. The purpose for this was to help readers and students “construct a quipulike object and to express some contemporary messages using elements from the quipumaker’s symbolic system. But these are only the basics; they are prerequisite to an understanding of the concepts used by the quipumaker.”¹³³ As evidenced by their use of the word “quipulike” in describing homemade khipus, the Aschers were clear that they only asked readers to make an imitation version of khipus that only faintly reflected the Inca makes. Even so, the Aschers believed that this exercise helped students understand Inca khipus’ basic structure. The “How to Make a Quipu” chapter used images and step-by-step instructions to teach students to create khipus using colored yarn, a needle, and half of a raw potato as a needle placeholder.¹³⁴ Through this process, the Aschers incorporated a new methodology into the field that proposed that scholars could better understand Inca khipus by making their own

¹³² Ibid., 81-117.

¹³³ Ibid., 13.

¹³⁴ Veronica Lysaght, in discussion with Gary Urton, June 2015; This “how-to” greatly influenced khipu scholarship, as some prominent academics who followed the Aschers also used this work to teach students to better understand the khipus by making their own. In graduate student classes on khipus that Gary Urton taught at Harvard University in the early 2000s, for example, he used the Aschers’ book in a class assignment where students had to make their own khipus.

contemporary models. Their “How to Make a Quipu” chapter is indicative of the Westernization of khipu scholarship. The Aschers still required their readers to better understand Inca khipus by making their own khipus as modern, Western khipu makers who have virtually nothing in common with Inca peoples.

Mackey’s use of modern indigenous perspectives in her khipu descriptions influenced the Aschers’ work. However, Marcia and Robert Ascher did not specifically address Mackey in their research. Likely, Mackey’s conclusions became so engrained within khipu scholarship by the 1980s that the Aschers did not see the need to specifically address them. Mackey, for example, argued that specific knot and tassels colors on both modern and ancient khipus were mnemonic cues. *Code of the Quipu* also explored how ancient khipu colors possibly acted as aide-mémoires through “modern” khipus the readers designed. For instance, the Aschers presented a color-labeling problem where the solution required each khipu cord to mnemonically represent a generic sports team with a color of the reader’s choice.¹³⁵ The Aschers later wrote that “Basically, the quipumaker designed each khipu using color coding to relate some cords together and distinguish them from other cords.”¹³⁶ Mackey first witnessed indigenous khipumakers who used unique color patterns to represent specific items and differentiate them from cords that recorded other objects. Because ancient khipus showed similar patterns, Mackey suggested that modern and Inca *khipucamayocs* used various colors to label specific objects. Without mentioning her, the Aschers’ quote describes ancient khipus with Mackey’s discussion of colors as

¹³⁵ Ascher and Ascher, 88-9.

¹³⁶ *Ibid.*, 12-17.

labels in ancient and postcolonial khipus. These examples illuminate how Mackey's studies of modern and ancient khipu use likely influenced *Code of the Quipu*.

The modern khipus that the Aschers asked their readers to make at home also reflects Mackey's descriptions of contemporary indigenous perspectives of khipus. The "How to Make a Quipu" chapter requires colored yarn so readers can create their own mnemonic color combinations that represented items of the khipu maker's choice. The Aschers believed that this section helped readers understand the "significance of the color of cords and significance of the color of the knots."¹³⁷ Here, the Aschers applied Mackey's observations regarding modern khipu usage to their proposal that Inca khipus had a mnemonic, color coded system. Mackey observed that, in most modern khipus, "items being counted and each colored string stood for an item within that category. Taking the example of llamas, the first cord could stand for bulls, the second for females, the third for baby males, etc."¹³⁸ Mackey then proposed that this use of colors also applied to Inca khipus. The Aschers' "how-to" guide instructs students to form khipus that reflect the form and functions of modern indigenous khipus that Mackey observed because they also proposed that colors were mnemonic memory aids.¹³⁹ Thus, the Aschers seemingly incorporated Mackey's research on modern indigenous societies in the "How to Make a Quipu" chapter.¹⁴⁰

The Aschers 1981 work incorporated modern indigenous perspectives as Mackey described them in their proposals for how Inca khipus conveyed information. *Lo Andino*

¹³⁷ Ibid., 12

¹³⁸ Mackey, 6.

¹³⁹ It is important to note that for this project, the Aschers were only trying to get their readers to understand the very basics of khipu making.

¹⁴⁰ Ascher and Ascher, 12-21.

became an established academic term by Murra. Although Andeanist scholars like Zuidema and Murra had published works that ignored how Andean societies changed over time, the Aschers' research avoided this principal in their work. They argued that, in modern times, there was no such thing as a pure Inca perspective on khipus. They stated that:

There are words from a story that the Incas told about their own origins. At first, it seemed a good way to start: what better way is there to begin to discuss the quipus of the Incas than by using an Inca story about their own beginnings. But right away, we must pause: the story was spoken in Quechua, recorded in Spanish, and translated into American English. Once aware of this, we cannot go any further until we answer the question, how do we know anything about the Incas?¹⁴¹

The “story” that the Aschers referred to was the information on Inca khipus. Spanish writers translated oral Quechua accounts of khipus through their language and cultural lens, and twentieth century North American scholars conceptualized these colonial writings through their respective language and contemporary Western culture. The Aschers believed that time and multiple layers of cultural perceptions altered scholars' ability to fully understand khipus as Incas used them. While modern and ancient khipus may share certain similarities, contemporary indigenous Andeans have different cultural perspectives than Incas because their societies and cultural views on khipus changed over time. This quote indicates that the translation of information over time, through different cultural lenses, has irrevocably affected our ability to ever understand khipus as Incas used them. Even so, the Aschers continued to develop khipu scholarship to attempt avoid *lo Andino* because it involves ignoring the dynamics of change over time.

3.4-Analysis of Gary Urton's Research

¹⁴¹ Ibid., 1.

Gary Urton's *The Social Life of Numbers: A Quechua Ontology of Numbers and Philosophy of Arithmetic* was the next major study that analyzed how modern indigenous peoples provided potential insights about Inca khipus in 1997. Urton argued that the mathematical culture of contemporary Quechua speaking communities provided insights regarding numerical and narrative functions of ancient khipus. For his fieldwork, Urton studied native Quechua speakers in Surce, Bolivia, Candelaria in Columbia, and rural parts of the Peruvian Andes. He also used insights from Primitivo Nina Llanos, who was a Quechua language professor in Surce. Urton's introduction observed that twentieth century academics primarily described Inca khipus with mathematical language and concepts more Western than Incan. This was problematic because precolonial Incas spoke Quechua and developed khipu mathematics through a non-Western cultural context. Urton stated that:

The numbers [on khipus] have in all cases been translated using Hindu-Arabic numerals or the language of numbers of the investigator, especially English and Spanish. Such approaches to the khipu numbers inevitably mask, and eliminate from analysis, any values and meanings that may have been attached to these numbers by the Quechua-speaking bureaucrats of the Inka empire who recorded information.¹⁴²

Urton addressed this issue by analyzing aspects of mathematical culture that were unique among indigenous Quechua speakers and proposed that these distinct concepts applied to ancient khipus. He believed that "such values could provide us with the basis for approaching the task of deciphering the narratives recorded on the khipus-a challenge which we have not addressed in a serious way to the present day."¹⁴³ In addressing issues with past khipu interpretations, Urton was the first khipu academic to use postcolonial

¹⁴² Gary Urton, *The Social Life of Numbers: A Quechua Ontology of Numbers and Philosophy of Arithmetic* (Austin: University of Texas Press, 2004), 2.

¹⁴³ Urton, "The Social Life of Numbers," 2.

Quechua-speaking culture as a filter for analyzing how ancient Quechua speakers possibly used khipus.

Regarding modern Quechuan mathematical culture, Urton discussed how, in Sucre and Candelaria, Quechua speakers uniquely described items, such as stars in the sky, that were too abundant to feasibly tally. Urton observed that

While such things are, practically speaking, uncountable in our culture, in Quechua they are considered to be uncountable both practically and philosophically speaking. The way of phrasing the unaccountability of such things as the blades of grass in a field in a field is quite empathetic in Quechua; one says of such a challenge, *mana atikuq* (it is not doable).¹⁴⁴

In Sucre, indigenous Quechua speakers uniquely described objects as unfeasible to count because, on a practical level, it would be impossible. Urton stated that in Western culture, on the other hand, people typically described uncountable objects on a philosophical level by stating that, for example, all of the stars in the sky or drops of water in the ocean are “infinite.”¹⁴⁵ Thus, modern Quechua speakers culturally speak of objects that are too many to count differently than modern English or Spanish speakers.

Another class of uncountable objects referred to items that Quechua speakers in Surce found offensive to individually count. These included livestock and crops. Regarding crops, for example, Urton found that “a person who would count his harvested potatoes is called *papa yupa* (potato counter). This is an insulting epithet...It is considered to be bad luck to become so obsessed with your production.”¹⁴⁶ Many indigenous Quechuans also believed that individually counting livestock was inappropriate. Based on fieldwork and

¹⁴⁴ Ibid., 101.

¹⁴⁵ Ibid.

¹⁴⁶ Ibid., 102.

Llanos' explanation, Urton stated that "The act of counting the members of a group, as though they were individuals, constitutes a threat to the reproductive capacity and unity of the group." Modern Quechuan farmers counted animals based on family-based reproductive groups because these creatures had the most value to people if they could reproductively function. When counting animals individually, the significance of these creatures' role within family units was lost. Urton did observe some instances where farmers counted animals individually. For example, farmers needed to be sure that all of their cows who have been grazing the fields all day came back safely. However, in most cases, Quechua-speaking farmers counted animals in terms of family groups because their primary value relied on their role within a family unit. Thus, Urton found that modern Quechua speakers had culturally unique views on the sorts of animals or crops that were appropriate to count.

In addition, Urton proposed that modern Quechuan understandings of uncountable items contained possible insights on ancient khipu functions. As many colonial Spanish sources agree that khipus recorded statistical data and tax information, Urton believed that khipus likely kept track of livestock or animals products that Inca bureaucrats demanded from their subjects. Based off these assumptions, he wrote that "I would state, as an alternative hypothesis for future analysis, that the khipu records may have been intended to be interpreted as establishing ordinal relations among reproductive units."¹⁴⁷ From his research on modern Quechuan mathematical culture, Urton suggested that khipus likely counted animals as family groups, instead of individually. Because animals were so

¹⁴⁷ Ibid., 103.

important as part of larger family groups in modern Quechua-speaking culture, Urton suggested that at least some khipus specifically recorded animal groups in reproductive units. Furthermore, Urton found it unlikely that khipus ever represented items in the first category of uncountable objects, as a vast majority of colonial writings state that khipus only recorded objects that they could practically tally. Through these proposals, Urton incorporated modern Quechuan perspectives into his views regarding khipus and hypothesized that Incas and modern Quechuan people shared similar cultural ideals regarding uncountable items.

“The Social Life of Numbers” referenced previous khipu analyses and introduced new ideas into the discourse of khipu scholarship. For instance, Urton referenced the Aschers’ studies in his second chapter. He cited *Code of the Quipu* for his statement that “complex quantitative manipulations, such as the calculation of fractions or ratios are at least indirectly documented for the Quechua, Aymara, and other peoples of the pre-Hispanic Andes in the knot records of the khipus.”¹⁴⁸ Regarding Mackey’s work, without directly referencing her, Urton seemingly adopted her methodologies for analyzing Inca khipus. Like Mackey, Urton used modern indigenous perspectives to form his proposals of Inca khipus’ functions. However, Urton applied her methodology differently as he studied native Quechua speakers’ numerical culture while Mackey studied modern, mainly Spanish-speaking indigenous people who actually used khipus. Building on previous the Aschers’ and Mackey’s studies, Urton further explored how precolonial khipus possibly conveyed unique elements of Quechuan mathematical culture.

