

Examining WPI's Connection to Indigenous Dispossession in the United States

An Interactive Qualifying Project submitted to the faculty of

WORCESTER POLYTECHNIC INSTITUTE

In partial fulfillment of the requirement for the

Degree of Bachelor of Science

By:

Gray Hauff

31 March 2023

Report Submitted to:

Professor Joseph Cullon

Professor Holger Droessler

Professor Kristin Wobbe

Worcester Polytechnic Institute

This report represents the work of one or more WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on the web without editorial or peer review.

Contents

Abstract.....	3
Introduction	4
Background and Literature Review.....	5
Context and Rationale.....	5
WPI’s Institutional History	7
Intertwined Histories – WPI and Barbed Wire.....	9
Method	11
The Intersection of WPI and Indigenous Dispossession	13
A Foundation of Success	13
Barbed Wire	23
Examining the Historical Significance of Barbed Wire.....	26
Colonization of the West	26
Barbed Wire Marketing	27
The Defense of Barbed Wire.....	32
Impact	34
Future Work.....	35
Washburn, Moen, and Daniels	35
The Other Founders and Trustees	36
WPI’s Operation.....	36
Bibliography	37

Tables and Figures

Table 1.	16
Figure 1.	18
Table 2.	19
Figure 2.	21
Table 3.	22
Figure 3.	28
Figure 4.	29
Figure 5.	31

Abstract

During the 2022 to 2023 academic year, this IQP investigated WPI's connections to Indigenous dispossession through its investments in railroads, telegraph wire, and barbed wire. Understanding WPI's relationship to the history of colonization and Indigenous dispossession in the United States will allow the Institute to take further action towards redress for the harm done to Indigenous communities. This project is not meant to be the end point, rather a stepping stone toward more research, conversations, and action regarding the Institute's connections to the dispossession of Indigenous people. The wealth earned from the financial contributions of Ichabod Washburn was tracked and analyzed from the 1865 to 1883 ledger. Ichabod Washburn and Philip Moen's contributions to WPI created a direct link between WPI and wealth generated by the dispossession of Indigenous communities in the West. Fred H. Daniels indirectly linked WPI and Indigenous dispossession. Going forward, it is recommended that WPI takes this information and uses it to modify how the Institution conveys its history by acknowledging their truthful history, taking responsibility for the ties the Institute does have, as well as taking steps to support current and future Indigenous students that decide to attend.

Introduction

WPI's institutional histories never acknowledge the connections that its founders had to slavery and Indigenous dispossession. In the 2021-2022 academic year, Evelyn Dube ('22) did their IQP on three of WPI's founders' indirect connections to slavery. This year, the project was taken down a different path and used to investigate WPI's connections to Indigenous dispossession. It will look at the founder, Ichabod Washburn, along with Philip Moen and Fred H. Daniels. This is only the second year that this IQP has been worked on, and it is important that the topics are explored with depth and breadth. With the addition of this report to the IQP's history, future students will be able to continue the research into these topics.

WPI's connection to Indigenous dispossession should be investigated because, during its founding, the colonization of the American West was developing. Because WPI was founded in the United States it will inherently have direct and indirect connections with the dispossession of Indigenous people. The entirety of the United States is built on land stolen from Indigenous people through the Discovery Doctrine (Miller et al., 2010, p. 2), using slave labor, either directly or indirectly. WPI has issued a land acknowledgement that can be found on their About web page (*About WPI*, n.d.). Land acknowledgements have been an improvement from universities that previously erased Indigenous people from their histories. But it is also important to investigate the Institute's connection to Indigenous dispossession because land acknowledgements are not justice by themselves. There should be further work done by universities and institutions to take responsibility for the Indigenous dispossession they contributed to. Without any further action, land acknowledgements are performative without taking any responsibility for the past. Beyond acknowledging the Nipmuc land that WPI was built on, there should be an effort made to take responsibility for the connections to Indigenous dispossession.

Investigating WPI's history is valuable because acknowledging and understanding that there has been harm done is the first step towards healing the wounds created. Being able to situate WPI in the history of colonization and Indigenous dispossession in the United States will allow the Institute to take further action towards redress for the harm done to Indigenous communities. In the last two decades, other institutions have investigated and acknowledged their truthful histories, leading them to take action to right the wrongs committed. With this context, it is time for WPI to do the same.

This project is not meant to be the end point, rather a stepping stone toward more research, conversations, and action regarding the Institute's connections to the dispossession of Indigenous people. In this report, the work that other institutes have done on this topic will be reviewed. WPI's public institutional history will also be evaluated alongside literature on barbed wire, but the project heart and main archival contribution is a detailed analysis of WPI's ledger from 1865 to 1883. The report will also include explanations of how telegraph and barbed wire furthered colonialization in the American West, how the marketing of barbed wire reflected racist sentiments from the era of WPI's founding, how wire manufacturers defended the use of barbed wire. To wrap up the report, the intended impact and future work that should be done is laid out.

Background and Literature Review

Context and Rationale

In 2006, Brown University released the first edition of their Slavery & Justice Report. This spurred a domino effect of other universities doing similar research into their history surrounding slavery. The ability of Brown University to do this type of report showed other institutions that they could also do it. While the Brown report was controversial at the time their committee was formed, academia has reached a point where it has become an institutional obligation for universities to tell the

truth about their pasts (Campbell, 2021). WPI has taken the first steps towards acknowledging its truthful history through this IQP and its land acknowledgement statement.

Alongside the acceptance of truthful institutional histories, in the past decade there has also been an increased call for land acknowledgements. This follows Canada's Truth and Reconciliation Commission from 2015, which helped to spread land acknowledgements throughout Canada and the United States (Burke, 2018). Before being adapted to fit the North American Indigenous experience, land acknowledgements started out in Australia as Welcome to Country ceremonies performed by Aboriginal people to welcome people from other areas (*Acknowledgement of Country and Welcome to Country*, n.d.). While land acknowledgements serve a purpose, they should not be the only action an institution employs to tell their history.

As mentioned previously, land acknowledgements are just a first step towards justice for Indigenous people. An example of what next steps might look like can be found at Cornell University. On June 30th, 2020, they began their Indigenous Dispossession Project to address a lack of truthful history. The lack of history was made apparent 3 months prior when the university was contacted by *High Country News* for an article titled "Land Grab Universities." A Cornell representative responded to the journalist with, "Thank you for reaching out to us on this issue. Unfortunately, I have no information to share on this issue at this time" (American Indian and Indigenous Studies Program, n.d.). The faculty committee that was created was tasked with examining Cornell's history of land grants received through the Morrill Act of 1862, and the impact they had on Indigenous communities, as well as to advocate for redress to mend their history. So far, they have identified almost 250 affected Nations and communities and have reached out to consult with them about possible remedies. The actions taken by Cornell have created a precedent on how other institutes should go about confronting and dealing with their own ties to Indigenous dispossession.

WPI's Institutional History

In the wake of George Floyd's murder in May of 2020, WPI alumni of color shared their experiences of discrimination, bias, and fear while on campus on June 6, 2020 (*WPI History*, n.d.). Three hundred and twelve alumni signed the letter to President Leshin. The demographics of the alumni that signed the letter is not available, but they all identify as people of color. There were not any Indigenous-specific examples of racism in the letter, but this does not mean it has not happened. According to the 10 Year Trend graph of WPI's demographics, American Indian or Alaskan Native students have been the second smallest group of students among degree-seeking undergraduates, only followed by Native Hawaiian or other Pacific Islanders. The total of American Indian or Alaskan Native, degree-seeking, undergraduate students only reached above 10 from the fall of 2016 to the fall of 2019. The lack of student representation from these groups could explain why there were no Indigenous-specific experiences in the alumni letter.

