

Science Texts Translated from English into Gujarati in the 19th Century: A Translation History

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Abstract

History pertaining to 19th century India has diverse strands running into different directions. These strands are also intertwined beautifully. History of science in India, history of textbook production, history of public instruction are a few of threads that bind 19th-century colonial history. It is hardly surprising that translation runs seamlessly through these strands. But its role has scarcely been analyzed in its true context. The paper attempts to unravel translation and its history concerning science texts translated from English into Gujarati. It aims at providing an overview of the kind of texts undertaken for translation, the translators who attempted it and the context wherein these translations occurred. The paper tries to articulate the significance that translation had for the history of science in India, history of textbook production, history of public instruction in 19th century Gujarat.

Keywords: Public Instruction, Textbook Production, Science Education in India, Translation History.

Introduction

Translation matters because it exists at the intersection of different domains. When studied in its context, it throws light on events in history that otherwise seem unrelated. It is an intercultural endeavor that brings together not only cultures but also facilitates knowledge transfer in different domains. While some work has been undertaken concerning history of translations of literary texts from English and other languages into modern Indian languages, a lot still needs to be explored in terms of translations of texts from different domains such as science, history, religion, philosophy, and medicine etc. into modern Indian languages. The reason why such an endeavor is vital is that it has the potential to shed light on how the knowledge from these disciplines was transferred to India and access to these texts was created for the masses. Public instruction in India in the 19th century cannot be imagined without studying the way these translations must have happened because this is the exercise that made textbooks available in schools.

The present paper is aimed at putting together an account of how science texts/textbooks were translated from English into Gujarati in the 19th century. A simple bibliography or list of translations is also not enough because a bibliography will not be able to capture the nuances of the translator's motivation for translation, his context, the role of agencies and institutions. Therefore, the paper endeavors to not only document these valuable 19th century translations but also provide a cohesive and factual account of how and why these translations occurred. The 'how' and 'why' here refer to the overall context within which the translations occurred. Detailing each aspect of the context would probably call for a book on this topic. Therefore, to restrict it to the length of the paper, an effort has been made to provide what might constitute merely an overview of the context that orients the reader to the 19th century backdrop wherein these translations occurred and the account of translators' lives and work. Such an overview is not the end of the research in this area but merely a starting point. More comprehensive and more

detailed accounts of translations and translators may follow in future. Therefore, the paper focuses on providing the first ever account of the major translations and the major translators of science texts from English into Gujarati with an emphasis on contextualizing them.

Methodology of Translation History Undertaken: An Overview

For an emerging area like translation history, the concerns related to its methodology will remain a matter of debate and discussion. While there has been significant progress in the theory and practice of the methodology of translation history, India has seen little progress in the same. Barring a few publications like National Translation Mission's *History of Translation in India*, and a few stray papers here and there, there is hardly anything to turn to for either theory or practice of translation history. The reason why this matter is because methodology for translation history also evolves with practice as the context of a country and culture may call for a different approach.

In any case, if one were to rely on the existing practice of the methodology of translation history available in the West, one needs to take a host of ideas into account before proceeding further. It is needless to say that any one model or approach may not work. Therefore, one needs to consider ideas evolved in the West that may prove fruitful for the Indian context. For the purposes of this paper, the first and foremost care has been taken to establish the chronology of translations because history is at the end of the day a systematic arrangement of events explained in a cogent manner. Secondly, the methodology demands that one provides a logical account of the past and not a mere list of translations. In India, this has been an area of concern because translation history has been reduced to comparing two translations or it merely revolves around talking about translations in isolation, cut off from their context. As Venuti (2005) says, translation is shaped by 'every stage of its production, circulation and reception, by its historical moment' (p. 03). Along the similar lines, Anthony Pym has been insisting on focusing on 'why' rather than 'what' while researching on translation history. In other words, history has been far too long focused on translation itself at a superficial level rather than focusing on why or the context of the translation that has the potential to explain translation in all its nuances including its poetics and politics. Pym also talks about humanizing translation history in his famed paper "Humanizing Translation History". In fact, he goes on to insist that we must study the translator first and then the translations because the key to understanding a translation perhaps lies in the study of translators. The reason why this paper provides detailed account of translators wherever possible or delves into their life and work stems from the increasing focus on the study of *translators* with respect to translation history.