¹⁴⁸ Ibid., 139.

Urton developed his work to avoid *lo Andino*. While he suggested that Inca and modern Quechuan speakers shared similar mathematical cultures, he also admitted that Quechua-speaking culture had possibly changed so much over the past centuries that it no longer shared any strong links with the Inca version. He stated that:

It is possible, of course, that the prohibition on counting reproductive units that I encountered in my research was not, in fact, operative in pre-Hispanic times; that is, this scruple may be a process of historical processes and attitudes that arose during or since the colonial era.¹⁴⁹

Urton was wary to make any definite statements about how modern Quechuan culture pertained to ancient khipus when Spanish colonization so drastically altered all aspects of Inca life. His conclusions regarding Inca khipus and uncountable objects were primarily speculation-based, as he could not use modern practices as definite evidence that Incas had the same views of uncountable objects. During the late twentieth century, Urton was one of the most outspoken critics against *lo Andino* because it entailed describing modern people in the context of the distant past. In a paper that he presented at a 2001 conference at Vanderbilt University on *lo Andino*'s potential issues and usefulness, he argued that the framework:

failed to fully appreciate the historical dimensions of social process in the region; at worst, we have contributed to what Johannes Fabian sees as the fundamental problem of Western anthropology – the “persistent and systematic tendency to place the referent(s) of anthropology in a time other than the present...”¹⁵⁰

In *The Social Life of Numbers*, Urton acknowledged that Andean peoples adapted and reformulated their Quechua-speaking culture over time, and Spanish colonization particularly affected changes in the language's postcolonial development. Hence, Urton

¹⁴⁹ Ibid., 104.

¹⁵⁰ VanValkenburgh and Urton, 2.

further steered the practice of describing Inca khipus through modern indigenous perspectives away from *lo Andino* by discussing the likelihood that Spanish colonization and global modernization had altered Inca khipu culture over the past centuries.

Urton's work indicates that it is not possible to draw definite conclusions about the Inca past based on fieldwork research with modern Andeans. In "The Social Life of Numbers," Urton acknowledged that he had no evidence of whether or not the practice of counting animals in family groups among Quechua-speakers had been introduced by Spaniards after colonization or if this practice applied to both contemporary and ancient Quechua-speaking cultures. His proposal for ancient and modern khipus worked was primarily an educated guess. However, his suggestion that ancient and modern khipus did count cattle in the exact same manner also shows that Urton's goals aligned with *lo Andino* scholars who proposed that ultra-specific aspects of Andean culture remained unchanged for hundreds of years.¹⁵¹ Much like Mackey's and the Aschers' work, Urton's study evidences that ethnographic anthropologists and *lo Andino* scholars share common goals.

In "The Social Life of Numbers", Urton responded to *lo Andino*'s central principals.

He stated that:

Superficially "romantic" investigations of contemporary Quechua society and culture as outlined here are often viewed with uneasiness, if not with outright disdain, especially by some who insist on seeing Andean peoples today solely as the victims of poverty...to ignore, and thereby undervalue the complex traditions and systems of knowledge that have been maintained and continually rethought and reformulated by Andean peoples through history strikes me as performing a disservice to people who have been regarded over the past five hundred years as too culturally and intellectually debilitated to offer anything of interest to the record of human accomplishments.¹⁵²

¹⁵¹ Urton, "The Social Life of Numbers," 102-4.

¹⁵² *Ibid.*, 2-3.

Urton criticized academics who embodied *lo Andino*'s principal that modern indigenous Andeans had not changed over time enough to contribute new knowledge to contemporary academic discourses. He found works that ignored the dynamics of change over time as a gross misrepresentation of Andean peoples. Urton argued that Andean peoples restructured their traditions by changing them over time, rather than preserving them by keeping them unchanged. In this sense, Urton's work shares similarities with early evolutionary anthropologists who believed that ancient cultural traditions survived by evolving over time. As a strong critic of *lo Andino*, Urton deliberately distanced himself from the notion that any aspect of Andean culture had not experienced change over time in "The Social Life of Numbers."¹⁵³

Urton published his work in 1997, during a time when many Western anthropologists working on forming standardized code of ethics for the field:

For example, the most recent American Anthropological Association Code of Ethics (1998) emphasizes that certain ethical obligations can supersede the goal of seeking new knowledge. Anthropologists, for example, may not publish research which may harm the 'safety,' 'privacy' or 'dignity' of those whom they study, they must explain their fieldwork to their subjects and emphasise that attempts at anonymity may sometimes fail, they should find ways of reciprocating to those whom they study and they should preserve opportunities for future fieldworkers.¹⁵⁴

This movement for standardized ethical values in ethnographic anthropology likely arose after anthropologists' attempts to do humanitarian work for the U.S. government had done more harm than good to indigenous peoples during the later twentieth century. For instance, the emergence of Project Camelot in 1964 called for anthropologists to work for the U.S. Army "undercover." These anthropologists were to live with indigenous peoples

¹⁵³ Ibid., 2-3.

¹⁵⁴ "The Philosophy of Anthropology."

in (usually) Latin American countries and had to report to the U.S government about the reasons for violent political uprisings in that country. Plans often involved the Western anthropologist reporting information to the U.S. Army without indigenous peoples' knowledge. The U.S. government technically cancelled Project Camelot in 1965 because it received heavy criticism from the American Anthropological Association for promoting an imperialistic relationship between Western and native peoples. It also unethically employed anthropologists to lie to about their motives to indigenous peoples. However, Project Camelot continued to operate under a different name, called the Center for Research on Social Systems until the 1980s. Along with extension of organizations like Project Camelot, the American Anthropological Association continued to criticize its use of social scientists as agents of the U.S. government organizations.¹⁵⁵

Following the issues involved with Project Camelot and the Center for Research on Social Systems, the American Anthropological Association created a standard set of ethical code guidelines and encouraged ethnographers to follow them during the 1990s. This especially included full disclosure between the observer and the subjects.¹⁵⁶ In "The Social Life of Numbers," Urton reflected these goals. He aimed to portray indigenous peoples respectfully and with full disclosure of his research, and passionately argued that ethnographic scholars who insisted on viewing Andeans as people who were less intelligent or inexplicably ignored the dynamics of change over time had unethically portrayed native peoples through their misrepresentations. Urton's work thus reflects a time when

¹⁵⁵ Rhode, 187-95.

¹⁵⁶ "The Philosophy of Anthropology."

anthropological scholastic associations attempted to build a definite code of ethics in response to past interactions between anthropologists and indigenous peoples on behalf of the U.S. government.¹⁵⁷

3.5-Analysis of Frank Salomon's Text

In 2004, anthropologist Frank Salomon was next to analyze Inca khipus through modern indigenous perspectives in *The Cord Keepers: Khipus and Cultural Life in a Peruvian Village*. In this work, Salomon argued that Inca khipus conveyed a concept based communication system. This means that khipus conveyed information through signs or symbols rather than as a phonetic writing system. To articulate this argument, Salomon quoted linguist Geoffrey Sampson's statement that:

There would appear in principal to be no reason why a society could not have expanded a semasiographic system by adding further graphic conventions, until it was fully as complex and rich in expressive potential as their spoken language. At this point they would possess two fully-fledged "languages" having no relationship with one another—one of them a spoken language without a script, and the other a 'language' tied intrinsically to the visual medium.¹⁵⁸

Salomon suggested that the Inca khipus functioned as a standardized "second language" that conveyed concepts but did not constitute "writing" in a conventional sense. According to Salomon, examples of a secondary concept-based language in modern times are road sign pictures; they convey universal meaning but generally do not constitute as "writing" among linguists. Salomon believed the khipus operated as part of a standardized communication system, because colonial records (including de la Vega's writings) state

¹⁵⁷ "Internet Encyclopedia of Philosophy."

¹⁵⁸ Frank Salomon, *The Cord Keepers: Khipus and Cultural Life in a Peruvian Village* (Durham: Duke University Press, 2004), 27.

that *kipucamayocs* often communicated with each and shared (primarily) tax information and historical records with one another. Thus, he believed that *kipucamayocs* besides the khipu maker would need to be able to “read” khipus.¹⁵⁹

Salomon did extensive fieldwork research with an indigenous village in the Tupicochian District of Peru that used modern khipus to form his conclusions. The Tupicochian people used khipus for ceremonial purposes. For example, local community leaders wore khipus around their shoulders during their induction ceremony. Tupicochian people constructed these patrimonial khipus after the Spanish conquest.¹⁶⁰ Up until the 1920s, however, Tupicochian elders and leaders frequently updated the cords and used them to keep population and community work-rotation records. In his work, Salomon primarily studied the Tupicochian peoples’ khipus as both modern ceremonial items and through written records regarding their community role until the 1920s to form his conclusion that ancient khipus functioned as a concept based language.¹⁶¹

In his work, Salomon explored how modern Tupicochian khipus functioned ceremonially. In the Tupicochian district, khipus were both political status symbols and representations of the community’s reverence for the Inca past. The most esteemed members of Tupicochian society publically wore khipus on special occasions. For example, in Lima in 2001, Tupicochian community leaders draped themselves in the colorful cords and danced as part of the Peasant Day parade ceremony. Also, people who earned positions as local community leaders wore the cords around their necks for the initiation ceremony.

¹⁵⁹ Salomon, 1-28.

¹⁶⁰ Patrimonial khipus are khipus that have historic meaning within a community but are not currently in use as record-keeping devices. Ibid., 34.

¹⁶¹ Ibid., 1-6.

This included modern *kipucamayocs*, who had the important role of maintaining and preserving the khipus, and other community authorities who oversaw local affairs. Only people of high status were eligible to ever wear the khipus, as they represented prestigious positions within Tupicochian society. Salomon noted that the khipus were, when he did his fieldwork in the 1990s, only used for ceremonial purposes and no indigenous person claimed that they could read the knots as Incas had, mathematically or narratively. However, the Tupicochian people treasured the khipus because their pride in the Inca past was part of their modern Andean identity, which they expressed through ceremonial khipu displays.¹⁶²

Tupicochian khipus represented high community status within the community and reverence for the Inca past. Like these modern khipus, Salomon believed that ancient khipus also referenced concepts but did not operate as a written language. He proposed that modern khipus were a version of Inca khipus that indigenous people reformulated and restructured numerous times over the past centuries. Salomon thought it likely that both modern and ancient khipus shared concept-based meaning. The Inca Empire was multi-lingual and consisted of conquered societies who sometimes were not fluent in Quechua. Salomon noted that “Millennially old as it seems to be, and developed as it was among people who spoke a multitude of languages, the art of putting information on a string may actually be a branching tree of inventions.”¹⁶³ Salomon hypothesized that the Incas developed a standardized “second language” through khipus that consisted of signs and symbols rather than verbal sounds (as an alphabetic language would do) that referred to

¹⁶² Ibid., 52.