The alumni acted in hope that WPI would become more active in supporting people of color in the community. In the letter, the group of alumni created a list of recommendations for the university, with the optimism that WPI could live up to its ideals of inclusion and diversity. All the acknowledgements of Indigenous people from WPI were issued after this letter was received by President Leshin. The Wayback Machine (<http://web.archive.org/>) was used to pinpoint when WPI's first published the land acknowledgement on the About WPI webpage, and it was found that it was only added between August 9th and 10th, 2021. While the exact date of its publication was not able to be confirmed with WPI faculty, it was revealed that the land acknowledgement was developed during the 2019-2020 academic year. With this timeline, it seems that WPI had the land acknowledgement in the works before the alumni letter to President Leshin.

WPI's Land Acknowledgement can found at the bottom of the About WPI page, as well as on the Land & Labor Acknowledgements: Home libguides page. It reads:

WPI acknowledges the painful history of genocide in the U.S. for native and indigenous peoples. As a public statement that honors the indigenous people as native inhabitants [sic] on this land, WPI honors and respects the many and diverse tribal nations who were forcefully removed from their sacred lands.

WPI would like to recognize the people of the Chaubunagungamaug and Hassanamisco Nipmuc Tribe as the traditional custodians of the land on which we work. We take this moment to honor their elders, past, present, and emerging. WPI strongly advocates for higher education professionals to honor the land, the original tribal occupants, and the history of where they are located. (*About WPI*, n.d.)

The land acknowledgement has largely stayed the same since its publication, but “and Hassanamisco” was added to the original text of “the people of the Chaubunagungamaug Nipmuc Tribe” in November of 2021 (*Wayback Machine*, n.d.). Despite the acknowledgement that WPI exists on land that belonged to Indigenous people, there is no acknowledgement of WPI’s relationship to the history of Indigenous dispossession. WPI’s issuing of a land acknowledgement without taking any responsibility for dispossession is an example of a performative land acknowledgement. There should be action taken by institutions to take responsibility for Indigenous dispossession in addition to issuing land acknowledgements.

In addition to the land acknowledgement, WPI has acknowledged Indigenous people in an announcement of the release of a community guide about Indigenous Peoples Heritage Month (Worcester Polytechnic Institute, 2021), as well as in an announcement about Indigenous Peoples Heritage Month for the following year (Worcester Polytechnic Institute, 2022). The community guide and the announcement contained resources to learn more about Indigenous communities but made no effort to address the connections the Institution has to Indigenous dispossession. Acknowledgements are not histories and should not be confused with them. A truthful history includes all aspects and

effects, good and bad, of an institute's past. WPI needs a truthful institutional history to update what has previously been publicized.

The history of WPI that is publicly available does not attempt to acknowledge the Institute's connection to Indigenous dispossession. The Archives & Special Collections – Institutional History webpage (*Institutional History*, n.d.), the 150-year timeline of WPI's history webpage (<http://150.wpi.edu/>), as well as the *Tech Bible*, all contain similar retellings of WPI's history that omit any information about Indigenous people or where the founders got their money from. In the *Tech Bible*, there are single sentence descriptions of each founder and their visions for the university, and then in the section titled, "The History of Tech," it goes into a little more detail about each of the founders' histories. All that is said about Washburn is that he was "a blacksmith who worked his way through his education to eventually become proprietor of the largest wire mill in the world" (WPI Student Alumni Society, & WPI Alumni Association, 2021). The vague description of his "wire mill" leaves out the fact that it was barbed wire and telegraph wire his company was producing.

WPI's historical accounts of its founding lack important details regarding the founders and the circumstances in which the university was founded. In this IQP, our goal was to reveal and begin to acknowledge WPI's connection to Indigenous dispossession and create a stepping stone for WPI to take appropriate action.

Intertwined Histories – WPI and Barbed Wire

In the research for this project, four secondary sources that discuss the topic of barbed wire and its impact on Indigenous dispossession were utilized. This topic is well-documented, but few historians have followed the consequences and responsibilities back to eastern industrials who built fortunes and cultural institutions with the direct or indirect profits of dispossession.

The first source that was looked at was “Barbed and Dangerous,” by L. E. Bennett and S. Abbott. This article was published in 2014 by the Agricultural History Society and examines multiple advertisements from barbed wire manufacturers. By analyzing these advertisements, the article reveals the beliefs and prejudices of Americans in the last quarter of the 19th century. This source did a good job relating common prejudices at the time back to the publications that reinforced them but does not go in depth about the people behind them.

Barbed Wire: An Ecology of Modernity, by R. Netz, is another source that was utilized. This book analyzes the circumstances under which barbed wire's use exploded, such as the development of modern capitalism and the reinforcement of colonialism through the interactions between railroads, telegraph wire, and barbed wire. The use of barbed wire on the battle field and in concentration camps around the world was also discussed. The author efficiently connects barbed wire to colonialism in the American West and elsewhere in the world. As with the other sources, it does not go in depth about the eastern industrials who were behind its rise.

Third, *The Perfect Fence: Untangling the Meanings of Barbed wire*, by L. E. Bennett and S. Abbott was another secondary source used. In this book, the authors analyze barbed wire's place in late nineteenth-century media. They go over the support and opposition to it as seen in local newspapers and other publications. Patents from different years were analyzed to show that as criticism of barbed wire increased, the language used in the patents began to minimize the harm it could cause. Following the pattern with the other sources, this book did not place any responsibility on the specific eastern industrials that were profiting from the barbed wire industry.

The final secondary source that was reviewed for this project was “The Wire that Fenced the West,” by H. D. and F. T. McCallum, published in 1965 by the University of Oklahoma Press. In this book the authors review the history of barbed wire and then go into the people that were using it. They also

include a review on all types of barbed wire and the original's modern forms. Again, no responsibility is put onto the eastern industrials who were the driving force behind barbed wire's success.

Method

My first step to explore this topic was to do a literature review. The first subject that was investigated was the work that other universities have done on their ties to Indigenous dispossession and slavery. The focus of this portion of the literature review were universities with similar geographical location that have investigated their ties to Indigenous dispossession. Some research was also done into universities that investigated their ties to slavery. By looking at what other universities had already done, a framework to utilize in further research was formed.

This framework was, firstly, created by looking at the content of other university's reports. Their content guided this project regarding what to look for in secondary and primary sources. Some eastern universities, such as Cornell, were tied to Indigenous dispossession through land acquired in the Morrill Act of 1862, but WPI did not have this connection. Secondly, the sources that other universities used in their reports were also considered. Their bibliographies revealed which sources would be useful for this specific project. Other universities often used their own financial records in their research, providing a model for this IQP.

As an extension of the literature review, secondary sources that explained the cultural climate of Worcester around the time that WPI was founded were investigated. Doing this research developed the background knowledge necessary to analyze primary sources from this period. In order to correctly interpret primary sources, it is important to understand the circumstances under which the documents were created.

In addition to this, secondary sources were also used to understand the impact of barbed wire on Indigenous people throughout the United States. As described in the previous section, this is a generally well documented topic but often doesn't consider the wealth acquired by Eastern industrialists who moved the Industrial Revolution forward through the colonization of the West. To find secondary sources for the literature review, the snowball method was used. Initial searches were done on internet databases, such as JSTOR and Gale In Context: US History, to find the first few secondary sources. Search terms such as "barbed wire colonization", "barbed wire Indigenous dispossession", and "barbed wire Native American" were used. Bibliographies were used to track down older secondary sources, as well as primary sources, which were both applied to develop the project.