Not only Pym but also D'hulst (2010) has emphasized on the 'intellectual biography' of the translator while writing translation history (p. 399). Andrew Chesterman went to the extent of writing a paper titled akin to James Holmes' "The Name and Nature of Translation Studies" and titled it as "The Name and Nature of Translator Studies". Therefore, the practice that is widely prevalent in India to simply list the translations in some sort of order and ignoring the subjective and human aspects of the motivation and objectives of the translator needs to be transformed into full-fledged studies of translators and their lives. The present paper delves into archival details of the lives of the key translators for this purpose so that one can, what Pym (2009) cites from Bourdieu, "subjectivise the objective" (p. 19). It denotes how we must bear in mind that the things we study have been created by people and made available by people, always acting with specific purposes. In other words, detailed study of translators in terms of their context,

motivation, work, patronage provided to them and their personal objectives while undertaking the translation needs to form the core of the methodology of translation history. For this paper, the effort has been made to explain the life and work of translators of science texts in a way that it illuminates the context of these translations enabling a fuller account and understanding of history.

Translations do not occur in a vacuum. Therefore, one must explore how translations are undertaken in the practical realm also. In other words, translations, like creative works, need publishers and individuals who extend financial support and provide patronage to this kind of work. In this context, limiting the methodology of translation history to merely a study of whether the translation adheres to the original or not, as has been the case in India, does not do full justice to translation history. Therefore, the present paper also provides an insight into the role played by institutions, agencies and individuals in making these translations possible. In providing an account of the life and work of translators, effort has been made to throw light on the role played by these institutions and individuals and the interplay of power relations.

Since these translations have a bearing on public instruction, it is necessary to relate every bit of historical information available to the context in which these translations occurred. Therefore, the methodology undertaken for translation history for this paper takes its cue from the various important factors shaping the translations- the life and work of translators, the context of the translations, the role played by agencies and institutions, the chronological and logical account of translations in their context and the comprehensive, if not complete, overview of the science texts translated in the 19th century from English into Gujarati. While no translation history is complete in itself, the effort has been made to unearth new information and explore all possible archival material on the topic. The methodology of translation history with respect to this paper is informed by the theory and practice of translation history in the West. However, due to the limited amount of archival material related to the topic, not every aspect of the translation history can either be covered or explained in the greatest possible detail. However, in the context of a vacuum of translation history in India, initial expositions related to translation history such as this paper should be viewed in that light and be taken as the stepping-stone to better and more in-depth research in this domain. It is hoped that the methodology of translation history will also evolve as more work related to translation history is undertaken and the same is debated and discussed as we evolve.

The following sections on major translations and key translators are designed to shed adequate light on translation history related to science texts translated from English into Gujarati in the 19th century. While they are titled as major translations and key translators, these sections provide a systematic and in-depth account of the context, history and evolution of translations with respect to 19th century history per se when it comes to colonial India, public instruction and its evolution, agencies and institutions and individuals who made their mark on the same.

Major Translations

Since translation history is in a nascent stage, we have not yet fully developed its methodology or refined its tools. As a result, it is an uphill task to even get started with this kind of a project. The first challenge in translation history of this sort is to locate the bare minimum details regarding translations. In the absence of a detailed bibliography of translations, one has to

consult various archival resources to collate data on these translations and prepare one's own list of translations and other ancillary details.

When one studies various old catalogs such as *Catalogue of the Library of India Office*, *Catalogue of Native Publications in the Bombay Presidency*, etc. one may be able to provide a brief account of major translations that occurred as far as science texts are concerned. In terms of documenting the major translations in the science domain, these catalogs seem to suggest the first translation occurred as early as 1825. *A Treatise on Arithmetic* was translated into Gujarati as *Guniti*. It was followed by a translation of Lieutenant Colonel Pasley's *A Course on Practical Geometry* titled as *Kartavya Bhumiti*. It was published in 1826. *Elements of Algebra* was translated as *Bijaganita* in 1828. Dr. Charles Hutton and Mr. Bonnycastle's two texts – *Arithmetic and Book-keeping in Single and Double Entry* and *Course of Mathematics* were translated in 1828. *Course of Mathematics* was into two volumes. *Bhumiti* and *Sidhiliti Trikonmiti* were translations of *Course of Mathematics* Vol. 3 and 5 respectively, published in 1828. These early translations were done by Captain George Ritso Jarvis. As one can see, there was a persistent thrust on Mathematics and allied subjects. The fact that these translations were published in a short span of 4 years between 1825 to 1828 seems to suggest there was some sort of urgency to bring out these translations. The next translation on a similar area occurred years later in 1868 after a gap of 40 years. Euclid's *Geometry* was translated by Pitambardas Tribhuvandas Mehta in 1872. J. Graham translated six books of Euclid in Gujarati in 1876. Balvantram Mahadevram Mehta translated R. Burchett's *Practical Geometry* as *Kartavya Bhumiti* in 1882. Barring one or two minor works, there are no further translations of Mathematics texts from English into Gujarati in the 19th century.