¹⁶³ Ibid., 13.

specific concepts. This, he argued, would be more efficient in a multi-lingual empire because it would be easier for non-Quechua speakers to read without the complex dynamics of grammar and linguistic structures of written languages. Salmon's speculations that khipus were a concept-based second language were based in his observations of modern Tupicochian khipus and his reasoning concerning the multi-lingual Inca empire.¹⁶⁴

From the 1870s until, roughly, the 1920s, indigenous Tupicochian people actively used khipus for record-keeping purposes. Salomon stated that:

Tupicochia abounds in written archives: Not just its community archives, but archives written by each individual *parcilidad* or *allyu*. *Allyu* books allude to the *quipucamayos*, without actually telling what information the cords contained. However, since books and cords belong to overlapping periods and were presented as records at the same gatherings, where books gradually replaced cords, the two media probably covered overlapping functions¹⁶⁵

Salomon used written records to search for possible links between modern Tupicochian and Inca khipus. The books do not explicitly state what information khipus held or how they recorded this information. However, if Salomon was correct that books and khipus kept the same type of records, then Tupicochian khipus recorded local census information of individuals, family groups, and each subject's age as well as individuals' work-related commitments. Irrigation canal maintenance that benefitted the entire community, for example, was the responsibility of all Tupicochian people who were able to work. Based on the written archives, Salomon concluded that both modern Tupicochian khipus and written records likely recorded which family groups were supposed to aid in maintaining irrigation canals that week. Until the mid-1920s, *kipucamayocs* kept track of this

¹⁶⁴ Ibid., 1-20.

¹⁶⁵ *Allyus* consisted of local, indigenous leaders who kept books and had the most political power among the Tupicochian people. Ibid., 148.

information and annually presented it at community meetings, where both khipus and written accounts from several other representatives ended up being recorded with pen and paper in one official archive collection.¹⁶⁶

Salomon found that Tupicochian written archives mentioned that, at annual meetings, modern khipu users often untied and retied knots on a single khipu to update information. For instance, khipus that kept track of work rotations or a debt that someone had to pay could be undone once a person completed his or her work responsibilities or completed a payment. Salomon was not sure how the modern knots specifically conveyed such specific information until the 1920s, as written records of khipu recordings did not say and no Tupicochian person could answer the question. After reading about updated khipu, Salomon re-examined modern Tupicochian khipus and found that “The Tupicochian specimens show signs of having been made by multiple hands, and altered at various times...”¹⁶⁷ These updates primarily consisted of knots that someone had tied and untied multiple times. Salomon also studied ancient khipus housed in museums in Lima, where he found precolonial specimens that showed wear marks indicating that someone had untied previously tied knots. He then proposed that both Inca and the modern khipus conveyed concepts that could easily be erased and updated multiple times. According to Salomon, this indicated that khipus were a concept-based language device because such would have been more practical and convenient to constantly update than the intricate grammatical structures of a written language.

¹⁶⁶ Ibid., 148-52.

¹⁶⁷ Ibid., 335.

The Cord Keepers: Khipus and Cultural Life in a Peruvian Village built off the work of Mackey, the Aschers, and Urton by incorporating indigenous perspectives. Salomon credited Mackey as the first major scholar to extensively analyze modern khipus in Peru. Years later, he was the second scholar to do so and applied her idea of searching for structural similarities between contemporary and precolonial khipus to the specific Tupicochian village. Salomon credited the Aschers with introducing the possibility that “khipu numbers can function as ‘label numbers’ (like a social security number, they register identity rather than quantity).”¹⁶⁸ Finally, Salomon credited Urton as “the anthropologist who has done the most to advance khipu studies in recent years.”¹⁶⁹ This in reference to both *The Social Life of Numbers* and another study where Urton proposed that Inca khipus operated as a sort of binary code (I discuss this work extensively in Chapter Three). Salomon’s work built off the methodologies and ideas of previous scholars as he contributed a study that incorporated modern indigenous perspectives into his khipu interpretation.

Salomon, much like his predecessors, incorporated aspects of *lo Andino* in his work in drawing conclusions about ancient khipus based on observations of modern khipu use. He stated that “I suggest that for Andean purposes the end of the cord-inscribing age should be imagined not as a death but as a fading half-life, like radioactive decay...”¹⁷⁰ Khipus, as organic objects, have chemical half-lives where the levels of Carbon-14 lesson over time but never completely disappear. Salomon poetically stated that khipus have philosophical

¹⁶⁸ Ibid., 38.

¹⁶⁹ Ibid., xix.

¹⁷⁰ Ibid., 262.

“half-lives” where, over time, the Inca aspects of khipus constantly waned but never fully disappeared. He stated, for example, that the existence of modern Tupicochian *kipucamayocs* proved that aspects of Inca khipu culture survived for decades, even though these *kipucamayocs* could not read khipus as Incas had done. As geographer Daniel Gade argued in 1999, *lo Andino* allowed scholars to focus on the aspects of Inca culture that had supposedly survived, unchanged, despite Spanish colonization and global modernization over the past centuries.¹⁷¹ Similar to *lo Andino*, the “half-life” metaphor indicates that aspects of ancient khipu culture have survived unchanged for centuries (even if these aspects continually dwindle over time). In his conclusion, Salomon stated that “living memory in Tupicochia connects with the quipocamayoc legacy too tenuously to offer any breakthrough.”¹⁷² While modern Tupicochian khipu culture shared links with ancient khipus, the two cultures were still too distanced from each other for Salomon to be able to definitely prove how the two relate.

3.6-Conclusion

For centuries, scholars have been fascinated by Inca khipus and have attempted to “decode” them and unlock their secrets. During the middle twentieth century, however, academics began to seriously incorporate modern indigenous perspectives on contemporary khipus into their research on ancient khipus. Fieldwork research with modern indigenous Andeans, starting with Mackey, became a prominent part of the dominant discourse of khipu scholarship. The development of this methodology in khipu

¹⁷¹ Gade stated that *lo Andino* was “the culture complex that has survived the harsh acculturation imposed during the colonial period and the technological changes of the modern world.” VanValkenburgh and Urton, 2.

¹⁷² Salomon, 261.

scholarship and anthropology generally also brought the challenge of grappling with the issues with *lo Andino* that had greatly affected Andean anthropological scholarship during the late twentieth century. Rather than adopt *lo Andino*'s principals that placed its subjects more in the context of the past than the present, scholars developed the discourse of khipu scholarship to distance itself from *lo Andino*. As Salomon noted with his "half-life" metaphor, no aspect of Inca khipu scholarship has remained completely in-tact over time. When drawing conclusions about Inca khipus' functions through modern indigenous views, the best these scholars could do was suggest how modern and Inca khipus operated based on possible links and similarities between contemporary and ancient cultures. Even so, all of the academics of this chapter significantly moved the field of khipu scholarship forward by using modern indigenous perspectives as they explored khipus' mathematical and narrative possibilities.

My study of anthropological khipu fieldwork throughout the later twentieth century was indicative of the many issues that ethnographic scholars faced in trying to describe indigenous peoples ethically. The historical backdrop of later twentieth century (especially in the 1960s) anthropological research was complicated, as non-academics and anthropologists alike were encouraged by U.S. governmental organizations to act as peacemaking humanitarians who lived and worked with native peoples. However, higher anthropological organizations disapproved because they imperialistically involved imposing Western culture on native peoples and reporting their behavior to the U.S. government without their knowledge. Anthropological associations reacted to this by attempting to set up a standardized ethical code that involved the ethnographer's full disclosure of their research to indigenous peoples. On top of these issues, *Lo Andino* also

confused Western ethnographic scholars' ability to honestly portray indigenous peoples. While khipu scholars denied its central principal that any aspect of Andean culture remained unchanged over time as unethical and misrepresenting of Andean peoples, the very nature of their work entertained the possibility that perhaps (even very small) aspects of Inca culture did survive until the present. Their works show that these studies, which were groundbreaking in many ways, leave the reader confused on whether or not anthropologists can make any definite conclusions about the Inca past based on modern indigenous views.

Anthropologist Zachary Chase stated, in reference to Urton's and Salomon's works, stated that "With all of this literature, it would seem that anthropological studies of the Andes are leaving behind the conceptualizations, constraints, and products of the "lo andino" debates. We have begun to liberate ourselves from Procrustes bed..."¹⁷³ In ancient Greek mythology, Procrustes was Poseidon's son. He had a mountain lair where he lured travelers to spend the night in the "Procrustean bed." The issue was, no person fit perfectly into the bed. Procrustes mauled travelers with an iron hammer in order to force the guest's limbs to fit, mauling and killing them in the process. Gruesome as this story is, it is a strong metaphor for *lo Andino*, which involves unnaturally forcing indigenous people to fit a romanticized mold of the precolonial past. Scholars who used *lo Andino* have held Peruvian scholarship back by falsely promoting modern indigenous Andean identity as something that has been inexplicably immune to historical change. It involves completely reformulating modern Andean peoples into a culture that fits

¹⁷³ Chase and Kosiba, 8.

Western idealizations of the precolonial “Andean” and fails to appreciate complex realities of how indigenous peoples relate to the past and present. Although khipu scholars have done much to move Peruvian scholarship away from *lo Andino*, its presence also has a “half-life” in which it becomes less prominent and academically acceptable but never fully disappeared from Peruvian scholarship.

Chapter 4

Twenty First Century Khipu Scholarship

4.1-Introduction

In Chapter Three, I discuss how twenty-first century scholars' khipu interpretations reflected their desire to find a writing structure within Inca khipus. Since the early 2000s, numerous studies have focused on proving that Incas could read khipus as narratives rather than numerical and mnemonic devices. In this context, I study works from anthropologists Jeffrey Quilter, Sabine Hyland, and Gary Urton. In addition, I examine various academic contributors' work, including Urton, on a class on khipu interpretation at the Massachusetts Institute of Technology. Finally, I utilize Galen Brokaw's 2010 study, *A History of the Khipu*, which expressed concern that recent academics irrationally ascribed Inca culture with their own modern biases of what constitutes as complex writing systems. Brokaw's study provides valuable criticism on recent khipu scholarship.¹⁷⁴ Excluding Brokaw, these scholars proposed that khipus constitute a form of writing and should be viewed as highly complex cultural artifacts. I argue that in recent scholarship, academics' khipu interpretations reflect their desire to

¹⁷⁴ Urton and Quilter, 1.

classify khipus as an intricate and sophisticated communication device that they can read. In this process, they described khipus as complex by standards that directly reflect cultural contemporary standards of complexity and sophistication.¹⁷⁵

Recent khipu anthropologists were part of a new school of thought that analyzed khipus only as non-mnemonic, standardized writing devices. Scholars of this school interpreted khipus very differently than past evolutionary and ethnographic anthropologists. For instance, both evolutionary anthropologists and many ethnographers who studied Incas believed that contemporary humans shared cultural traditions or aspects of those traditions with ancient peoples. Ethnographers and evolutionists were interested in how khipus possibly operated as either a concept-based communication structure, as mathematical devices, or (in Mackey's and the Aschers' case) as mnemonic devices. Twenty-first century anthropologists are unique because they insisted that khipus must have operated as a standardized writing system. Thus, their works represent a significant change in thought from the earlier twentieth century.¹⁷⁶

The issues involved with the "Crisis of Representation" applied to anthropologists, archeologists, and historians of ancient cultures during the twenty first century. Anthropologist Dell Hymes defined this term in 1974 as the practice of imposing Western structures (such as mathematical and writing systems) onto indigenous peoples; scholars who did this risked misrepresenting native peoples as more akin to Western than non-Western culture. "The Crisis" originally criticized ethnographers who believed that they could shed their Western perspectives and learn to "live" and "think" as their

¹⁷⁵ Urton and Quilter, ix-xi.