Before diving into WPI's archive, research was conducted about Ichabod Washburn at the American Antiquarian Society. After this research, it was decided that the most straightforward and concrete way to find ties between WPI and Indigenous dispossession was to look at the Institute's financial records. These records go all the way back to the founding of the Institute in 1865. In the Institute's first decades, they managed their finances through handwritten ledgers, in which the treasurer, or someone who worked for them, recorded all incoming and outgoing payments.

The WPI archive had the most relevant information about Washburn's contributions to the Institute's first decades. For this report, the earliest ledger, which dates from 1865 to 1883, was investigated to find out how Washburn's contributions influenced the Institute's first 17 years. The Institute's working relationship with Washburn & Moen company was also considered. During the archival research that was conducted, occurrences of Washburn's funds were prioritized as well as cases of the Institute working with Washburn & Moen Company. Ichabod Washburn was given precedence because of his creation of the Washburn & Moen Company, which ties him to imperialist products such as barbed and telegraph wire. I am the first person to look at WPI's financial records regarding how

Ichabod Washburn, Philip Moen, the Washburn & Moen Company, and Fred H. Daniels tie the Institute to Indigenous dispossession.

The Intersection of WPI and Indigenous Dispossession

Ichabod Washburn is one of the three most well-known founders of WPI, alongside John Boynton and Stephen Salisbury II. Boynton brought the idea of higher education for industrial workers, while Washburn's dream was to start a school that reinvented the way that the traditional apprenticeship system worked for tradespeople, Salisbury had the means to provide land and money, and the rest of the founders worked to unite and organize the rest of the project. Washburn was committed to creating a new educational experience for students that involved hands-on learning. He was able to achieve this dream by combining forces with the other founders to start Worcester Free Institute of Industrial Science (WFIS), the school that would later become WPI.

A Foundation of Success

Washburn made significant contributions to the founding of WFIS, before and after his death. Washburn's will and the original ledger from 1865 to 1883 were inspected to track some of Washburn's contributions to the Institute. Washburn wanted a machine shop to be built at WFIS so the students could take on apprenticeships to learn technical skills. His vision for the machine shop was that it would be similar to a working manufacturing plant – the original design included a boiler, engine room, and blacksmith shop.

In order to make this happen, he pledged to contribute money to the Institute for the construction of the machine shop, in addition to the equipment for it, during his life. Washburn

appointed Emory Washburn, of Cambridge, and Peter C. Bacon and Philip L. Moen, of Worcester, as the executors of his will. In his will he stated that,

In case I should personally fail to erect and fit up a machine shop as is mentioned in said communication, or to pay the sum of Five Thousand Dollars the first year, and Three Thousand Dollars each subsequent year during my life, I direct my executors, as soon as may be after my decease, to pay to said trustees such sum or sums as may be necessary, not exceeding Twelve Thousand Dollars, for the erection and fitting of the shop, and Five Thousand Dollars for the first year, and Three Thousand Dollars for each subsequent year as shall not have been paid or expended by me during my lifetime. (Ichabod Washburn Papers, 1868-12 - 1869-6, folder 5, pg. 10)

Beyond ensuring that the Machine shop would be completed and successful, he also contributed funds for WFIS to invest, specifying that the income from the investments may be used for the Institute,

And I further give to said Trustees the sum of Fifty Thousand Dollars, to be paid as soon as convenient after my decease, and to be on interest from my decease, to them and their successors forever; in trust nevertheless, for the purposes and upon the terms and conditions expressed in said communication, and none others. (Ichabod Washburn Papers, 1868 - 1869, folder 5, pg. 24)

The purposes, terms, and conditions were laid out in a communication from Washburn to WFIS, dated December 2, 1865,

[The sum of Fifty Thousand Dollars is] to be kept safely invested, separate and distinct from the annual fund of the Institute, as a perpetual and entire fund for this department, the income of which shall be faithfully applied in carrying out the plan and scheme here in above described, including provision for funds to be set aside and reserved to cover risks of fire, depreciation and losses from any cause, and in an earnest and honest endeavor to give success to the same

according to the views and purposes, which I have above expressed. (WCFIIS Original Documents, 1865, pg. 37)

In addition to the fifty thousand dollars, Washburn made a final change to his will to include an additional thirty thousand dollars for investment.

And I further give to said trustees [sic] of said Free Institute, the sum of Thirty Thousand Dollars, the principal of which they shall invest in such manner as they shall judge best, and the income or interest thereof may be expended by them for the use and benefit of said Institute, in either of the departments thereof, in such manner as they shall judge best. But no part of said principal shall be expended, unless, by some unexpected emergency, the Supreme Judicial Court shall...adjudge and decree that a part or all of it should be expended, specifying how much and for what purpose the same may be expended... Said last mentioned legacy is to be paid in five equal annual payments, after my decease, but with interest in any case. (Ichabod Washburn Papers, 1868 - 1869, folder 5, pg. 29)

He made the intentions of this contribution to the Institute very clear,

[M]y object being, in this last devise, to put into the hands of said trustees a working capital with which to carry on said Institute, and, if necessary, by casualty or otherwise, to expend any part of the principal in order to carry it on with success, they may do so. (Ichabod Washburn Papers, 1868 - 1869, folder 5, pg. 29)

The thirty thousand dollars was to be used as a stream of income for WFIIS, to ensure its success.

From 1865 until 1876, David Whitcomb served as the WFIIS's treasurer. After his departure from the position, Philip Moen took his place and served until 1883. Moen tried to resign in 1881 but ended up in the position until 1883 when a successor was elected by the board of trustees. In 1884, he gave a sum of \$25,000 to WFIIS's Instructional Fund, and this money was set aside by the trustees as the Moen Fund (*Seventy Years Of The Worcester Polytechnic Institute: Index Page*, n.d.). The secretary for WFIIS

was Daniel Waldo Lincoln from 1865 to 1876, who was also a trustee during this time. Edward H. Hall was Lincoln's successor and served as the secretary from 1876 to 1881.

To conceptualize how much money Washburn gave to the school the Measuring Worth website (measuringworth.com) was used to calculate how much his contributions would be worth in 2021. The data has been displayed in Table 1. From under the category "The Comparators," the calculator under "Relative Values – US \$" was used. For the Investment Fund and the Machine Shop Fund, the "relative income or wealth" value was selected, this measures the value of the fund by its relative share of GDP per capita. For the Machine Shop Construction Fund, the "relative cost" value was used, it also uses GDP per capita to calculate the value.

Table 1.

Contribution Value Conversions

	Value in 1883	Value in 2021
I. Washburn Legacy Fund	\$30,000.00	\$9,090,000.00
Washburn Machine Shop Fund	\$50,000.00	\$15,200,000.00
Potential Machine Shop Construction Funds	\$12,000.00	\$3,640,000.00

Conversion of Washburn's contributions to WFIIS from their value in 1883 to 2021.

WPI was not the only school that Washburn supported. He also pledged \$25,000 to Lincoln College in Kansas in October 1868 (*History*, n.d.). This school would later be renamed Washburn College, in honor of Washburn's pledge. He never visited the one-building campus because he died at the end of December 1868, but his pledge helped this school get its feet on the ground. This pledge is only about 30% of what he gave for the founding of WCFIIS, which shows his commitment to WCFIIS.

