

Brooke Powell

Dr. Marika Segiel

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A Reflection of Ideologies Represented within Historic Artifacts

The start of the Industrial Age was an important time in American history, which took place during the mid to late 1800's (The Industrial Rev. 1). It marked a time when American companies began to focus more on increasing their production, to increase their profits. In turn, this massive production increase forced working conditions to become more dehumanized, through the process of automation (Longo 123). At the end of the American Industrial Revolution, Douglas Houghton —Michigan's first state geologist— reported his findings of the Keweenaw Peninsula, later renamed America's Copper Country in the Upper Peninsula of Michigan, where multiple copper deposits existed and would be mined to supply America with copper (LeDuc 2).

During the American Industrial Age, technical writing was presented in a different form, its relationship of sharing scientific information became more involved with the knowledge/power system in which it existed (Longo 124). In this way, technical writing became a way to manage, not only the workers, but their production rates as well. This was important, especially for mining companies where the owners were concerned with keeping the mines in the black (Meeting minutes; 002). In order to keep track of this, inspectors were hired by the board of the mines to inspect the mines and write up annual reports on anything of interest that happened for that fiscal year (Meeting minutes; 002). The items mentioned in the report were

mainly of interest to the people who owned them. Accident reports were the biggest, if not the majority of the contents (Miners Report 2 - 45).

The reports themselves were termed "annual" reports by the mines board of trustees (Meeting Minutes; 002). For the most part they seemed to detail each accident that happened throughout the year within that particular mine. Each accident was described briefly, and the results, whether it was injury or death, followed. Sometimes, but not in all cases, the verdict for a given accident was also noted, if that case had gone to trial by jury to determine who was responsible for causing the accident. In some cases, like that of the widow in 1893, the plaintiff won ~\$12,000 in damages, against the mine for putting the workers into unsafe situations which had resulted in harm and possibly death (Tamarack Suit.). Although there were very few cases reported that won against the mining companies, there were a few that succeeded. This seemed to be a contributing factor for the reason behind keeping detailed accounts of the accidents and happenings within the mines.

The particular report discussed within this paper however, contained an appendix that was originally printed in the local newspaper, The Daily Mining Gazette. This article discussed a gravitational experiment preformed in the North Tamarack mine in the year 1902. This experiment's main concern was finding the value for the density of earth. It seemed odd that this type of thing would be included in the Mine Inspectors Report, whose main concern seemed to be with reporting the accidents that occurred in the mine for legalities sake. It was found later, that the Tamarack Mine was considered to be the deepest mine during that time period and therefore the most viable location for this type of experiment (Physics Colloquium). The knowledge of the earth's density would be very helpful to miners and the mine owners who were investing in automation technologies and moving away from manual force. Additionally, the

experiment was heavily supported and funded by the Mining College— now known as Michigan Technological University— via the current president Fred McNair and the U.S. government (Miners Report 47).

It is my argument that because the loss of life within the mining industry had become so commonplace, it was easily overlooked by the Mines' Board of Trustees and owners as the cost of doing business. As a result, they were able to concern themselves instead with answering scientific questions that would help to make automation more of a possibility in their industry. It was through automation that the overall dehumanization of the mining organization began to take place (Longo 123).

Artifact Analysis

The (annual) Mine Inspectors Report is a hardcover leather bound book, with pages typed on a typewriter. Its cover page consists of a single picture of a worker using some mining equipment in the mine the report is about. When looking at the elements that makeup good technical writing according to T.A. Rickard, these elements are still present in this report. The hardcover indicates a need for longevity and the typed pages indicate the need for reliable source to read. The word choice within the document is also very factually based, with very little emphasis placed on human emotion (Longo 63,64).

The appendix of the experiment seems like an odd addition to this style of report, however, because within the introduction to the experiment, the author writes "...an account of observations made at the North Tamarack mine, which comprised an experiment that will add materially to the scientific knowledge of the world and, it is confidently believed, will aid in solving some of the anomalies of gravity." Reflecting the value on empirical data over scholastic data of the time period. It seemed as though as the nation moved more towards industry and mass

production, in such a way that the interests of the general public were disregarded in effort for scientific advancements that would help to accelerate the mass production and leave humans in the dust.

Another element that stuck out when reading the report was the organization of headings, and their topics. The report ends with a "Cause of Death unknown" section followed by this excerpt, which concludes the report and introduces the appendix:

During the year a most interesting series of experiments was made in the North Tamarack mine by President McNair, of the college of Mines, and John F. Hayford, chief of the computing department of the United States coast and geodetic survey, Washington D.C., which it is believed, will solve some of the disputed points in reference to the subject of gravity. As the matter will be of interest to many into whose hand this report will come, I append a description of these experiments taken from the columns of the Daily Mining Gazette of September 21, 1902. Yours Respectfully, Josiah Hall, Inspector of Mines

This highlights very sharply the transition of technical writing, as the author goes from talking about the very morbid subject of unknown causes of death, to discussing the mine's involvement with a scientific experiment. The author was also operating under the assumption that this experiment had not been worked on since the early 1600's, making it seem like they were reporting on something that was very important. These things combined indicate the shift in technical writing Longo discusses and how it became a conduit for relating this information back to the interests of those in power and not focus on the "mistakes" or bad associations one would get with discussing death.