Dialogues on Geography and Astronomy, the first text on Geography, was translated as *Bhugolane Khagolane* in 1833. It was followed by Harilal Mohanlal's translation of *The Use of Globes* as *Bhugolana Upayogo* in 1867. A year later, Chhotalal Sevakaram produced the translation of *A Manual of Geography* in 1868. This translation is unique because it was not a translation of the source text but it was based on the Marathi translation done by Major T. Candy. One might wonder if there is any connection between Major Candy and Chhotalal. Major Candy was a veteran Marathi translator. He was the Marathi translator employed in the education department, Mumbai. He translated several texts from English into Marathi. In the same way, Chhotalal Sevaklall was also in the employment of the education department. As it is evident, how they were both connected and how Major Candy's translation became a basis for the translation of an English text into Gujarati.

Geography of Asia was translated as *Asia Khand nu Bhugolana* by Lalubhai Tarachand and Gangashankar Hargovinda in 1872. A text on geography of Asia was also rendered into Gujarati as *Bhugolavidya* by Mahashankar Pitambar Joshi in 1876. Dahyabhai Jagjivandas Mehta translated *Geography of Asia* as *Hindustanni Bhugolana* in 1876. A text containing lessons on geography, anatomy and geology was translated by Krishna Ranchhod Travadi and Mahasukh Hargovind Dani in 1878. Mahipatram Rupram Nilakanth translated Professor A. Geiki's *Physical Geography* as *Science Primer in Gujarati: Physical Geography* in 1880.

A couple of texts on Geology were also translated. Theodore Cooke's manual of Geology was translated by Mahipatram Rupram Nilakanth as *Bhustaravidyana Mulatattvo* in 1873. Mahipatram also produced a Science Primer on Geology later in 1891. A text or two on astronomy was also rendered in Gujarati. Mahipatram translated Cooke's *Programme of Studies*

as *Khagolavidya* in 1873. Balvantram Mahadevram Mehta translated J. Norman Lockyer's text as *Science Primer in Gujarati: Astronomy* in 1888.

The texts on Chemistry, Physics, and Biology were translated as well. *Conversations on Chemistry* was the first such text to be translated into Gujarati. Mehrvanji Hormazji Meheta translated it as *Rasayanasastra Sambandhi Batchit* in 1851. Kaikhusrau Rustamji Vikaji rendered a textbook of elementary Chemical Physics into Gujarati as *Siddhapadarthavijnana* in 1873. Mahipatram brought out a Gujarati primer on Physics in 1875. Later in 1883, he also translated a Physics text as *Padartha Vignan*. H. E. Roscoe's text was translated as *Science Primer in Gujarati: Chemistry* in 1884. Dahyabhai Pitambarbhai Derasari translated Sir J. D. Hooker's text on Botany as *Science Primer in Gujarati: Botany* in 1892. As it is evident, the texts related to main branches of Science such as Chemistry, Physics, etc. were translated as a part of a series titled *Gujarati Primer in Gujarati*.

Key Translators

While most of us are eager to review the translation and compare the source text and target text, the work related to translation history begins somewhere else. Various scholars have commented on the significance of studying the translators and how without studying them, it would be nearly impossible to understand the translations as they exist.