Washburn's contributions to WCFIIS were not immediately processed by the school; the first record of Washburn's contributions to WFIIS is dated January 4, 1872 (WCFIIS Original Documents, 1865, pg. 66). It is an entry labeled "Washburn Interest a/c," for 1,098.00 from interest on 3 sums of \$6,000 each. The first time that the Washburn funds show up on the yearly balance sheet is May 31, 1873. Going forward, there are two Washburn entries that show up in the balance sheets: I. Washburn Legacy

Fund and I. Washburn Legacy Investment Fund. The I. Washburn Legacy Fund is listed under liabilities because it is a static amount of money that is not accruing interest or generating any sort of income for WFIIS. In contrast, the I. Washburn Legacy Investment Fund is listed under assets because it is a stock and bond portfolio and is, therefore, generating income for WFIIS. The interest from these stocks and bonds goes into the Washburn Interest Account to be used to cover various costs incurred.

Figure 1.
Ledger Balance Sheet from June 1, 1876

121

Balance Sheet, June 1, 1876.

<i>Assets:</i>			
<i>Proynton Endowment Fund Investments</i>	<i>97,600.</i>		
<i>Salisbury Instruction " "</i>	<i>118,800.</i>		
<i>" Modern Language " "</i>	<i>33,000.</i>		
<i>Library & Apparatus " "</i>	<i>24,500.</i>		
<i>State Appropriation " "</i>	<i>23,325.19</i>		
<i>- Washburn Legacy " "</i>	<i>16,000.</i>		
<i>Graduates Aid " "</i>	<i>10,000.</i>		
<i>Congressional District " "</i>	<i>5,000.</i>		
<i>Undivided " "</i>	<i>10,000.</i>		
<i>Proynton Fund Premiums %</i>	<i>309.07</i>		
<i>Due from Laboratory</i>	<i>1,010.28</i>		
<i>Cash on Hand</i>	<i>20,648.56</i>	<i>360,193</i>	<i>10</i>
<i>Liabilities:</i>			
<i>Proynton Endowment Fund</i>	<i>100,000</i>		
<i>Salisbury Instruction " "</i>	<i>120,000</i>		
<i>" Modern Language " "</i>	<i>40,000</i>		
<i>Library & Apparatus " "</i>	<i>27,438.30</i>		
<i>State Appropriation " "</i>	<i>26,000</i>		
<i>Washburn Legacy " "</i>	<i>30,000</i>		
<i>Graduates Aid " "</i>	<i>10,000</i>		
<i>Congressional District " "</i>	<i>4,660</i>		
<i>Salisbury Fund Premiums %</i>	<i>187.50</i>		
<i>Library & Apparatus " "</i>	<i>656.25</i>		
<i>Library & Apparatus %</i>	<i>851.12</i>		
<i>Graduates Aid " "</i>	<i>336</i>		
<i>State Interest</i>	<i>63.93</i>	<i>360,193</i>	<i>10</i>

The I. Washburn Legacy Fund Investments and I. Washburn Legacy Fund are both located on the 6th line down, starting from the Assets or Liabilities label.

Table 2.*Ledger Key*

Ledger Key	
A/c or a/c	Account
Int.	Interest
R. R.	Rail Road
W.	Worcester
N.	Nashua
bal	Balance
Wor.	Worcester
W M Shop	Washburn Machine Shop
Prem.	Premium
E.	Eastern
Fd.	Fund
Dr.	Direct
Inv.	Investments
rec'	Received
Centen. Exh.	Centennial Exhibit
Pd.	Paid
I.	Ichabod
Amt.	Amount
Mfg. Co.	Manufacturing Company
Lgcy.	Legacy

Abbreviations used in the ledger.

Figure 1 is an example of what these balance sheets looked like. They were usually interspersed with other entries but occasionally got a whole page to themselves. As is shown, most of the funds under "Assets" are listed as investment funds, which means that they are bond or stock portfolios. In this example, the I. Washburn Legacy Fund Investments is recorded at \$16,000, while the I. Washburn Legacy Fund is at \$30,000.

The balance sheets that included the two Washburn Funds occurred yearly from 1873 until 1883. The year that they appear in the balance sheets correlates to about a five-year delay in the settlement of Washburn's estate which aligns with one of the public sources of WPI history (*Seventy Years Of The Worcester Polytechnic Institute: Index Page*, n.d.). Both Washburn Funds were first

recorded with balances of \$24,000 each. Comparing the amount of money in each account, year-to-year, reveals that the Washburn Legacy Fund has a stable \$30,000 balance, excluding the first year, 1873. On the other hand, the Washburn Legacy Investment Fund balance fluctuates year-to-year but ends at \$30,000 in the final 1883 entry of the ledger. The Washburn Interest Account is not included in the yearly balance sheets, and the record of its balance was not clearly recorded in the first few years of the ledger.

Figure 2.
List of Washburn Investment Bonds, 1879-1880

154

1879 - 1880

<u>Instruction A/c</u>		<u>Continued</u>		
Brought forward				\$4303.84
Apl. 2/80	Div. Central Bank	Boznton Pd.	114.	
	Int. P. B. V. R. R.	" "	450.	
	" Springfield Bonds	" "	140.	
	" P. B. V. R. R.	M. L. Pd.	25.	
	" First Nat. Bank		70.68	
5	" P. B. V. R. R.	Salisbury Pd.	675.	
10	Div. Pittsburg Bank	Boznton Pd.	88.	
13	Int. N. & N. R. R.	Salisbury Pd.	125.	
	" N. & N. R. R.	" "	137.50	
	" Springfield Bonds	Boznton Pd.	140.	
	" N. & N. R. R.	" "	250.	
16	" Maine Bonds	Salisbury Pd.	450.	
24	" Calvin Day	M. L. Pd.	150.	
30	" Chas. E. Stevens	Salisbury Pd.	45.	
Gift Stephen Salisbury			2000.	\$19114 02
<u>Washburn Int. A/c</u>				
July 8/79	Int. Worcester Seven Bonds		300.	
Aug. 1	" New London Bonds		140.	
Sept. 18	" Eastern R. R.		183.75	
Oct. 3	" N. & N. R. R.		125.	
Jan. 3/80	" New London Bonds		140.	
	" Worcester Seven Bonds		300.	
Apl. 2	" Eastern R. R.		236.25	
13	" N. & N. R. R.		125.	\$1550
<u>Library & Apparatus A/c</u>				
Aug. 1/79	Int. Meriden Bonds		40.	
Sept. 11	" David Scott		300.	
Oct. 3	" Springfield Bonds		140.	
30	" S. B. Ripley		150.	
Nov. 29	" Worcester Bonds		90.	
Jan. 3/80	" Meriden Bonds		60.	
Mar. 3	" David Scott		300.	\$1130

In the second section, titled "Washburn Int. A/c," there is a list of received interest on all the bonds bought with Washburn's Funds. These bonds show up throughout the ledger, but this is the first place where they are all listed together.

In Figure 2, all the Washburn bonds are listed out. These bonds include eastern railroad bonds, as well as a few eastern city bonds. All the bonds were bought by WFIS with Washburn's contribution to the Institute, as per his will and communications with the Institute. Despite the railroad bonds being for eastern locations and not directly causing Indigenous dispossession, railroads are a tool for colonization and used to push forward capitalistic ideals. Worcester was developing into a railroad hub for North America during the mid to late 1800s, and the possession of these bonds ties WPI to Indigenous dispossession by supporting the creation of railroad infrastructure in the eastern United States. There are similar ties that come along with the municipal bonds, as these are communities of European colonists that have created cities on stolen Indigenous land.