¹⁷⁶ "The Philosophy of Anthropology."

research subjects. I show how recent anthropological khipus works reflect a broader culture where academics (including anthropologists, archeologists, and historians) responded to “Crisis of Representation” by arguing that their impositions of Western structures (such as in mathematics and writing) on indigenous peoples can lead to new discoveries.¹⁷⁷

Khipu anthropologists’ impositions of Westernized writing structures onto Inca khipus are indicative of the “reflexive turn” response to the “Crisis of Representation.” Anthropologist Charlotte Davis coined this term in 1999 through her argument that the “purpose of research is to mediate between different constructions of reality, and doing research means increasing understanding of these varying constructs, among which is included the scholar’s own constructions.”¹⁷⁸ I argue that each khipu scholar’s khipu interpretation reflected a “constructions of reality” that was indicative of the author’s personal desire to discover a writing system. “Reflexive turn” scholars also assert that no research study can be completely objective. In the case of recent khipu scholarship, as well as other academic disciplines that study ancient cultures, academics have increasingly imposed Western writing and mathematical structures onto ancient cultures. In the process, they fail to understand how Incas, as ancient non-Western peoples, possibly created a communication device that is not comparable to Western writing systems.

I apply aspects of Said’s Orientalist theory from *Orientalism* in this chapter. Said argued that post-Enlightenment European chroniclers described Middle Eastern people as

¹⁷⁷ Ibid.

¹⁷⁸ Ibid.

primitive and barbaric in their writings to justify conquering and “civilizing” Asian peoples. This chapter analyzes how modern North American scholars’ contemporary writings and khipu interpretations restructured Incas to be more “civilized” per North American standards. The scholars that I discuss indicated that Incas, if they did not have a central narrative structure besides oral language, were inferior to societies with writing systems. By describing khipus as “writing” or something very similar, academics argued that Incas deserve the reputation of a highly civilized ancient society. In *Orientalism*, Said argued that Western writings barbarized Middle Eastern peoples. The academics that I discuss glorified Incas as highly civilized in their texts. Despite this difference, my loose use of *Orientalism* is appropriate because in either case, Western writers interpreted a non-Western society through their own cultural lens of what constituted as a complex and sophisticated culture.

The academics that I discuss also all argued that past mnemonic khipu proposals injusticed Incas by oversimplifying khipus’ functions within the Inca Empire. I analyze how the progression of Maya scholarship during the late twentieth century affected khipu scholars’ desires to uncover a complex khipu code. Up until the 1960s, many Mayanist scholars could not read Maya glyphs. Archeologist Eric Thompson was one of the most prominent ancient Mayanists of the early twentieth century, and he insisted for decades that academics who saw the glyphs as a standardized writing system were wrong.¹⁷⁹ Despite Thompson’s role in holding the decipherment process back, Russian and North American intellectuals decoded Maya glyphs in the 1960s as a written language and

¹⁷⁹ Michael Coe, *Breaking the Maya Code* (New York: Thomas and Hudson Inc., 1992), 123.

proved that those who previously argued otherwise were incorrect. In khipu scholarship, most twenty-first century academics believed that past scholars who wrote that khipus were only mnemonic held the field back and hindered Andeanists from deciphering the khipus' "complex narrative code" as Mayanists had done. This chapter shows how recent scholars compared Mayan glyph and Inca khipu scholarship, and indicated that Incas could only be as complex and technologically advanced an ancient society as Mayas if they had a comparable narrative structure.

Chapter Three discusses twenty-first century khipu scholarship, but many of the field's dominant traits that developed during the early twentieth century apply to contemporary times. For example, most twenty-first century academics continued Locke's legacy of forming highly creative khipu interpretations that are only based in colonial sources. Some khipu experts that I examine here formed their specific proposals in response to Locke and other scholars that I discussed in Chapter One. This chapter further analyzes some of the intellectuals that I studied or mentioned in Chapter Two (especially Gary Urton) and their role as they continued to develop khipu scholarship into the twenty-first century. Building off the previous chapters, Chapter Three delves into the final segment of the discourse of khipu scholarship.

4.2- Jeffrey Quilter Analysis

Anthropologists Gary Urton and Jeffrey Quilter, as co-editors, published *Narrative Threads: Accounting and Recounting in Andean Khipu* in 2002. This work consists of thirteen articles, all from different scholars who interpreted khipus as narrative devices. Each proposal is unique from his or her colleagues.' For instance, Urton's article, "Recording Signs in Narrative/Accounting Khipu," insisted that khipus operated

as a phonetic, alphabetic language. However, Robert Ascher's article ("Inka Writing") argued that khipus functioned as a "concept based" system.¹⁸⁰ Ascher believed that khipus represented specific concepts (in a similar way that a red traffic light means 'stop' on a universal scale but does not constitute as writing) that any literate *khipucamayoc* could understand. Despite differences in interpretations, every author involved in "Narrative Threads" shared the common goals of bettering understanding khipus' narrative potential. The articles from the *Narrative Threads* articles that I analyze here have been highly influential in shifting the scholarship to almost solely concern the search for a narrative, non-mnemonic "khipu code."¹⁸¹

Quilter wrote the "Narrative Threads" introduction. This section outlined the work's main goal, which was to better academic communities' understandings of khipus' non-mnemonic, narrative potential. He also expressed concern that current and past academics were primarily interested in studying ancient Mayans because the grand artistic structures and intricate writing system more romantically appealed to Western scholars than Inca culture.¹⁸² In this process, he believed that academics have largely snubbed the ancient khipus and their possible narrative functions. Quilter stated that:

In the Andes, the keepers of the khipu, the Inka, have not appealed to the romantic sensibilities of Westerners as have the Maya...if Maya glyphs can be appreciated as an art as well as a medium of communication, khipu seem to be merely an extension of folk craft. Knotted strings, perhaps to reminiscent of macramé wall hangings, do no appeal to Western artistic tastes as do the brush strokes of a Maya scribe or limestone blocks carved as if they were butter.¹⁸³

¹⁸⁰ Quilter and Urton, 103, 195.

¹⁸¹ Ibid., xiv.

¹⁸² Ibid., xv.

¹⁸³ Ibid., xv.

Due to lack of scholastic interest in khipus, Quilter believed that scholars had largely failed to appreciate khipus as intricate narrative devices in comparison to Maya glyphs. He hoped that “Narrative Threads” would generate more academic interest in khipu decipherment. The “Narrative Threads” introduction argued that khipus had dominant narrative functions because khipus seem to show elaborate patterns in colors, knot placement, and cord directionality that mirrored the complexity of ancient Maya hieroglyphs.¹⁸⁴ Through his introduction, Quilter showed that his intentions for “Narrative Threads” involved proving that khipus, as communication devices, compared to ancient Mayan writing.¹⁸⁵

Quilter’s introduction indicates that he wanted to specially encourage more interest in khipus among Western scholars. He specifically calls for Western anthropologists to view khipus as complex communication devices, and that khipus must have operated as a system of writing. In this process, he indicated his belief that scholars with a Westernized cultural lens have a strong chance in successfully uncovering a “khipu code.”¹⁸⁶ Quilter deliberately called for a stronger Western presence in khipu scholarship. Thus, he reflected the issues involved with the “Crisis of Representation” because Quilter was more concerned with comparing khipus to modern Western writing structures than exploring how they operated as a product of an ancient indigenous society.

¹⁸⁴ In khipus, Incas wove pendant cords together in either a S (counterclockwise) or Z (clockwise) pattern. Cord directionality was an aspect of khipu scholarship that some academics, especially Gary Urton and Frank Salomon, began seriously interpreting as a part of the “khipu code” in the early twenty first century. *Ibid.*, 171-96.

¹⁸⁵ *Ibid.*, xv.

¹⁸⁶ *Ibid.*

Quilter believed that khipu scholarship could best move forward if intellectuals focused on unearthing a non-mnemonic, narrative khipu code. In this way, Inca scholarship would “catch up” to Mayan anthropologists and archeologists who already decoded ancient Maya glyphs. The “Narrative Threads” introduction stated that “Despite an early precociousness, the study of khipu has lagged far behind the decipherment of Maya glyphs.”¹⁸⁷ Quilter thought that Inca scholarship was destined to follow the same path as Maya scholarship, and that academics would one day “decipher” a narrative khipu code, even though a Maya glyph and an Inca knot are entirely different in structure and likely have little in common. This was despite setbacks from past academics who insisted that khipus were not narrative. With Maya writing, some scholars (especially Eric Thompson), believed that Thompson held Maya scholarship back by denying all attempts to decipher them until academics finally figured out how to read them during the 1960s.¹⁸⁸ In his chapter, Quilter compared Locke to Thompson and argued that Locke hindered the decipherment process of Inca khipus. Locke’s groundbreaking 1912 article, which has been foundational to the field, insisted that khipus had no narrative properties. “Narrative Threads” argued that non-narrative khipu interpretations, as academics like Locke proposed, depicted khipus as too simple and un-complex.¹⁸⁹ In order to distance khipu scholarship from the Western perspective that khipus resembled “macramé wall hangings,” Quilter argued that anthropologists needed to view khipus as an intricate

¹⁸⁷ Ibid., xiv.

¹⁸⁸ Coe, 230-67.

¹⁸⁹ As scholars still have no concrete sources that explain the a “khipu code,” however, it was and still is possible that Inca khipus functioned so differently that Maya hieroglyphs that academics cannot decipher a narrative khipu code that even compares to ancient Maya script.

writing system in order to unearth a complex written structure that compared to Maya glyphs.¹⁹⁰

Quilter further argued that khipus must have had a standardized narrative structure because a mnemonic system was too basic a communication structure to apply to khipus. This is indicative of the simplistic connotations that mnemonic aids hold in modern Western culture. In his introduction, Quilter stated that:

The aesthetic sensibilities of Andean peoples are still waiting to be adequately discussed in Western literature. An assumption the khipus were merely utilitarian devices-like tying a string around a finger so as to not forget to feed the neighbor's cat-may be partly to blame for lack of interest in them. That khipu were more than simple reminders, that they were sophisticated and complex systems, is another important message of this book.¹⁹¹

This quote indicates that if khipus were memory-aid devices, then they do not qualify as “sophisticated” or “complex.”¹⁹² However, the “string around a finger” example is a common memory aid that more pertains to modern times than Inca society. Here, Quilter placed the basic role that mnemonic devices held in his respective culture onto Inca khipus. Along with providing a thorough analysis on the khipus’ narrative possibilities, another primary goal of “Narrative Threads” involved proving that khipus specifically constituted as “complex” and “sophisticated” communication devices because they were non-mnemonic narrative tools. Quilter ruled out the possibility that khipus had mnemonic functions that actually played a more dominant communication role than such a system ever played in ancient Maya or contemporary Western societies. Thus, he

¹⁹⁰ Quilter and Urton, xv.

¹⁹¹ Ibid., xviii.

¹⁹² Ibid., xviii.

incorporated the cultural connotations that memory aid devices hold in modern times as nothing more complex than a “string around a finger” onto his khipu descriptions.¹⁹³

Quilter’s implication that khipus needed a standardized narrative structure that compared to Maya glyphs in order to qualify as complex communication devices reflected aspects of Orientalism. Said stated that Orientalism involved the “systematic discipline by which European culture was able to manage-and even produce-the Orient politically, sociologically, militarily, ideologically, scientifically, and imaginatively during the post-Enlightenment period.”¹⁹⁴ Orientalism describes Western peoples who conceptualize non-Western peoples through their own cultural lens. Quilter, as a Western academic, “ideologically,” “imaginatively” and “scientifically” restructured khipus to reflect the sophisticated connotations, as an aesthetic and complex writing system, that Maya script holds among many contemporary academics. His argument that khipus compared to Maya glyphs was primarily rooted in his ideological and creative suggestion that academics will unlock a narrative “khipu code” if they work harder as an academic community to uncover it, rather than new evidence that suggested that khipus were narrative devices.¹⁹⁵ Quilter also “scientifically” restructured khipus because he published his views through an academic, scientific article compilation where every author was a twenty-first century Western scholar. Although each scholar proposed a

¹⁹³ Ibid., xv-xviii.