To start with, Lefevere (1990), in his introduction to *Translation, History, Culture*, argues that we must find out "who translates, why, and with what aim in mind?" (p. 01). Until and unless we figure this out, a mere study of translations will yield nothing fruitful. Anthony Pym went on to dedicate a paper on it that was titled "Humanizing Translation History". He makes impassioned arguments to steer the research towards translators and how they go about their work. He insists that we need more than "raw data about texts, dates, places and names" (p. 42). In his view, we must be able to "portray active people in the picture and some kind of human interaction at work" (p. 23). In other words, the study of translations will not suffice. We must enliven the context and throw light on the life and work of translators in a way that explains the translation. Andrew Chesterman went on to devise a new framework for this and came up with what he interestingly titled "The Name and Nature of Translator Studies". The emphasis, as one can see is on the word "Translator" in the title. One can go on citing various scholars in this regard but it is evident that without contextualizing the life and work of a translator, it would not be possible to understand the translation and its history because the key to a translation lies, at times, in the actions, motivation, motives, circumstances, interactions of the translator and forces and factors that influence his/her decision making. Therefore, a study of the life and work of translators of science texts is put together and provided below. However, it may be noted that the analysis of their life and work will depend on the availability of information so far. Therefore, the quantum of details regarding different translators presented in the paper may vary as per the availability of archival data.

Colonel George Ritso Jervis (1794-1851)

If one wonders how a British Colonel could wield Indian languages such as Gujarati and Marathi and translate from English into these languages, it was partly because Colonel George Ritso Jervis was born in India. *Obituary of Colonel George Ritso Jervis* published in the *Minutes of the Proceedings of the Institution of Civil Engineers* provides a brief account of his illustrious

profile, life in general and his many contributions. It mentions how “his benevolent and wise endeavours to spread the blessing of education among the native Indians” that he will be remembered (p. 107). Being born in India, he had the exposure to Indian languages necessary for translation. He was born in Madras in 1794. His father served as Lieutenant-Governor of Ceylon. Of four brothers, George was the eldest. While two younger brothers served in Artillery, two elder brothers decided to work in East India Company in Engineering Corps. Each of the four brothers went on to earn a rank in their respective fields of work.

George went to Royal Military Academy, Woolwich at the age of sixteen. He completed his studies at the college which was newly founded by East India Company at Addiscombe. He excelled at everything and got a place for himself at Engineering Corps. After his return to India in 1810, he served in the field up to 1820. From 1820 onwards, his work in various institutions begins. From 1820 to 1830, he carries out duties in half a dozen organizations in various capacities. When these translations were undertaken, he held the rank of a Captain. It was later in 1849 that he went on to assume the rank of a Colonel.

As far as these translations are concerned, his work at two organizations necessitated these translations. These two organizations were- Engineering Department at Bombay and Bombay Native Education Society.

As head of the Engineering Department, he was required to plan and execute civil works of different kinds such as the building of roads, bridges, etc. It is hard to imagine how someone would think of translating Mathematics texts while carrying out civil works. However, Jervis envisaged these translations as a solution to the practical problem that he faced in the field. Right after he started his work at the Engineering Department, he realized that he had a small team of British men who could understand and carry out complex Mathematical calculations required for planning and carrying out civil works. While he had many Indian workers at his disposal, they were not conversant with the concepts of Mathematics necessary for meticulous measurement and planning of civil construction. Even if he wanted to acquaint them with these Mathematical concepts, it was not possible because the textbooks of Mathematics were in English and the Indian men did not have the exposure to English. To scale up his civil construction work, Jervis needed a large team of people who could understand and apply Mathematical concepts. For this, he set up 'Engineer Institution' which he called '*Guneet Shilp Vidyalalya*' in 1823. In this institution, he introduced courses to train young Indian students in civil works. However, to provide this training, he needed textbooks in Gujarati and Marathi- two widely used Indian languages in Bombay. All the existing textbooks were obviously in English. To make these textbooks available in Gujarati and Marathi, he undertook the task of translating these textbooks in these two languages. This is how these Mathematics texts were translated into Gujarati and Marathi. If one does not consider his work as head of Engineering Department, it would be next to impossible to explain why and how a Colonel in the Engineer Corps went on to translate a score of Mathematics texts into Gujarati and Marathi.

While all this was taking place at Engineer Institution, Jervis was also actively involved in another landmark development. To promote the access to education, the Bombay Education Society was set up in 1815. In 1823, the Bombay Education Society created a committee called Native School-book and School Committee for the publication of textbooks in native languages. Later on, the Committee went on to transform into Native School-book and School Society. The translations were published under the aegis of the Society. What connects Jervis to this is that he

served as Secretary of the Society and spearheaded the task of translating the texts and getting them published.

In these two major ways, Jervis led the translation of Mathematics texts early on and paved the way for the later translators of Science texts. His translations also had a positive impact on the training of young students for civil works and the rise of public instruction in vernacular languages.