Table 3.

Washburn and Salisbury's Contributions to WFIS

I. Washburn Legacy Fund	\$30,000.00
Washburn Machine Shop Fund	\$50,000.00
Potential Machine Shop Construction Funds	\$12,000.00
Total Salisbury Funds	\$160,000.00
Total Assets in 1883	\$427,362.20
Washburn Total	\$92,000.00

Comparison of Washburn's Funds compared to Salisbury's Funds and the Institute's total assets.

Washburn's contribution to the school's founding was not just a static fund, it was to be invested in order to generate income. The interest earned off the Washburn Investment Fund, from 1872 to 1883, was \$13,603.58 in this 11-year period. This value correlates to a return on the Washburn Legacy Investment Fund of about 45%. Considering that this investment fund consisted entirely of railroad and municipal bonds, this is a very high return. It is not clear if the I. Washburn Fund is also comprised of investments that are earning interest because in his will and communications to the Institute, he said it should be invested, but it is recorded under the Liabilities section of the balance sheets. If the interest was being earned off both accounts, the return would be about 17%. By using the Measuring Worth website, the amount of interest accrued would equal an estimated \$4,120,000.00 in

relative wealth in 2021, when evaluating from 1883. This was calculated by using its relative share of GDP per capita.

Although Washburn's contributions to WFIS were not the largest, they still made an impact on the Institute in its first decades. After totaling up all the assets from the 1883 balance sheet, Washburn's contribution made up about 22% of all the Institute's assets, while Salisbury's makes up about 37%. In comparison to Salisbury's contributions, Washburn's contributions were significant to the Institute at the time, despite not being quite as large as Salisbury's. Washburn's contribution of \$92,000 is comparable to Boynton's \$100,000. As shown, the Institute still profited from the investments made with the funds from Washburn's contributions, which ties it to the legacy of Washburn & Moen Company.

Barbed Wire

Before his death in 1868, Ichabod Washburn laid the foundation for his company to become the big name of the barbed wire industry. He started his wire manufacturing establishment in 1831 to help a friend that needed very thin wire, his company quickly grew from 6 men to "23 men and 1 boy" in 1846 (McCallum & McCallum, 1985, p.15). In the 1800s, there were advances made in wire rolling, such as Bessemer furnaces and Bedson rolling processes, which were developed quickly in series. These developments allowed for the wire industry to experience novel growth and expansion.

Philip Moen was Ichabod Washburn's son-in-law and succeeded Washburn on the board of trustees after his death in 1868, he was on the board until his death in 1891. He played a part in the first few decades of WFIS through his roles as treasurer and trustee. After his monetary contribution in 1883, there was a Moen Fund set aside as a part of a larger Instructional Fund. His business life was intertwined with Washburn's through WPI as well as Washburn & Moen Company.

When Samuel F.B. Morse's telegraph was introduced, Washburn was in partnership with Moen, and they were in the position to become a large producer of telegraph wire. The telegraph is comparable to the railroad in terms of economic importance. When the war with Mexico began in 1846, only 146 miles of telegraph wire existed in the United States (Howe, 2007, pg. 696). The war sped up the construction of more lines because people were eager for news on the war. By 1850, ten thousand miles of telegraph wire had been laid in the United States (pg. 696). Alongside the railroads, telegraphs made nationwide commerce easier and reduced transaction costs. Both effects of telegraph networks made the colonization of the West easier. Capitalism puts profits over everything, so the West became an even more attainable profit dream for rich, eastern men. Washburn & Moen Company was on the ball when the telegraph came around, and their production of the wire earned them a position as one of the leaders in the world production of steel wire (Hood, 1965, as cited in McCallum, & McCallum, 1985, pg. 16). Ichabod Washburn was alive when the telegraph boom spread across the United States, and he profited from it, as he was one of the owners of Washburn & Moen Company at the time.

People of the 19th century were not oblivious to the destructive nature of colonization. This is made apparent in a quote from the *New York Herald* about telegraphs from 1844.

Steam and electricity, with the natural impulses of a free people, have made, and are making, this country the greatest, the most original, the most wonderful the sun ever shone upon....

Those who do not mix with this movement – those who do not become part of this movement – those who do not go on with this movement – will be crushed in to more impalpable powder than ever was attributed to the car of Juggernaut. Down on your knees and pray. (*New York Herald*, 1844, as quoted in Silverman, 2010, pg. 243).

This quote violently depicts crushing the noncompliant into a powder, it is a metaphor but is very self-aware. Colonization sought to eradicate everyone who did not comply and was a form of violence that has been employed against many people. Washburn and Moen both contributed to the colonization of

Indigenous people in the West through their decision to produce telegraph wire at Washburn & Moen Company. This connection ties WPI to Indigenous dispossession in the western United States through Washburn and Moen's contributions to the Institute.

Plain steel wire had been sold for fencing prior to the invention of barbed wire, but it only made up a small portion of Washburn & Moen Company's sales (McCallum, & McCallum, 1985, pg.17). Before Ichabod Washburn's death, his company was already trying to sell wire to colonizers in the western United States, who were actively dispossessing Indigenous people. Despite not being successful with selling plain wire, this, along with the success with telegraph wire, set the groundwork for Washburn & Moen Company to go forward into the barbed wire industry.

Washburn died on December 31, 1868, only 3 years after WFIS was founded and before the Washburn Machine Shop was finished. Philip Moen became the president of the company following Washburn's death. Ichabod Washburn's nephew, Charles F. Washburn, became the vice president of the Worcester firm of Washburn & Moen Company. In 1876, following the success of the company with telegraph wire, Charles Washburn started working with Glidden and Ellwood, two of the original barbed wire patent holders, to produce the wire. Because Glidden was over 60 years old at the time, Charles Washburn was quickly able to convince him to sell his share of the business (McCallum, & McCallum, 1985, p.45). Washburn & Moen Company would go on to buy up as many barbed wire patents as they could to compete with the holder of the third original patent, Jacob Haish. Philip Moen was the president of the company at this time, while simultaneously working for WFIS as the treasurer and a trustee, this is a direct connection between the Institute and Indigenous dispossession.

Another connection between WPI and Indigenous dispossession can be found through the alumni and trustee Fred H. Daniels. He graduated from WPI in 1873 and led a wildly successful career as the chief engineer for American Steel & Wire Company, and a consulting engineer for U.S. Steel Corporation. American Steel & Wire Company is the result of a merge between multiple wire

manufacturers in the United States in 1899, two years later it became a division of the U.S. Steel Corporation. Daniels patented a more efficient way to intertwine wire fencing, which is indirectly a contribution to the barbed wire industry. Thus, Daniels' creates an indirect link between WPI and Indigenous dispossession. The significance of barbed wire in the nineteenth-century will be further investigated in the following sections.

Examining the Historical Significance of Barbed Wire

Colonization of the West

As mentioned earlier, telegraphs, railroads, and barbed wire were tools of colonialization used in the American West. All three of these tools created more wealth for investors in the eastern United States by making production on a large scale more feasible. Telegraphs provided a way for investors to stay more up to date on stock and product pricing, railroads allowed for the transport of goods on a large scale, and barbed wire filled a market niche that was previously empty. This section will cover the development of modern capitalism and colonialism in the West, as well as explain the roles that telegraphs, railroads, and barbed wire played in it.