¹⁹⁴ Said, 11.

¹⁹⁵ Quilter and Urton, xv-xviii.

different khipu interpretation, they all aimed to define their author function through the search for a khipu code that constituted a complex system of writing.¹⁹⁶

4.3- Sabine Hyland and the “Naples Documents” Scandal

An article in “Narrative Threads,” “Woven Words” by anthropologist Sabine Hyland, is the next work that I analyze. In this article, Hyland’s most important sources concerned content regarding khipus from the Naples Documents. Thus, before we discuss her argument, it is useful to first understand the controversy that surrounds the Naples Documents’ and their claims regarding khipus.¹⁹⁷

In 1981, amateur historian Clara Miccinelli uncovered what came to be called the Naples Documents in her family archives in Naples, Italy. With archeologist Laura Minelli’s help, Miccinelli introduced them to numerous Andeanist scholars. The Naples Documents contained potentially groundbreaking information regarding the “khipu code.” One document from 1751, called *Lettera Apologetica*, had a detailed drawing and explanation of a “royal khipu” by Raimondo di Sangro (1710-1771). Sangro was an Italian Prince who claimed that he based his khipu description off authentic manuscripts from the Jesuit priest and colonial chronicler Blas Valera (1545-death date unknown). Most of Valera’s original manuscripts that Sangro allegedly used, however, are lost.

¹⁹⁶ Most khipu scholars argue that Inca khipus are so difficult to study because there is no other ancient communication medium that really compares to them as a corded communication medium. However, Historian Emma Teng observed in *Taiwan’s Imagined Geography* that precolonial Taiwanese people also did not have a written language, and used devices like khipus to keep track of debts and mathematical sums. As no scholars that I have read mentioned this, I thought it important to add that other ancient societies (such as the Taiwanese) used devices similar to khipus. However, even in this situation, ancient Taiwanese and Inca developed independently of each other and it is very possible that the two mediums have little in common. Emma Teng, *Taiwan’s Imagined Geography* (Cambridge: Harvard University Press, 2004), 198-200;

¹⁹⁷ Quilter and Urton, 154-8.

Royal khipus, as the Prince called them, had pendants with symbols on them that operated as part of a non-mnemonic, phonetic writing system for keeping track of genealogies and histories within noble Inca families. With these claims, Miccinelli's discovery brought a new host of questions regarding khipus' potential narrative functions into the discourse of khipu scholarship.¹⁹⁸

The Naples Documents stirred much controversy in academia, as scholars have seriously questioned the documents' authenticity. Miccinelli's circumstances for acquiring them has called their legitimacy into question, as she stated that she learned their location through medium-guided spiritual discussions with Sangro himself. However, as her academic facilitator, Minelli stated that "the internal and external evidence shows the Naples documents to be authentic and that scholars must assess them independent of the discoverer."¹⁹⁹ Some of the new information that the files presented turned out to be true upon further investigation, such as the claim the Valera was exiled from Spain in 1583 for criticizing colonial practices in the Andes. Regarding the royal khipu information, there is no archeological evidence that supports Sangro's drawing. Thus, most khipu scholars were and still are unwilling to accept the documents' claims.²⁰⁰ Urton, for example, stated in 1999 that:

There is variation among quipus in museum collections, but it's in a range. I find it hard to believe that we have five or six hundred of one kind and one of the other. These [royal khipus] would just come out of left field and be vastly different.²⁰¹

¹⁹⁸ Jeremy Mumford "Clara Miccinelli's Cabinet of Wonders: Jesuits, Incas, and the Mysteries of Colonial Peru," *Yale News*, February, 2000, 36-45.

¹⁹⁹ Mumford, 43.

²⁰⁰ Quilter and Urton, 151-4.

²⁰¹ Mumford, 42.

Also, Miccinelli refused to release most of the Naples documents for chemical testing, which would help identify when the manuscripts originated and clarify their authenticity.²⁰² Miccinelli has only allowed scholars to take pictures of Sangro's royal khipu drawing behind glass. For these reasons, the Naples Documents have sparked a great deal of debate in Andeanist scholarship on whether or not they are reliable sources about khipu functions and Valera's life.²⁰³

Through "Woven Words," Hyland showed that she was one few scholars who believed that Miccinelli's controversial findings were authentic and likely described khipus' narrative functions. Hyland argued that either Valera or Incas developed these linguistic khipus to adapt to colonial Spanish, alphabetic culture. Before delving into her thesis argument, Hyland showed how the royal khipu, according to Sangro's drawing and writings, worked. She stated that

If one wanted to represent the syllable, cha, for example, one would select the pendant symbol for Pachacamac, tie it onto a horizontal string, and then place two knots in the string hanging down from the symbol; the two knots show that the second syllable 'cha' is indicated. If one wanted to represent the entire word, one would not place any knots in the strings that hang down from the pendant symbol.²⁰⁴

The Prince wrote that Incas attached pendants that represented words onto a pendant cord. They then used knots to indicate which vocal syllable of the word they wished to indicate, or used no knots if they just wished to convey the entire word. For instance, a cord with the Pachacamac (Pa-cha-ca-mac) pendant, with three knots attached, would

²⁰² Miccinelli refused to release the documents for chemical testing because she felt that academics have treated her and her documents unfairly by accusing her of forging them and making fun of her discussions with spirits. She still refuses to release the documents to an academic community that she feels has spited her and disrespected her family treasures. *Ibid.*; 35-43.

²⁰³ *Ibid.*, 36-45.

²⁰⁴ Quilter and Urton, 161.

represent the syllable “ca.” After describing how royal khipus allegedly worked, Hyland then focused on her thesis argument that either Valera or noble Incas developed this system in hopes that khipus would usefully adapt to colonial alphabetic culture.

To evidence her argument that either Valera or Incas developed royal khipus to adapt to colonial Spanish written culture, Hyland used the *Lettera Apologetica* and Valera’s writings. Based on Valera’s accounts outside of the Naples Documents, Hyland gathered that he was blatantly critical of Spaniards’ treatment of khipus as primitive devices.²⁰⁵ She suggested that Valera invented the pendant-writing system and taught it to Incas so he could prove to Spanish authorities that khipus were actually complex writing devices. Either this, or Hyland proposed that Incas developed this system to prove khipus’ competency to colonial Spaniards. The *Lettera Apologetica* also stated that Valera believed that Incas’ royal khipus expressed Christian concepts such as God and the devil. One of the pendants, for example, represented the word “Pachacamac.” Valera claimed that Pachacamac, the most powerful god and ultimate creator that Incas worshiped, was actually the Christian god under a different name who Incas praised along with other gods before colonial Christians ever began evangelizing in the Andes. Hyland suggested that “By arguing that the Andeans worshipped invisible gods along with Christ, he [Valera] implied that Inka religion could serve as a solid basis for Christianity.”²⁰⁶ These examples suggest that Valera believed that khipus could function in accordance with both colonial writing and Christian culture. In this context, Hyland

²⁰⁵ This was likely one of the reasons that Valera was exiled from Spain during the 1580s. Mumford, 38.

²⁰⁶ Quilter and Urton, 164.

argued that either Valera or indigenous Incas constructed royal khipus to prove that khipus were sophisticated enough to deserve acceptance among the Spanish.²⁰⁷

Hyland's article worked with "Narrative Threads" goal of proving that khipus constituted "complex" and "sophisticated" because they functioned as standardized narrative devices, rather than simple mnemonic aids.²⁰⁸ Quilter's introduction stated that:

Although writing systems can tolerate a certain degree of deviation from some standard, such as variant spellings of words in British as opposed to American English, there must be general intercommunicability in a writing system, as was the case with Maya glyphs. For khipu to approximate as a writing system, then, they have to have been able to be read by more than just their makers.²⁰⁹

Hyland argued that *Lettera Apologetica* showed that a "khipu could be sent to someone and read without the assistance of their creators; apparently, therefore, these special khipu were self-contained bodies of knowledge that functioned as writing, rather than memory aids."²¹⁰ This quote implied that royal khipus (if they were real) were written languages in lieu of "memory aids" or mnemonic devices.²¹¹ Hyland created a divide between the two narrative structures (memory aid or written language) and stated that royal khipus were one or the other (in this case a written language). As Maya glyphs turned out to be a writing rather than memory aid system, Quilter believed that scholars would one day reveal that khipus (as objects that are supposedly comparable to Maya glyphs) have similar properties. Through her statements that khipus were writing devices and in direct

²⁰⁷As no royal khipus seems to presently exist, Hyland concluded that royal khipus likely never gained prevalence because colonial Spaniards still, in the main, viewed them as heathenistic devices. *Ibid.*, 166.

²⁰⁸ *Ibid.*, xi

²⁰⁹ *Ibid.*, xvii.

²¹⁰ *Ibid.*, 159.

²¹¹ *Ibid.*

contrast to memory aids, Hyland aided Quilter in his quest to push khipu scholarship away from mnemonic khipu interpretations.

Hyland's article, as a part of Quilter's work, was part of a broader khipu culture that had turned from mnemonic to narrative (in this case defined as a standardized writing structure) khipu interpretations. Hyland's argument that khipus were narrative and her use of the Naples Documents to evidence her argument reflects a broader historical context, where academics who studied ancient cultures incorporated a "reflexive turn" into their works. "Reflexive turn" scholars believed that they could use their objective perspectives to form arguments that strongly reflected the author's own personal opinions."²¹² Hyland and Quilter believed that they could discover new information by imposing ancient indigenous peoples with modern Western structures (such as in writing or mathematics), even if these ideas have no foundation in historical, anthropological, or archeological sources. Hyland exemplifies this "reflexive turn" because she used a source base that is very possibly inauthentic in forming her own "construction of reality" where khipus operated as a "complex" writing system that would have impressed both colonial Spaniards and modern Westerners.²¹³

Section 4.4-Gary Urton and Twenty First Century Khipu Scholarship

Directly following "Narrative Threads," Urton published *Signs of the Inka Khipu* in 2003. *Signs of the Inka Khipu* proposed that khipus operated as a seven-part binary code and standardized writing system. In his first chapter, Urton clarified his application of binary codes in stating that:

²¹² "The Philosophy of Anthropology."

²¹³ Ibid.

by binary coding, I mean a system of communication based on units of information that take the form of strings of signs and signals, each individual unit of which represents one or the other of a pair of alternative (usually opposite) identities or states; for example, the signal may be on or off (as in a light switch), positive or negative (as in an electrical current), or 0 or 1 (as in computer coding).²¹⁴

Urton's concept of a seven-part binary code involved seven "one out or the other" choices that virtually every *kipucamayoc* made when forming khipus. He proposed that the seven components of the khipu binary code were material (cotton or wool), color class (dark or light color), spin/ply direction within the cords (clockwise or counterclockwise), pendant attachment (pendant or no pendant), knot directionality (clockwise or counterclockwise), number class (even or odd) and type of information recorded (numerical or non-numerical).²¹⁵ Urton argued that different variations of binary choices made up specific words that were part of a larger standardized system. For instance, a khipu cord made from cotton (1), with a dark color (2), clockwise ply direction in the cord (3), pendant attached (3), knot tied in a clockwise direction (5), odd number total (6), that recorded narrative information (7) would make a specific word that any literate Inca could read. Incas could represent numerous words with different combinations of the seven binary choices. Urton suggested that these seven binary decisions that went into each khipu constituted them as an alphabetic writing structure.²¹⁶

²¹⁴ Gary Urton, *Signs of the Inka Khipu: Binary Coding in the Andean Knotted-string Records* (Austin: University of Texas Press, 2003).