James Graham

Very little is known about this particular translator. However, there are enough details to explain why James Graham went on to translate science texts into Gujarati. To start with, he worked as Headmaster or Principal in Surat English School where other translators or key figures such as Mahipatram Rupram Nilkanth, etc. worked with him as colleagues. He served as Headmaster from 1850 to 1855. He rose to the rank of Superintendent of Schools in Gujarat as well.

Right after Education Department was formed in 1855, Graham was appointed the Gujarati Translator. As the *Report of Director of Public Instruction* (1855) mentions, his “zealous efforts to improve scientific literature of that province are elsewhere noticed as highly creditable to him” (p. 137). He translated works like Lardner’s Euclid, Hart’s Mechanics, Davis’ Conic Sections. He was singularly proficient in Gujarati language. Hope mentions how he used Graham’s manuscript on Gujarati grammar while preparing the text on the subject.

In the absence of these details, Graham’s translations make no sense or appear random. However, once one puts together these details of Graham’s life and work, it is easy to infer why he went on to translate the Science texts. There is always a plausible account of why and how a translator acts in a particular way, provided the translation historian is willing to sift through the maze of facts and data.

Mahipatram Rupram Nilkanth (1829-1891)

Mahipatram Rupram Nilkanth was a man of many parts. He was an educationist, social reformer, writer, and biographer. The last name ‘Nilkanth’ was not his surname but the name of his great-grandfather’s grandfather- Nilkanth Mehta. Mehta served as a Minister of Nawab of Surat. Mahipatram was born in Surat on 3rd December, 1829. He studied in a village school and later became a teacher in the same school in 1851. He also went to Elphinstone College, Bombay, for higher studies in 1852. He was appointed to the post of a teacher at Elphinstone School as well in 1854. Later, he was appointed Acting Headmaster at a school in Ahmedabad in 1857. He also served as Sub-Deputy Inspector of Schools in Ahmedabad where the famed T. C. Hope was the Inspector. As mentioned in *Sachitra Saksharmala*, he served as a member of the “Book Committee” in 1858 and worked on the “Hope Series” of textbooks (p. 102). There was a growing requirement to start a training college to provide requisite training to teachers. To survey the existing colleges in England and observe their best practices, Hope asked him to visit England in 1860. Upon his return, he was made the Principal of the Gujarat Training College in 1861. He held the post till retirement. He was accorded ‘Rao Saheb’ and Companions of the Order of Indian Empire (C. I. E.) in 1885. He passed away on 30th May, 1891 in Ahmedabad.

During a long and illustrious career, he held several key positions and worked in diverse organizations. He was closely associated with organizations of social reform, art, and culture such as Prarthana Samaj and Gujarat Vernacular Society. In fact, it was said that there was no organization of social reform in Ahmedabad wherein Mahipatram did not serve as the Secretary. However, an average Gujarati and average literature scholar and student know him only for his writings. Primarily, he is well-known for his novels such as *Sasu-Vahuni Ladai* (1866). He is also remembered for the first travelogue in Gujarati titled *Englandma Musafarinu Varnan* (1862). He also wrote the first few biographies in Gujarati. He provided the biographies of Karsandas Mulji and Durgaram Mehta. As his wife was also a social reformist, he wrote her biography too. It was titled as *Parvatikunwar Akhyan* (1881). His *Akbarcharitra* (1887) was based on *Akbarnama*.

However, little is known about his translations. While the present paper deals with his translation of Science texts and textbooks, it should be noted that he was equally diverse in his translations too. He translated texts on subjects such as Geography, Geology, Physics, Education, History, etc. It is a common misconception that translators undertake translation out of their will and volition. When one looks at a list of translations that a translator provided, most people assume that the translator made a conscious selection of these texts purely based on his free will. However, it is not the case on a number of occasions. In this case, too, it is hardly the case that Mahipatram, the author of literary texts, translated the texts on Geography out of his desire to render these texts in Gujarati. In fact, the facts reveal that he translated them as a part of his job. While he held a number of positions in the British administration, it was his job as the Gujarati Translator in Education Department that made these translations possible.