In the 19th century, a new type of colonialism appeared, the investor's colonialism. This contrasts with previous colonialism which had centered around traders and trade routes. The investor's colonialism was based on the profits available from intensive production on a large scale (Netz, 2004, pg. 4). The investor goes beyond connecting points of trade, they invest in and develop the land into usable resources. The West was the perfect location for this to occur because it is so vast. Modern capitalism is also tied to this development in colonialism, as it was discovered that the private ownership of land led to intensive investment and therefore to much larger profits (pg. 22). Barbed wire was used by Euro-American colonizers in the west to lay claim to plots of land. Along with the larger profits for

investors, the expectation of capitalist investment grew and became a driving force behind colonization (pg. 23). These developments were enabled by railroads, telegraph wire, and barbed wire through the creation of an efficient network across the United States.

Barbed wire was a tool to create wealth for investors. Fencing was an issue in the West and the eastern industrialists used barbed wire to solve it, while also increasing their capital. When the central and eastern United States were colonized, and fences were deployed, natural resources were widely available to use for fencing. Stone and wood were not as widely available in the West and it was expensive to ship these resources from other locations (McCallum, & McCallum, 1985, pg. 21). Charles Washburn noticed this untapped market and chose to advertise barbed wire as the solution (pg. 28). Manufacturing companies and the investors associated with them worked to market their barbed wire products to the masses of colonizers who were living in the West.

Barbed Wire Marketing

Advertisements from the nineteenth-century played on the prejudices and worries of the Euro-American colonizers about newly freed Black people, Native Americans, and other marginalized groups. These advertisements reinforced their prejudices and amplified their worries. This section will highlight a few examples of this and explain how it ties into Indigenous dispossession.

The *Barb Fence Regulator* was an almanac-like booklet created by Jacob Haish to promote his wire, the "S" barb, that was a competitor to Ellwood-Glidden wire. His booklet was the first to appear, as early as 1876, the date of the first edition is uncertain. Ellwood soon followed his lead and started publishing the *Glidden Barb-Fence Journal*, the year the first edition was released is uncertain but is thought to be from 1880. These booklets were distributed by wholesalers, who put their company information in the blank space left on the back cover. By 1887, 500,000 copies of the *Regulator* had been distributed to the wholesalers. Through these booklets, Haish and Ellwood were trying to influence

the public opinion of barbed wire, in addition to playing on the public opinion of marginalized people to persuade colonizers to buy more of their barbed wire. They contained different forms of advertisement media, including images and poems, which were used to convince the Euro-American public that barbed wire was useful and good.

Figure 3.
Barbed Wire's Spread of Civilization

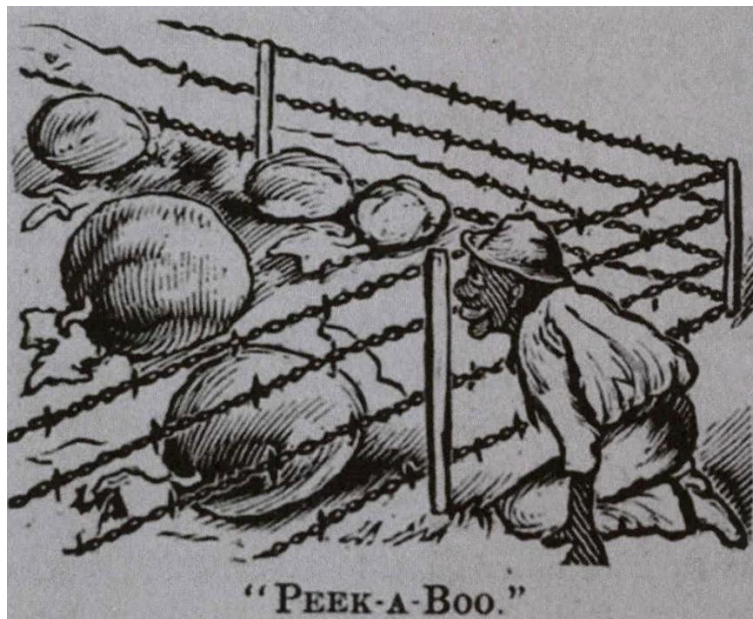


Source: Regional History Center, Northern Illinois University. RC200, Drawer 2, Folder 3.

In Figure 3, "Barbed Wire's Spread of Civilization," a white man is shown atop a rooster, controlling the animal with barbed wire reins and whip. The sentiment of this image mirrors that of John Gast's 1872 "American Progress" painting, which came just a couple years before Haish's advertisement. Both images feature large, white figures that are spreading the latest tool of colonialism,

seen as a technological advancement. In Gast's painting telegraph wire is being laid across the countryside by a blonde, white woman wearing white robes, in Haish's image barbed wire is being used to control and restrain the rooster that the white man is riding. Both images include depictions of Indigenous people in the background being forced away from either tool of colonialism, telegraph or barbed wire. Haish's image shows that people during this era were aware that barbed wire fencing was effective at keeping Indigenous people off the land they had laid claim to. The advertisement suggests that the Indigenous people and the wild bison will be forced off of their land by barbed wire's colonial power, just as Gast's painting depicts Indigenous people losing their land to the colonial power of telegraph wire. This advertisement shows that continuing Indigenous dispossession in the West was a selling point for barbed wire.

Figure 4.
Peek-A-Boo



Source: *Glidden Barb-Fence Journal*, 1885, reproduced as in Bennett, & Abbott, 2014.

Another source, the *Glidden Barb-Fence Journal*, published the racist cartoon titled “Peek-A-Boo.” This cartoon played off white Americans’ fear of newly freed slaves in the post-Civil War era. Alongside this cartoon, the *Glidden Journal* claimed that the barbed wire fence was perfect as an instrument of surveillance, as “it watches with argus eyes the inside and outside, up, down, and lengthwise; it prevents the ‘ins’ from being ‘outs’; and the ‘outs’ from being ‘ins’; watches at day-break, at noontide, at sunset and all night long” (Bennett, & Abbott, 2014, p.579). This echoes the panopticon concept used to develop prisons in the 19th century. This concept was used in Britain in the early 19th century to construct prisons but made its way across the Atlantic to influence prisons in America as well. There is one notable prison, claimed to have been influenced by the panopticon principle, Eastern State Penitentiary located in Philadelphia which opened in 1829 (Eastern State Penitentiary, n.d.). Policing and prisons are used by the state to control and imprison disproportionate numbers of people of color, including Indigenous and Black people. This racist cartoon shows that, in this era, Euro-American colonizers were interested in keeping the “undesirables” out of the land they claimed. This racist caricature of a Black person is not an isolated incident, Figure 5 uses stereotypical portrayals of immigrants.

Figure 5.
Commotion Among the Animals



Source: "Commotion Among the Animals", c.1877. Paper. Ellwood House Museum Collection. X.216.

The poster in Figure 5, titled "Commotion Among the Animals," has portrayals of a Chinese immigrant, in the lower left corner, and a German immigrant, in the lower right corner. The Chinese immigrant has a speech bubble that reads "barbee wire vellee good, me gettee some too," and the fat German says, "Yaw I thinks I can raise some sourcroust now." These stereotypical depictions reinforce the idea that solving the fence problem proves American ingenuity and the superiority of "American Progress." In 1877 there was increasing Anti-Chinese sentiment in the United States, which eventually led to the Chinese Exclusion Act of 1882. This was the first significant immigration restriction put into place in the United States and prohibited all Chinese laborers from entering the country. These

stereotypical and racist portrayals of immigrants fed into and reflected how the general, white public viewed people from other races and nationalities.