²¹⁵ Urton, "Sings of the Inka Khipu., 23-70; Locke originally proposed that long knots never exceeded nine because they represented single digits. Single knots, which were higher up the cord, represented the tens, hundreds, or thousands section. Urton discovered, however, that some khipus had more than nine long knots. He concluded that they must have been narrative khipus because they deviated from the patterns that Locke argued defined numerical khipus.

²¹⁶ *Ibid.*, 1-7.

Urton formed his binary khipu theory in response to flaws that he saw with previous scholars' works, particularly Locke and academics who argued that khipus were mnemonic devices. In his introduction, Urton stated that

A number of scholars who studied the khipu in the past, most notably L. Leland Locke, as well as today, have argued that khipu constituted as mnemonic devices...in the course of this study, I show that Locke, in fact, failed to take into account even one-half of the total information encoded in the khipu, and that, therefore, his conclusion to the effect that the 'evidence' does not warrant classifying the khipu as a writing system is highly questionable.²¹⁷

Similar to Quilter, Urton believed that Locke held khipu scholarship back by insisting that khipus were not narrative. Urton also discussed his issues with academics who argued that khipus were mnemonic (including Carol Mackey, art historian Tom Cummins, and anthropologist Joanne Rappaport). They all used colonial chronicler Bernabé Cobo's (1582-1657) writings to support their arguments. Cobo wrote extensively about khipus and claimed to have spent numerous hours observing them. He stated that khipus were only mnemonic and associated this observation with his belief that khipus were primitive products of the Incas, who he saw as barbaric and simple.²¹⁸ Urton argued that Cobo was an unreliable khipu source because his negative prejudices against Incas too strongly affected his belief that khipus were also only mnemonic, "primitive," devices. Cobo also only observed khipus decades after Spanish colonization in 1532; by the time Spanish rule had heavily altered khipu culture.²¹⁹ Based on his physical observations of over five hundred khipus, Urton attempted to steer the

²¹⁷ Ibid., 23.

²¹⁸ Ibid., 126-27.

²¹⁹ In 1583, for example, colonial Spaniards authorities largely banned khipu use. Ibid., 140.

scholarship away from mnemonic khipu interpretations by arguing that “khipus were clearly a system of binary choices” and creatively proposed how they represented a writing system.²²⁰

Signs of the Inka Khipu also argued that mnemonic devices were too simple to apply to Inca khipus and function as a dominant communication tool. This mirrors the linguistic philosophies that apply to contemporary Western culture, where it is unfathomable that a mnemonic device could replace a standardized writing system as a primary communication tool. In his first chapter, Urton discussed multiple forms of mnemonic devices that have emerged around the globe, such as rosaries and strings on one’s finger (which Quilter also discussed). Urton then argued that khipus were not mnemonic because “the khipu exhibits greater complexity and patterning in its structure and organization than the rosary or other similar devices (e.g., incised message sticks, ect.)”²²¹ These are all frames of reference, however, that have more relevance in contemporary Western than Inca culture. Urton ascribed khipus with the connotations that describe his own modern culture where a mnemonic device is too technologically primitive to act as a primary communication medium. This quote indicates that mnemonic devices can only describe simple technologies, such as rosaries, strings on one’s finger and message sticks. A “complex” khipu, then, conveyed a standardized writing system. The standard of universality that many Western khipu scholars (such as Urton and Quilter) adamantly argue defined narrative Inca khipus reflects the primitive

²²⁰ Veronica Lysaght, in discussion with Gary Urton.

²²¹ Urton, “Signs of the Inka Khipu,” 10.

connotations that mnemonic communications devices have in Western culture in comparison to a “complex” writing system.

Urton’s views of memory aid devices in “Signs of the Inka Khipu” reflects a broader twenty-first century culture where mnemonic devices are largely considered very simple technologies. A software development company called Quipu, for example, emerged in 2004. The software developers chose this name because they stated that khipus were “mnemonic devices” and that the “choice of name not only reflects Quipu’s international background; it also expresses our constant striving for simple, yet ingenious solutions, which can function even in environments that do not have a sophisticated technological infrastructure.”²²² The Quipu developers saw khipus as simple, mnemonic technology and used the name to represent their information technology services as logical, adaptable, and relatively un-complex. However, they also expressed cultural understandings of khipus that Urton responded to in his research. Urton argued that mnemonic khipu interpretations degraded khipus because they implied that khipus lacked complexity. In his second chapter, Urton stated that “I believe, and will attempt to demonstrate here, that such a comparison [khipus to mnemonic devices] is profoundly inappropriate for several reasons, most notably because the khipu exhibits greater complexity...”²²³ Urton’s view that a mnemonic khipu would be a simple and relatively non-complex device is indicative of cultural, twenty-first century Westernized

²²² Quipu: “Pro-Credit Holding,” <http://www.procredit-holding.com/en/procredit-worldwide/quipu.html>.

²²³ Urton, “Signs of the Inka Khipu,” 42.

perspectives on a broader scale that, partially evidenced by Quipu, associate mnemonic khipus with simplicity.

Urton believed that khipus were too complex to be a mnemonic device. His proposal of a complex narrative khipu, then, shared traits with the binary coding system that pertains to modern communication technology. “Signs of the Inka Khipu” opened by stating that:

It is one of the great ironies of the age in which we live that the cacophony of computer based, electronically produced information that suffuses our every waking moment is carried into our consciousness on patterned waves of just two signs, 1 and 0. This, of course, is no news. We have all been made aware since the dawn of the present Information Age that the ongoing revolution in computer technology rests on a system of binary coding.²²⁴

Following this quote, Urton’s proposed that Incas may have formed words by literally stringing together a specific sequence of binary choices. This system, according to Urton, compared in both form and complexity with twenty-first century binary coding technology.²²⁵ Urton began his work by reminding readers that binary coding has played a dominant role in advancing communication and writing technology in the early 2000s. For example, one relies on this technology whenever they type on a computer. It also serves as a writing system where any word can be represented through the correct sequence of either zeroes or ones. By comparing the modern binary coding process to

²²⁴ Ibid.,” 1.

²²⁵ Computer-based binary coding refers to computer processing instructions where different sequences of zeroes and ones transmit onto a computer screen as specific letters. For example, 01101011011010000110100101110000011101010000110100001010 is the binary code that translates to “khipu.”

describe Inca khipus, *Signs of the Inka Khipu* defined Inca khipus as dominant, complex narrative devices through a writing structure that also represents highly advanced, technological achievement in the twenty-first century.²²⁶

Urton's restructuring of Inca khipus to resemble modern binary coding technology compares to Said's use of Orientalism in the sense that both authors deal with the Westernization of non-Western cultures. However, in the early twentieth century, Urton's work specifically reflects popular schools of thought among Western anthropologists. The late 1990s and early 2000s saw many responses in dealing with the "Crisis of Representation." Some scholars argued that the field demanded more non-European scholars. In 1991 for instance, "American anthropologist Lee Baker (1991) described himself as 'Afro-Centric' and argues that anthropology must be critiqued due to being based on a 'Western' and 'positivistic' tradition which is thus biased in favour of Europe."²²⁷ Urton's work was indicative of the reflexive turn response, where khipu scholars believed that interpreting their subjects through a Westernized cultural lens allowed them to better understand their subjects. Urton, for instance, portrayed khipus as comparable to modern binary coding technology. Although there were certainly stark differences in the way the computers and ancient khipus conveyed this communication technology, Urton's imposition of contemporary binary coding techniques onto Inca khipus allowed him to concoct a possible khipu code or "construction of reality" that reflected his own desire to find a writing system in the khipus. This critique applies to

²²⁶ Ibid., 1-40.

²²⁷ "The Philosophy of Anthropology."

Urton's work, as he stated that he himself that khipus consist of binary factors that indicates a coded writing system, even though no colonial or Inca descriptions discuss this. Thus, Urton restructured Inca khipus to more directly reflect modern Western than Inca society.²²⁸

Section 4.5-The Khipu Course

This section analyzes a course on khipu interpretation from the Massachusetts Institute of Technology in 2007. Although not a textual work, it is still an imperative part of the late discourse of khipu scholarship. Also, the MIT course is a part of Urton's body of works involving khipus. It is also part of his author function, because the class goal is to get closer to discovering a khipu code (which is a common thread in all of his most prominent works). Urton used the class to promote his adamant belief that khipus were narrative, rather than "simple" mnemonic devices. The course required students to creatively interpret khipus as narrative devices. Thus, it strongly reflected the academic culture of khipu scholarship during the early twenty-first century.

In 2007, professors from MIT, Harvard (including Urton), and the Catholic University of Louvain in Belgium co-taught a class at the Massachusetts Institute of Technology class titled "Knot Language: Recreating Inca Quipu/Khipu." The course required students to break up into groups. Each group had to design their own unique narrative structure and apply them to Inca khipus. During the final days of class, students presented their hypothetical khipu codes to the rest of their classmates and professors for

²²⁸ Quilter and Urton, 180.

discussion and criticism. Regarding the written system that students could create, the class information sheet stated that “the method can use all or only some of what we know about the actual quipu.”²²⁹ Students could create linguistic structures that were only loosely based in academic knowledge and primary sources about Inca khipus. More of the language that the brochure used, such as the statements that khipus are “waiting to be read” and each student will be “writing with rope,” also implied that khipus undeniably operated as a writing system.²³⁰ Although students had a great amount of freedom in designing their narrative code, one non-negotiable requirement was that the khipus had to express a standardized written language. Students could not claim, for instance, that khipus were mnemonic or strictly numerical. This was the only definite standard that students had to follow, even more so than including an Inca perspective or colonial observations about khipus in their work.²³¹ It exemplifies how, within twenty first-century khipu scholarship, mnemonic khipu interpretations had been largely phased out in lieu of narrative khipu theories in academia.

The MIT khipu course reflects the culture of khipu scholarship that Quilter envisioned in “Narrative Threads.” One of Quilter’s goals was to push khipu scholarship to solely focus on narrative khipu interpretations in order to “catch up” with Mayanists who have already successfully deciphered ancient Maya glyphs. Hyland’s article, as an example, built off this goal by proposing that royal khipus existed and showed how khipus likely translated into a written language. While each chapter argument was

²²⁹ “Knot Language: Recreating the Inca Quipu/Khipu”, Massachusetts Institute of Technology, 2007.

²³⁰ “Knot Language: Recreating the Inca Quipu/Khipu.”

²³¹ Veronica Lysaght, in discussion with Gary Urton.

different, all scholars involved agreed that khipus conveyed a non-mnemonic (which in “Narrative Threads” was synonymous with “complex” and “sophisticated”) narrative system. With the MIT class, the course was organized much like “Narrative Threads.” Each student group had to come up with a different narrative, non-mnemonic khipu interpretation in hopes of pushing the scholarship closer to discovering the “khipu code. This reflects how Quilter’s goal of discovering a complex, non-memory aid, narrative khipu system and steering academics away from mnemonic khipu interpretations had become an engrained dominant factor of the scholastic discourse by 2007.²³²

The MIT khipu class, as part of Urton’s transdiscursive author function, reflected Urton’s beliefs that khipus showed patterns that indicated a khipu code. However, he has admitted in virtually all of his works that he does not have definite evidence, or even Inca or colonial Spanish sources to support this theory. Just as Urton argued in *Signs of the Inka Khipu* that interpreting khipus as mnemonic devices was “inappropriate,” his role in the MIT course further solidified his role as an advocate for narrative khipu over memory aid khipu interpretations.²³³ Through this course, Urton further built his role as a khipu authority by teaching khipu theory as one of the most prestigious universities in the United States. The course’s primary goal was to “give us [academic community] experience in recognizing different types of codes, and ultimately in decoding actual quipu.”²³⁴ Urton and the class contributors assumed that that the “khipu code” was a standardized narrative system that they could effectively read. This course also reflects

²³² “Knot Language: Recreating the Inca Quipu/Khipu.”