In the report on public instruction titled *Report of the Department of Public Instruction in the Bombay Presidency* for the year 1867-68, Mahipatram's report as Gujarati Translator in the Education Department provides the requisite testimony of how he did not choose these texts but carried out his duties as a translator and translated the work assigned to him. It is titled in caps as "REPORT OF THE GUJARATHI TRANSLATOR, EDUCATIONAL DEPARTMENT FOR THE YEAR FOR 1867-68". The first few lines will suffice to show how he was merely carrying out his duties rather than translating based on what he liked or deemed extremely important to be taken up for translation:

My personal work was set as below:

Compiled a Gujarathi History of England from the reign of Edward VI to that of Queen Victoria; revised the same up to the reign of Edward IV.

Examined and reported on the following works:

- 1 A poem, entitled Panipat, by Mr. Hargovinddas Dwarkadas
- 2 Translation of Shakuntala, by Mr. Javerilal Umiashankar Yajnik
- 3 The same, by Mr. Dalpatram Pranjivan Khakhkhar
- 4 Shares and Speculation, by Mr. Mancherji Cawasji Shah-purji
- 5 Rudiments of Geography, by Mr. Jijabhai Karsetji (p. 268)

In this way, he goes on to list 10 assignments in this report. In a subsequent report published a year later, he lists, in total, 34 assignments.

As it is evident, he was serving the British Empire by compiling their history in Gujarati and did not work independently as a translator. Secondly, the kinds of assignments that are listed are so eclectic and diverse, that there is no way he could have selected them. Instead, these assignments came to him as a part of his job as the Gujarati Translator in Education Department. In fact, each of these translations mentions that it was translated by Mahipatram Rupram Nilkanth, Gujarati Translator, Education Department. Therefore, it debunks the myth that translators selflessly translate texts voluntarily chosen by them for the greater good. They have different kinds of motivations that make them take up translation assignments. This is precisely why it is imperative that one studies the life and work of a translator rather than merely looking at the list of translations carried out by him. The logical explanation as to why a translator translated a particular text, at times, lies in his life events and experiences. Until and unless their life and work are thoroughly investigated, the most important historical question ‘why’ the translator translated a particular text will remain unanswered. In this case, Mahipatram translated these diverse texts as a part of his assignment as Gujarati Translator. It might have been done with the noblest of intentions but it was definitely not out of his free will. It was as a part of his employment as Gujarati Translator with Education Department that he translated these Science texts and textbooks. It should be put into perspective in this way rather than accepting his translations as selfless acts or random events.

Chhotalal Sevakram (1842-1910)

Chhotalal Sevakram was born in Ahmedabad in 1842. He studied in vernacular and English schools. More importantly, highly influential people such as Haridas, Mansukhram, and Ranchhodbhai Udayram were his classmates and it is worth noting that all of them went on to serve the kings in the Princely states as Ministers. Chhotalal was no exception. Initially, he was in the employment of Dungarpur Prince as a tutor. Later, he served as a teacher to the king of Kutch and went on to assume the rank of a Minister as well.

Now the same question may plague us as to how Chhotalal went on to translate texts of Geography while he had a completely different trajectory of life in the employment of Princely states. His journey as a translator is no different from Mahipatram because Chhotalal served as ‘Translation Exhibitioner’ right under the leadership of Mahipatram in the same Education Department! It is, at times, amazing to discover how two unrelated translators are bound together with something like a tiny little job in the British Empire. Till one does not discover the link between Mahipatram and Chhotalal, it seems as if they were two unrelated translators translating in their own ways. However, if one traces the facts and the trajectory of their lives, it leads us to the same Education Department wherein they both worked as colleagues and collaborators as translators. The same report that was cited earlier contains the details of the work done by Chhotalal as Translation Exhibitioner. Mahipatram writes:

Work done by the Exhibitioner, Mr. Chhotalal Sevakram: Revised and enlarged the Outlines of Roman History, translated by Mr. Ganpatram Venilal. Made a fair copy of the revised manuscript. Revised greater portion of the Guzerathi translation of Major Candy’s Manual of Geography, Volume I and the whole of Volume II. Compared fair

copies of this translation, when ready for submission. Translated 105 pages of Morris' History of India (p. 268).

As one can see, the translation of Morris' *History of India* into Gujarati which is attributed to Chhotalal was carried out as a part of his duty as Translation Exhibitioner. As was the case with Mahipatram, Chhotalal's translations were also assignments he carried out as Translation Exhibitioner at Education Department. If anything, tracing the report and the link between these two translators sheds new light on how they worked together and brought out these translations not as random publications but as systematic assignments all under the aegis of the Office of the Gujarati Translator within the Education Department. It also explains why both of them carried out translations of texts related to Geography, History, etc.