The Defense of Barbed Wire

The investors and owners of Washburn & Moen Company had financial interest in creating a wide-spread market for barbed wire, this led to their intense defense of the product. Through their defense, their interest in Indigenous dispossession and the spread of colonialization into the West is made apparent. Ichabod Washburn died before barbed wire came around, but Philip Moen took his place as the president of Washburn & Moen Company in 1869, this is one direct tie that WPI has to Indigenous dispossession in the United States. Fred H. Daniels also worked for the successor of Washburn & Moen Company, which is an indirect connection.

At first, there were many positive reports on barbed wire, local publications were glorifying its usefulness and affordability in Los Angeles by 1875, claiming that it was “the fence of the future” (Bennett, Abbott, & Evans, 2017, pg. 23). Despite this positive attention, there were also publications that reported on the danger of barbed wire, one as early as 1878 that detailed the injuries some horses sustained after being spooked into a barbed wire fence (pg. 29). There were many reports of humans getting injured by barbed wire as well. Children and adults fell victim to the danger of barbed wire (p. 36). By taking stances on barbed wire, local publications set the stage for state legislatures to act for or against or for it.

Many state legislatures across the United States were confronted with proposed bans on the use of barbed wire, these restrictions, if passed into law, would decrease the sales of barbed wire for Washburn & Moen Company. In response to proposed restrictions, Washburn & Moen Company fought against every bill that was brought up. Oftentimes, the representatives from Washburn & Moen Company would have more comprehensive and persuasive scripts to deliver to the legislators. From a

case in Connecticut, in February of 1880, Washburn & Moen Company claims that their “company’s representatives had made ‘careful inquiries’ of their local agents and dealers throughout Connecticut, as to ‘accidents and injuries resulting from the use of Barb Fencing.’ What they found was ‘no case of substantial injury.’ Instead, they heard ‘unreserved endorsement of Barb Fence’” (p.53). They argued against the public outcry in this case and concluded that it should be ignored in favor of letting manufacturers and users of barbed wire determine its use (p.53). One issue with this defense was that the company did an investigation into itself, investigations like this cannot be unbiased unless there was a third party conducting the investigation and even then, the rich, white men who ran the corporations often also had political ties that could influence an outside investigation.

In a statement to the New Hampshire legislature in 1881, the Washburn & Moen Company used a flawed argument to defend its product against claims that the wire was dangerous. They claimed that the rapid growth in demand for barbed wire meant that the farmers using it wouldn’t want it if it brought “peril and harm to their cherished animals” (Bennett, & Abbott, 2014, p. 568). The demand for barbed wire experienced rapid growth because western North America was being colonized and Indigenous people were being forced off their land. They also argued that the cattle were quick to respect the barbed wire fences, this argument minimizes the pain that the animals had to go through in order to learn to stay away from the fences. A lack of complaints by the Society for Prevention of Cruelty to Animals over the first 7 years of barbed wire being manufactured was also used as a defense in favor of barbed wire’s use. A lack of complaints in the past should not be given precedence over complaints in the present.

Finally, Washburn & Moen Company and the people behind the company were aware of the effect that barbed wire had on Indigenous communities. From a testimonial that Washburn & Moen Company collected about the barbed wire fence in 1876, one respondent from California said, “the Indians have bothered us a great deal, in cutting our fences, and going through on horseback, letting our

stock out, and outside stock in the ranch. Since we put up the wire they have not bothered any” (Bennett, Abbott, & Evans, 2017, 79). This testimonial shows that the white settlers were in fact using the fences to keep Indigenous people off the land they had claimed. Indigenous dispossession was not simply an unintended consequence of attempting to fence their cattle in, but an active motivation behind the use of barbed wire. As a result, Philip Moen, the president of Washburn & Moen Company, treasurer, and trustee of WFIS after Washburn’s death, directly connects WPI to Indigenous dispossession during the late 19th century through the money he earned from barbed wire and then contributed to the Institute.

Impact

Ichabod Washburn and Philip Moen both contributed money during the founding and first decades of WPI, and the Institute has since profited from those contributions, directly tying the Institute to wealth created from investment in Indigenous dispossession. They also played large roles in running the Institute on the Board of Trustees, along with Fred H. Daniels. Currently, WPI leaves out information regarding to its ties to Indigenous dispossession in the late 19th century. The only action that has been taken to acknowledge Indigenous people has been performative, without any responsibility taken for the effects that Washburn, Moen, and Daniels’ legacies had on Indigenous populations in the West. It has been shown that the Euro-American colonizers of the late 19th century were aware that they were forcing Indigenous people off their land. The consequences of their legacies still affect Indigenous people today because railroads, telegraph wire, and barbed wire all played significant roles in the colonization of the West. Now that this information has been revealed and laid out, WPI must choose what to do with it. My recommendation would be to take the information and use it to modify how the Institution conveys its history, acknowledging their truthful history, taking responsibility for the ties the

Institute does have, as well as take steps to support current and future Indigenous students that decide to attend.

Future Work

This section will address the limitations of this project, and additional areas of interest that may be useful to others who research this topic in the future. The research for this report was conducted by one person over three terms, and there were various other leads that could not be covered. These leads have been separated into three categories: further research into the people covered in this paper, research into other founders and trustees, and research into WPI's operation beyond the founders.

Washburn, Moen, and Daniels

In this paper, Ichabod Washburn, Philip Moen, and Fred H. Daniels' contributions to WPI's founding and first decades were investigated. Moen made at least one monetary contribution of \$25,000 to WFIS in 1884, but the ledger that was used for research ended in 1883. The following ledgers may contain information about how Moen's contribution was utilized by WFIS and if the Institute profited from his wealth. It could also be useful to follow Washburn's Funds beyond 1883, as only the first 15 years were looked at. Fred H. Daniels' professional life was not investigated thoroughly, his contributions to the American Steel & Wire Company and later to the U.S. Steel Corporation may reveal further connections. Research into the personal opinions and relationships that these three people fostered during their lives may be able to better reveal how the school was run during the times of their involvement.

There were instances of WFIS working with Washburn & Moen Company in the 1865 to 1883 ledger and continuing to look through the following ledgers could reveal how deep the connection

between the Institute and the company, and its successors, is. Also, following the path of alumni that went on to work for Washburn & Moen Company or its successors could lead to further connections.

The Other Founders and Trustees

Beyond Washburn, Salisbury provided the initial land that WFIS was built on and following the history of the actual land WPI stands on today is another lead. There is a record of who the land was transferred from, all the way to Salisbury and then WFIS, but there could be further research done on who owned the land before him. While the other founders and trustees may not have as obvious connections to Indigenous dispossession as Washburn, Moen, or Daniels, they may still be worth looking into to get a better idea of the how the Institute was run day-to-day. The other trustees would have had power over how WFIS operated.

WPI's Operation

The operation of the university in the first few decades should also be analyzed. There is no publication from WPI about the first Indigenous graduate, but the Institute talks about the first Black graduate, Naudin Oswell, on multiple different webpages, including in the WPI Journal, on the WPI – Advancement page, and on the libguides page for Black History Month. When did the Institute first accept an Indigenous student, who were they? When did the Institute issue the first degree to an Indigenous student, to whom was it issued? In the fall of 2022, there were less than 10 Native American or Native Alaskan students that were enrolled as degree-seeking undergraduate students, why is there such a discrepancy in the demographics of WPI today? These are all important questions that were not able to be answered in this iteration of the IQP but should be investigated to tell the Institute's truthful history. Discrimination, dispossession, and systemic harm in the history of WPI should be examined and acknowledged by the Institute, as they all influence how its history is presented today.