The people who were in power had the most influence over this shift, in this case the owners of the mines (Longo 120). Their concern fell away from the loss of men in accidents and towards advancements that would further their stake in automation. Giving the implication that the miners were just a means to an end and not recognized as actual persons.

Additionally, it was interesting to find the College of Mines was so involved with the experiment; in fact it was President Fred McNair who had correspondence with the U.S. government in regard to the experiment (McNair Papers; MTU 023). The man he spoke with was John Hayford, initially the inspector of geodetic work for the U.S. government in 1902. Their discussion seemed to be that they were both working on the same problem in their relative locations although neither was making much progress (McNair Papers; MTU 023). While McNair was not directly in contact with the materials that were used to perform the experiment, he was very concerned with its results and how they would affect the future of the college (McNair Papers; MTU 023). It is my assumption that as the elected president of the College McNair was required to make certain advancements in the field in order to keep up with the continually advancing technologies being introduced into the mines. Although it was found that he was elected to his position via a letter he wrote to his mother the day it happened (McNair Papers; MTU 023).

In addition to his correspondence with Hayford there was another set of letters McNair exchanged with Mr. O. H. Tittmann, another member of the Geodetic office in Washington D.C., who made it clear that the Tamarack experiments were not the first since the 1800's and pointing him to source(s) for said materials (McNair Papers; MTU 023). This seemed of interest to McNair, but in his response to the man, he mentioned that he was unable to locate the sources he

had recommended to him. This leads me to believe that this is why Hall, the inspector, remained under the assumption that these were in fact the first experiments of their kind since the 1800's.

Something else worth noting is the fact that the appended article was taken verbatim from the local newspaper, until the conclusion. That is where Hall decided to add more information including two additional sections: "First Suggestion of Experiment," and "Noting the Coincidences." It is still unclear as to why these sections were left out of the newspaper article, there is a possibility that this information was classified only to those who had stake in the mine, all though nothing was ever mentioned to that effect. It seems logical to include this information, however, since it gives the previous experiment on which the current one is based and reflects on its findings. It is also a possibility that these findings were not yet public knowledge and therefore could only be reported by the inspector. This again reflects that the people in power are the ones with the influence because they have control over the information (Longo 131).

Through it was thoroughly looked into it was not possible to nail down the exact owner of the Tamarack Mine at the time these experiments were performed. It was found that in the late 1870's a man named John Daniell, who was a mine captain for the Osceola mine, wanted to create a "down dip" or extremely deep hole in the Western property of the Calumet and Hecla mines (A Brief History 1). He believed that there was a rich copper deposit here but it could only be reached through deep vertical shafts. The property that he wished to mine was just outside of the mining companies property line however, so after he secured funding of \$250,000 from the Osceola Consolidated Mining Company he quickly and quietly purchased all the land he thought had value (A Brief History 1). It turned out he was correct and this was land formed the Tamarack Mining Company in 1882, to which Daniell was superintendent. The Tamarack Mine operated until 1917 and was very profitable (A Brief History 1,2). Although there is a lot to be

said about the profits made from the Tamarack Mines during the year in question (1902) there was no record of these year within the ledger kept during that time period (Company Ledger; 266; 002).

Conclusion

When taking into account all the factors that can implicate this particular source of technical writing, it is safe to say that there were specific ideologies at work within this document. The audience was a huge factor in this case because it was written by someone who was hired to report on such matters, giving the impression that the Board didn't trust the superintendents to give them the full truth, or perhaps they thought they might try to hide mistakes that were made, whereas the inspector would not because they are being paid to only ascertain the facts and report them, lacking an emotional involvement in the process.

Another contributing factor to the fact that the people in power are more interested in moving forward and making things better. Which some could and did argue, makes things better for everyone, but in this case it was shown that people were just a tool used to reach an end goal and not thought of or given the respect of actual persons. It is interesting to note the different ways in which this is reflected in the document because of the dramatic shifts in focus as the appendix is mentioned.

As to why it was included, the fact that the Tamarack Mine was the deepest known mine at the time seems like a logical answer, however, looking at the larger scope of things as well it seems that perhaps the Mining College's interest also carried some influence over the location. Because without a trustworthy person who is capable of understanding the needs for the project progress could not be made. It would make sense then to enlist the help of President McNair, because he carried a position of influence. This also contributes to the idea that technical writing

shifted from sharing scientific knowledge to also performing a role within the knowledge/power system it existed in.

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