²³³ Urton, “Signs of the Inka Khipu,” 10.

²³⁴ “Knot Language: Recreating the Inca Quipu/Khipu.”

Urton's consistent role in creating a culture where quantitative khipu interpretations became increasingly phased out of academic discussions regarding khipus' narrative structure and functions.

4.6-Galen Brokaw's Essential Criticisms on the Modern Scholastic Discourse

Galen Brokaw, a Latin American Studies Ph.D., published *A History of the Khipu* in 2010. One of Brokaw's goals was to provide a comprehensive history of khipu use from the thirteenth until the seventeenth century. He stated that "Here, I do not propose to analyze directly the material conventions of the khipu but rather the history of this medium."²³⁵ Brokaw studied archeological evidence from Wari peoples (Andean peoples who predated the Incas) who first formed khipu-like devices that likely had numerical functions. From there, Brokaw analyzed how Incas further developed khipus to play a prominent bureaucratic role in their empire when Incas rose to power in the fifteenth century. The second half of the book analyzed interactions between colonial Spaniards and *khipucamayocs*. He studied the tensions between these two authoritative figures that arose because colonial Spaniards could not read khipus but needed, for several decades' time, to rely on *khipucamayocs* to relay vital tax and census information to Spaniards. Thus, this work provides a comprehensive history on khipu use and colonial reactions to them.²³⁶

In the second half of the book, Brokaw examined (using colonial writings as a main source) interactions between colonial Spaniards and khipu users. In this section, he

²³⁵ Brokaw, 3-4.

²³⁶ Ibid., 114-60.

argued that Spaniards outlawed khipus at the 1583 Council of Lima for reasons more complex than many previous academics thought. Colonial accounts state that Spaniards banned khipus because they clashed with the Catholic culture. Most khipu scholars before Brokaw agreed with this. However, Brokaw proposed that colonial authorities forbade most cases of khipu usage because (without willing to admit so) they were frustrated that they often had to rely on khipus for important information even though they could not read them. For instance, *khipucamayocs* often used khipus as evidence in court that they or their subjects paid proper taxes to colonial authorities. Many Spaniards hated having to rely on khipu recordings for such information because they could not understand khipus and had to trust that the *khipucamayocs* were honest.²³⁷ The second half of *A History of the Khipu* provided new academic insights regarding the tensions between colonial Spaniards and the *khipucamayocs* that they relied on until 1583.

Brokaw explored issues in khipu scholarship outside of the dominant discourse and largely avoided imposing numerical and mathematical meaning onto khipus. In his introduction, Brokaw explained the fundamental flaws with the non-mnemonic, narrative khipu interpretations that have permeated recent khipu studies. He stated that:

Scholarship on writing abounds, but it tends to allow the cultural and historical determination of determination of the concept to dictate the terms and parameters of the investigation. The problem [with recent narrative khipu interpretation] is not merely that a universal concept of writing is difficult to define, but that the notion of ‘writing’ already imposes certain premises and biases that hinder such a project.²³⁸

²³⁷ Ibid., 2-54.

²³⁸ Ibid., 5.

Quilter and Urton argued that scholars like Locke held back khipu scholarship by refusing to acknowledge khipus' narrative potential. However, Brokaw believed that academics who interpreted khipus as a form of writing, such as Urton, hindered khipu scholarship by interpreting khipus as narrative structures that more reflected modern writings systems in Western culture over Inca perspectives. For example, Brokaw also stated that "to insist that the khipu be considered a form of writing may be a necessary political strategy to counter ethnocentric perspectives that relegate societies without writing to an inferior position..."²³⁹ Brokaw observed that recent scholars attempted to prove that Incas were a highly advanced ancient society because they had a writing structure that compared to (usually alphabetic) writing systems. In this process, they implicated that non-writing societies are inferior to those with a written language, which Brokaw found highly problematic.

Brokaw wrote that recent khipu scholarship reflects a "political strategy" to counter the modern perspective in anthropology that societies without a writing system were "simple" and even inferior to writing cultures. This reflects a historical change in thought between the mid twentieth can early twenty first century. During the mid-twentieth century, many anthropologists argued that khipus held mnemonic functions, such as Mackey and the Aschers, and did so in full confidence that khipus constituted as complex communication devices. Even most evolutionary anthropologists who predated ethnographers argued that khipus, as primarily numerical devices, conveyed beauty and complexity as early conveyers of mathematical ideas. During the 1990s and early 2000s,

²³⁹ Ibid., 4.

however, khipu scholars almost exclusively asserted that khipus only constituted complexity if they operated as a standardized writing system that has more in common with a Western alphabetic system than Inca or colonial Spanish descriptions of khipus. By focusing on their own desire to discover a writing structure, khipu scholars have aided in creating a culture in anthropology where societies without a writing system are considered inferior.²⁴⁰

A History of the Khipu also stated that recent khipu experts too often favored khipus and ignored other Inca mediums that possibly functioned as secondary media sources. Secondary media sources are communication sources that do not require the speaker to be present to convey a message. An alphabetic writing system, for example, is a secondary media source. Other such mediums that possibly applied to Incas include colorful textile depictions and images that they carved in architectural structures. Brokaw suggested that these secondary sources, besides khipus, possibly had a role as a dominant communication structure. Thus, another reason that Brokaw did not engage in the scholastic culture of interpreting khipus as dominant narrative devices was that he personally believed it worth investigating other Inca mediums that possibly had prevalent communicative functions.²⁴¹

Brokaw believed it important to consider how ancient secondary media sources possibly developed independently as non-alphabetic structures. He stated that:

The point here is not to equate other forms of media with alphabetic writing, but rather to recognize the way in which they function within the societies that employ

²⁴⁰ Ibid., 4-6.

²⁴¹ Ibid., 4-16.

them. If we maintain the comparison between “us” and “them,” the relevant opposition is not always between alphabetic literacy and orality but rather between alphabetic literacy and Mesoamerican iconography, alphabetic literacy and the Andean khipu, alphabetic literacy and Inuit pole carving, and so forth.²⁴²

By pedestaling the alphabet as the height of secondary communication technology, academics failed to recognize possible ways that indigenous peoples developed communication systems that do not compare in structure to an alphabetic system. In recent times, khipu scholars have predominantly used alphabetic systems as the standard comparison structure against Inca khipus. Quilter and Hyland, for example, both argued that khipus were “sophisticated” communication devices because they compared to the ancient Mayan alphabetic structure in complexity.²⁴³ Urton also argued that his seven-part binary code theory constituted khipus as an alphabetic structure in “Signs of the Inka Khipu.”²⁴⁴ These academics searched for a khipu code that compared to an alphabet in both structure and sophistication in direct opposition to “simple” mnemonic devices. While this may lead to academics one day “deciphering” khipus, they forgoed potential ways that Incas developed a dominant communication system that shares little in common with the writings system that dominates the Western world.²⁴⁵

Brokaw’s observations in *A History of the Khipu* illuminate the orientalizing culture within modern khipu scholarship. In Chapter Two of *Orientalism*, Said discussed post-Enlightenment Western Europeans who believed that they were obligated to rule Middle Eastern peoples who were, in their eyes, culturally and intellectually inferior to

²⁴² Ibid., 33.

²⁴³ Quilter and Urton, xiv.

²⁴⁴ Urton, “Signs of the Inka Khipu,” 23.

²⁴⁵ Brokaw, 5-46.

white Europeans. Said stated that “The Orient existed for the West, or so it seemed to countless Orientalists, whose attitude to what they worked on was either paternalistic or candidly condescending...”²⁴⁶ In *A History of the Khipu*, Brokaw observed that twenty first century khipu scholars often compared indigenous secondary communication sources with alphabetic writing structures in their arguments that scholars should view khipus as “complex.” In this process, they indicated that if Inca khipus were not writing systems, then Incas were somehow culturally inferior to societies with a written language. Thus, recent khipu academics have imposed Western cultural values regarding complexity and inferiority onto Inca people through their khipu writings. Quilter, Hyland, participants in the MIT course, and Urton all pushed twenty first century khipu scholarship away from interpreting khipus as “simple” mnemonic devices. Brokaw argued that in this process, khipu scholars crystalized khipus and Inca culture with Western biases of what constituted as complex writing systems and distanced themselves from potentially different, non-Western Inca perspectives on communication technology.

Section 4.7-Conclusion

Well until the present, the search for a narrative code dominates khipu scholarship. The recent 2016 *New York Times* article, “Untangling an Accounting Tool and Ancient Incan Mystery,” exemplifies this. On January 2nd, 2016, archeologist Alejandro Chu and his team of excavators uncovered an Inca storehouse with numerous khipus inside near Lima, Peru. The khipus were located near agricultural items that they possibly recorded within the storehouse, such as beans and corn. Chu’s team plans to use

²⁴⁶ Said, 205.

this information to determine how the khipus' colors and numerical sums operated as a labeling system for these items. New York Times reporter William Neuman recorded Gary Urton's thoughts on the discovery in his article. As a prominent Western newspaper, the article discussed Urton's opinion as Urton is the leading khipu scholar in the Western world. Urton stated that the numerical khipus were not "the great Rosetta Stone but it's quite an important new body of data to work with."²⁴⁷ Even so, he believed that these khipus could act as a stepping stone to better understanding how narrative khipus functioned. Urton's Rosetta Stone metaphor implies that, while the storehouse khipus are a major discovery, they were still a less than ideal find because there was no clear explanation for how khipus narratively functioned. The primary current goal among Western khipu scholars is still to discover a narrative khipu code.

Neuman's article illuminates how, well until contemporary times, khipu scholars continue to search for a narrative khipu structure. During the early twentieth century, daring academics like Locke and Nordenskiöld first developed the dominant trend in the field of forming creative khipu interpretations that supplemented colonial Spanish accounts with fictional khipu descriptions. Throughout the rest of the twentieth century, academics continually formed khipu interpretations that were only loosely based on perspectives from colonial Spaniards and modern indigenous Andeans. In the twenty first century, Quilter, Urton, Hyland, Brokaw and their colleagues experienced a shift in the field when Quilter used "Narrative Threads" to move khipu scholars to primarily focus on examining khipus as non-mnemonic narrative devices. This created a divide between

²⁴⁷ William Neuman, "Untangling an Accounting Tool and Ancient Incan Mystery," *The New York Times*, January 2, 2016, 2.

standardized narrative and mnemonic khipu interpretations, where the former represented complex ancient technology while past scholars who argued that khipus were memory aids and/or strictly numerical (including Locke) gained a negative reputation in the field for supposedly oversimplifying khipus. Recent narrative khipu interpretations could, of course, possibly lead to a successful decipherment. However, intellectuals also “Westernized” khipus by forming narrative interpretations that directly reflect modern cultural ideas of “complex and sophisticated” communication devices and further distanced the discourse of khipu scholarship from Inca perspectives.²⁴⁸

Recent khipu scholarship also historically illuminates changes in anthropological thought and schools of thought that were prominent during the twenty-first century. During the twenty first century, there were khipu scholars portrayed khipus differently from most previous twentieth century academics. Recent anthropologists solely focused on uncovering a khipu code that operates as a “complex,” non-mnemonic writing system. In this process, khipu anthropologists have created a culture where only writing systems that compare to a Western structure are “complex” while a “non-writing culture” would render Incas as inferior. This way of thinking shows influences with academic anthropological movements during these authors’ time, when anthropologists were considering various ways to address the “Crisis of Representation.” Khipu scholars chose to embrace, with transparency, their Westernized impositions of writing structures on khipus in hopes that this would lead to the discovery of a khipu code.