Bibliography

- A guide to Indigenous land acknowledgment. (2019, October 22). *Native Governance Center*.
<https://nativegov.org/news/a-guide-to-indigenous-land-acknowledgment/>
- About WPI*. (n.d.). Worcester Polytechnic Institute. Retrieved January 17, 2023, from
<https://www.wpi.edu/about>
- Acknowledgement of Country and Welcome to Country*. (n.d.). Reconciliation Australia. Retrieved February 14, 2023, from <https://www.reconciliation.org.au/reconciliation/acknowledgement-of-country-and-welcome-to-country/>
- American Indian and Indigenous Studies Program. (n.d.). *Cornell University and Indigenous Dispossession Project*. Retrieved January 17, 2023, from
<https://blogs.cornell.edu/cornelluniversityindigenousdispossession/>
- Baron, A. (2021, February 23). The Odyssey of Naudin Oswell, WPI's First Black Graduate. *WPI Journal*.
<https://wp.wpi.edu/journal/articles/the-odyssey-of-naudin-oswell-wpis-first-black-graduate/>
- Bennett, L. E., & Abbott, S. (2014). Barbed and Dangerous: Constructing the Meaning of Barbed Wire in Late Nineteenth-Century America. *Agricultural History*, 88(4), 566–590.
<https://doi.org/10.3098/ah.2014.088.4.566>
- Bennett, L. E., Abbott, S. H., & Evans, S. (2017). *The Perfect Fence: untangling the meanings of barbed wire* (First edition). Texas A&M University Press.
- Beyond Land Acknowledgment: A Guide. (2021, September 21). *Native Governance Center*.
<https://nativegov.org/news/beyond-land-acknowledgment-guide/>
- Burke, S. (2018, August 5). Before the Show, a Nod to the Ancestors. *New York Times*, 7(L).
https://link.gale.com/apps/doc/A548924890/SPJ.SP24?u=mliin_c_worpoly&sid=bookmark-SPJ.SP24&xid=92ea3243
- Campbell, J. T. (2021). Campbell Essay. *Brown University's Slavery and Justice Report*.
<https://doi.org/10.26300/BDP.SJ.CAMPBELL>
- Commencement*. (n.d.). Worcester Polytechnic Institute. Retrieved March 21, 2023, from
<https://www.wpi.edu/news/annual-events/commencement>
- Dube, E. (2022). *Reexamining WPI's Roots in the Histories of Slavery*. : Worcester Polytechnic Institute.
- Eastern State Penitentiary*. (n.d.). Retrieved October 31st, 2022, from <https://www.easternstate.org/>
- Greenwood, J. T. (2009). *First Fruits of Freedom: The Migration of Former Slaves and their Search for Equality in Worcester, Massachusetts, 1862-1900*. The University of North Carolina Press.

- History*. (n.d.). Washburn University. Retrieved February 21, 2023, from <https://washburn.edu/about/facts/History/index.html>
- Howe, D. W. (2007). *What Hath God Wrought: The Transformation of America, 1815–1848* (Vol. 5). Oxford University Press.
- Ichabod Washburn Papers, 1868-12 – 1869-6, MS026.01.04. WPI Manuscript Collections.
- Indigenous Peoples Heritage Month 2021: A Community Guide from the Gordon Library*. (2021, November 11). Worcester Polytechnic Institute. <https://www.wpi.edu/news/announcements/indigenous-peoples-heritage-month-2021-community-guide-gordon-library>
- Institutional History*. (n.d.). Archives and Special Collections. Retrieved March 29, 2023, from <https://www.wpi.edu/library/archives-special-collections/history>
- Lee, R., & Ahtone, T. (2020, March 30). *Land-grab universities*. <https://www.hcn.org/issues/52.4/indigenous-affairs-education-land-grab-universities>
- McCallum, H. D. R., & McCallum, F. T. (1985). *The wire that fenced the West*. University of Oklahoma Press.
- Miller, R., Ruru, J., Behrendt, L., & Lindberg, T. (2010). *Discovering Indigenous Lands: The Doctrine of Discovery in the English Colonies*. Oxford University Press Inc.
- Netz, R. (2004). *Barbed Wire: An Ecology of Modernity*. Wesleyan.
- O'Brien, E. (n.d.). *Guides: Native and Indigenous Peoples Heritage Month: Home*. Retrieved January 26, 2023, from <https://libguides.wpi.edu/c.php?g=1093390&p=7974021>
- Otárola, M. (2020, May 13). *Minnesota DNR can rename Lake Calhoun as Bde Maka Ska, high court rules*. Star Tribune. Retrieved January 18, 2023, from <https://www.startribune.com/bde-maka-ska-name-stays-supreme-court-says/570435552/>
- Scantlebury, A. (2014). Black Fellas and Rainbow Fellas: Convergence of Cultures at the Aquarius Arts and Lifestyle Festival, Nimbin, 1973. *M/C Journal*, 17(6). <https://doi.org/10.5204/mcj.923>
- Seventy Years Of The Worcester Polytechnic Institute: Index Page*. (n.d.). Retrieved March 29, 2023, from <https://web.wpi.edu/academics/library/history/seventyyears/>
- Silverman, K. (2003). *Lightning Man: The Accursed Life of Samuel F. B. Morse*. Knopf Publishing Group.
- University of Minnesota Duluth. (n.d.). *University of Minnesota Duluth on the NSIC Network*. Retrieved January 17, 2023, from <https://nsicnetwork.com/umdbulldogs/?B=378801>
- Washburn Shops*. (n.d.). Worcester Polytechnic Institute. Retrieved February 17, 2023, from <https://www.wpi.edu/about/locations/washburn-shops>

- Wayback Machine.* (n.d.). Retrieved January 17, 2023, from http://web.archive.org/web/20210301000000*/https://www.wpi.edu/about
- WCFIIS Original Documents, 1865-03-27 - 1865-06-12, UA15.01.01, Box: 1. UA15: Worcester County Free Institute of Industrial Science Records, UA15. WPI University Archives.
- Welcome to Country.* (2021, October 5). First Peoples - State Relations. <http://www.firstpeoplesrelations.vic.gov.au/welcome-country>
- Worcester Polytechnic Institute Celebrates the Class of 2021 in a Series of Commencement Exercises.* (n.d.). Worcester Polytechnic Institute. Retrieved March 21, 2023, from <https://www.wpi.edu/news/worcester-polytechnic-institute-celebrates-class-2021-series-commencement-exercises>
- WPI Alumni Racial Justice.* (n.d.). Worcester Polytechnic Institute. Retrieved January 18, 2023, from <https://www.wpi.edu/offices/president/wpi-alumni-racial-justice>
- WPI Celebrates Indigenous Peoples Heritage Month 2022.* (2022, October 31). Worcester Polytechnic Institute. <https://www.wpi.edu/news/announcements/wpi-celebrates-indigenous-peoples-heritage-month-2022>
- WPI History.* (n.d.). Worcester Polytechnic Institute. Retrieved February 21, 2023, from <https://www.wpi.edu/about/wpi-history>
- WPI Student Alumni Society, & WPI Alumni Association. (2021). *Tech Bible*. Worcester Polytechnic Institute.