²⁴⁸ Quilter and Urton, xviii.

Chapter 5

The Conclusion

Over the past century, numerous Western scholars attempted to identify decipher a khipu code. From 1827 until January 2016, this thesis reviews the most influential works in khipu literature. Each study responded to past texts whilst proposing a unique khipu interpretation. Anthropologists conceptualized khipus through their own distinct, periodic cultural lens. In Western academic culture, scholars have viewed khipus as exotic, corded communication or mathematical devices. As Incas had no writing culture, khipus provided hope over the past century that, somehow, these devices hold the plethora of information on Incas that academics crave. Just as colonial Spaniards interpreted khipus in multiple different ways and through their own societal views, Western academics also incorporated their own values and culture into their interpretations. Their studies, for example, often reflected the traits of prominent anthropological movements or schools of thought during the twentieth century. Also, similar to colonial Spaniards, these scholars gauged the extent that khipus constituted as complex communication devices through their own cultural values that associated writing structures with sophistication and mnemonic aids as primitive. I believe that of khipu

scholarship has, over the past century, offered a strongly Westernized version of the Inca past.

My overarching thesis argument was that modern scholars incorporated their own values and culture into their scholastic khipu interpretations. I show evidence for this statement through each thesis chapter. In Chapter One, I conclude that scholars from 1912-1943 developed a new discourse within the field. Breaking from previous academics' beliefs, Locke and those who followed him proposed full interpretations of the khipu code, even though colonial Spanish or Inca sources never reliably explained exactly how they worked. Furthermore, these pioneer intellectuals' studies reflected the traits of early evolutionist anthropology. This school of involved viewing precolonial peoples as an early version of the "modern man" and was strongly influenced by Social Darwinist beliefs. In my chapter, each text indicated the author's interest in using colonial Spanish accounts as an aid in uncovering a khipu code. However, the accounts (the only written sources of khipus from people who witnessed them) are all contradictory and often illuminate prejudices against Incas as "primitive" peoples. As we have no strong Inca descriptions of khipus, the Inca perspective is largely missing from early twentieth century khipu interpretations. Even so, these early scholars set khipus as icons among Western academics that represent the missing, vast wealth of information about the Inca Empire.

In Chapter Two, I conclude that later twentieth century ethnographic scholars developed a new discourse that incorporated modern indigenous Andean perspectives of khipus into their academic studies. In this process, I show how khipu scholars dealt with the issues that *lo Andino* introduced to ethnographic scholarship and fieldwork research

in the Andes during the middle to late twentieth century, as well as a broader historical backdrop where anthropologists had the option to work as agents in other countries for the U.S. government. Beginning with Mackey, these anthropologists attempted to avoid *lo Andino* and the notion that any aspect of precolonial culture remained unchanged over time. However, the nature of their work (to an extent) involved making conclusions about ancient Incas based on observations of modern Andeans. I show *lo Andino* still had advocates well until the late twentieth century and thus influenced the scholastic anthropological culture when khipu scholars that I analyze performed ethnographic fieldwork.

My final chapter discusses khipu scholarship my 2001 until the present. Based on the evidence from this chapter, I conclude that khipu scholars incorporated their cultural views of complex or simplistic communication devices into their studies. Beginning with “Narrative Threads” in 2001, intellectuals pushed the notion that mnemonic khipu descriptions oversimplified their functions. Arguments that khipus operated as a writing system, then, supposedly acknowledged khipus’ complexity and sophistication. Furthermore, scholars desired to prove that Inca khipus were just as “complex” a writing system as ancient Maya glyphs. I also show how khipu scholars reflected broader trends in anthropology involving the “reflexive turn” school of thought, which involved describing indigenous peoples with Western writing structures. In this context, recent khipu scholarship has almost solely focused on uncovering a narrative khipu code.

I analyze how modern scholars’ khipu interpretations are indicative of their own culture and values as twentieth and twenty-first century academics. I primarily deal with modern standards of complex communication devices, the “mysterious” and “mystical”

reputation the khipus have among academics, and key anthropological movements and schools of thoughts that influenced khipu studies. My thesis also lends itself to further research on issues that I did not greatly discuss. For instance, academics also indicate their beliefs on gender roles in ancient societies in their works. The scholars that I analyzed primarily assumed that ancient *khipucamayocs* were exclusively male, even though colonial sources never stated so. This lends the question of whether or not women were *khipucamayocs*, as khipu scholars have barely explored the possibility that women had a role in making or interpreting khipus.²⁴⁹ Another suggestion for future research involves analyzing how colonial khipu descriptions orientalized Incas. Said extensively discussed Western Europeans who portrayed Middle Eastern peoples as “primitive” peoples in order to justify their own imperialistic desire to conquer and civilize Asian societies. Said’s model could also be useful when analyzing how colonial Spanish writings more reflected their own imperialistic values than honestly reflect Inca culture. These are my recommendations for how my project could inspire future research.

My thesis has made an original contribution to my field as Latin American Historian as the first extensive analysis of how the most groundbreaking khipu studies over the past century reflect Western culture and values. Most of these inventive khipu works are anthropological. As a historian, I am interested in how modern scholars present the Inca past to their readers and in tracking changes in how anthropologists wrote about the Inca past. Thus, I hope that my study will aid academics in better understanding how these works present versions of the past that reflect Western twentieth and twenty-first

²⁴⁹ Veronica Lysaght in discussion with Gary Urton, May 2015.

century culture, values, and changes in historical thought and popular intellectual movements over time.

References

Ascher, Marcia, and Robert Ascher. *Code of the Quipu: A Study in Media, Mathematics, and Culture*. Ann Arbor: University of Michigan Press, 1981.

Bannister, Robert C. *Social Darwinism: Science and Myth in Anglo-American Social Thought*. Philadelphia, PA: Temple University Press, 1979.

Brokaw, Galen. *A History of the Khipu*. Cambridge: Cambridge University Press, 2010.

Brown, Ryan A., and George J. Armelagos. "Apportionment of Racial Diversity: A Review." *Evol. Anthropol. Evolutionary Anthropology: Issues, News, and Reviews* 10, no. 1 (2001).

Charles, John. "Unreliable Confessions: Khipus in the Colonial Parish." *The Americas* 64, no. 1 (2007): 11-33. doi:10.1353/tam.2007.0099.

Chase, Zachary, and Steven Kosiba. "University of Chicago: Lo Andino Position Paper." *CanChiVard Position Papers*, 2003.

Coe, Michael D. *Breaking the Maya Code*. New York: Thames and Hudson, 1992.

Dillheay, Tom. "Reflections on Lo Andino." *VanChiCard Position Papers*, 2003.

Foucault, Michel, and Paul Rabinow ed. *The Foucault Reader*. New York: Pantheon Books, 1984.

Geidel, Molly, and George Lipsitz. *Peace Corps Fantasies: How Development Shaped the Global Sixties*. Minneapolis: University of Minnesota Press, 2015.

Hodgson, Geoffrey M. "Social Darwinism in Anglophone Academic Journals: A Contribution to the History of the Term." *Journal of Historical Sociology* 17, no. 4 (2004): 428-63. doi:10.1111/j.1467-6443.2004.00239.x.

"Internet Encyclopedia of Philosophy." Internet Encyclopedia of Philosophy. Accessed July 31, 2016. <http://www.iep.utm.edu/anthropo/>.

"Knot Language: Recreating Inca Quipu/Khipu." Knot Language: Recreating Inca Quipu/Khipu. Accessed July 31, 2016. <https://courses.csail.mit.edu/iap/khipu/>.

Leonard, Molly, and Cheri Shakiban. "The Incan Abacus: A Curious Counting Device." *Journal of Mathematics and Culture*, 2010, 81-84.

Locke, L. Leland, and Charles W. Mead. *The Ancient Quipu or Peruvian Knot Record*. New York: American Museum of Natural History, 1912.

Locke, L. Leland. *A Peruvian Quipu*. New York: Museum of the American Indian, Heye Foundation, 1927.

Mackey, Carol J. *Knot Records in Ancient and Modern Peru*. Ann Arbor: University of Michigan Press, 1970.

Mumford, Jeremy. "Clara Miccinelli's Cabinet of Wonders: Jesuits, Incas, and the Mysteries of Colonial Peru." *Yale News* (New Haven), February 2000.

Nordenskiöld, Erland. *The Secret of the Peruvian Quipus and Calculations with Years and Months in the Peruvian Quipus*. Göteborg: AMA Press, 1925.

Nueman, William. "Untangling an Accounting Tool and Ancient Incan Mystery." *The New York Times* (New York City), January 2, 2016.

Offer, John. *An Intellectual History of British Social Policy*. Bristol: Policy Press, 2006.

Phair, James. "A Prospectus of the Quipola." *Westminster Review*, 1827, 229-40.

Quilter, Jeffrey, and Gary Urton. *Narrative Threads: Accounting and Recounting in Andean Khipu*. Austin: University of Texas Press, 2002.

"Quipu." Quipu. Accessed July 31, 2016. <http://www.procredit-holding.com/en/procredit-worldwide/quipu.html>.

Rohde, Joy. "Gray Matters: Social Scientists, Military Patronage, and Democracy in the Cold War." *The Journal of American History* 96, no. 1 (2009): 99. doi:10.2307/27694733.

Said, Edward W. *Orientalism*. New York: Vintage Books, 1979.

Salman, Ton, and E. B. Zoomers, eds. *Imaging the Andes: Shifting Margins of a Marginal World*. Amsterdam: Aksant, 2003.

Salomon, Frank. *The Cord Keepers: Khipus and Cultural Life in a Peruvian Village*. Durham: Duke University Press, 2004.

Scancarelli, Janine, and Heather K. Hardy. *Native Languages of the Southeastern United States*. Lincoln: University of Nebraska Press in Cooperation with the American Indian Studies Research Institute, Indiana University, Bloomington, 2005.

Swanton, John Reed. *The Quipu and Peruvian Civilization*. Washington: U.S. G.P.O., 1943.

Teng, Emma. *Taiwan's Imagined Geography: Chinese Colonial Travel Writing and Pictures, 1683-1895*. Cambridge, MA: Harvard University Asia Center, 2004.

Turner, J. C., ed. *History and Science of Knots*. Singapore: World Scientific, 1996.

Urton, Gary, and Primitivo Nina Llanos. *The Social Life of Numbers: A Quechua Ontology of Numbers and Philosophy of Arithmetic*. Austin: University of Texas Press, 1997.

Urton, Gary. *Signs of the Inka Khipu: Binary Coding in the Andean Knotted-string Records*. Austin: University of Texas Press, 2003.

Urton, Gary, and Parker VanValkenburgh. "Harvard University Andean Art History and Archeology Working Group." *VanChiCard Position Papers*, 2003.

Wassén, Henry. *The Ancient Peruvian Abacus*. Göteborg, 1931.

Zuidema, R. Tom. *The Ceque System of Cuzco: The Social Organization of the Capital of the Inca*. Leiden: E.J. Brill, 1962.