As an aside to this, it should also be noted that Major Candy whose text Chhotalal translated was Marathi Translator with Education Department! All these translations were connected and linked in a way that defies human imagination. None of it was random or driven by the whims and fancies of a translator. It was all a part of a larger scheme of things under the British Empire.

T. C. Hope (1831-1915)

Theodore Cracraft Hope, popularly known as, T. C. Hope hardly needs any introduction. He is well-known for "Hope Series", a series of textbooks that he envisioned. He was an Education Inspector in the Bombay Presidency. During his tenure, he introduced numerous reforms. However, it was the preparation and publication of textbooks that Hope is better known for. It is interesting how it was Hope who invited Mahipatram to join this project of preparation of textbooks. Among the various translations of Science texts, it is pertinent to note that Hope translated one of the texts. It was a text of geography that he translated as *Bhugolavidyana Mulatattvo*. It was published in 1878. If one were to list those who contributed to the rise of translations in a major way, he will certainly feature prominently in that list. However, since this is only about those who actually translated a text, Hope figures as a minor translator as he provided only one translation pertaining to Science textbooks.

Nandashankar Tuljashankar Mehta (1835-1905)

Nandashankar Tuljashankar Mehta is better known to Gujarat and Gujaratis as the author of *Karan Ghelo*, the first novel in Gujarati. He was born in Surat in 1835. For those who know him as the novelist will find it hard to believe that he also translated a text on trigonometry in Gujarati. However, such is the nature of translation history that a rigorous investigation invariably reveals threads that provide a perfectly logical explanation. It also means that one has to start with the belief that such an explanation exists and should not dismiss any translation as random.

As far as Mehta is concerned, it is interesting to note that he worked as a teacher in a high school in his hometown in 1855. It may seem like an ordinary detail but it is not an ordinary detail when you consider the people he worked with. The school was known as Surat English School that was established in 1842. Mehta worked as an Assistant Master under the leadership of Mr. James Graham, who served as the Headmaster. This is the same Graham who translated Science textbooks. As if it was not enough, Mehta also had with him Mahipatram Rupram Nilkanth as a

colleague in the school. Later, he went on to be the first Indian headmaster of the school in 1858. When one puts together these details, Mehta translating a Science textbook begins to make sense.

Mehta also served as a member of the famed textbook committee formed by T. C. Hope. Therefore, his translation was not a random one but may have been a part of the larger school textbook project. It should also be noted that publication of Mehta's novel *Karan Ghelo* was also funded by the British administration.

Later, Mehta served as Principal of Teachers' Training College till 1867. It was Hope who convinced Mehta to join Indian Civil Service. As a result, he subsequently joined the revenue service and served in different parts of Gujarat such as Ankaleshwar, Devgadhi Bariya etc. He assumed the charge of a Minister in Kutch in 1880 and was appointed the Political Agent of Godhra in 1883. He was accorded the honor of "Rao Bahadur" in 1877 by the British Government. He passed away in 1905.

As one can see, an investigation into a single translation that Mehta carried out unravels a gripping narrative of how his life and work were intimately related to the rise of Public Instruction in Gujarat and how he worked with the key figures of the translation history pertaining to science textbooks such as James Graham, T. C. Hope and Mahipatram.

Dahyabhai Pitambarabhai Derasari

Dahyabhai was born in 1857 in Surat. He acquired his education at various places. He studied at Ahmedabad high school and then shifted to Pune College of Science. He also went on to study abroad. In London, he studied at King's College and Graze Inn. In 1896, Dahyabhai went to England and earned the degree of Barrister at Law. *Sachitra Saksharmala* mentions that he also cleared "advanced level exams of geography" (p.196).

However, he made Rajkot his base for most of his work. He started his work as an assistant in Kathiawad Training College situated in Rajkot and went on to assume the responsibilities that of Acting Principal. He also served as Honorary General Secretary of Kathiawad Lang Institute and Watson Museum. Watson and Lang were functionaries of British Government in Rajkot in whose honor these institutes were later set up. He authored books such as *Haridharma Shatak*, *Saral Arthshastra*, *Vidyarthi no Mitra* etc. His translations include titles such as *Science Primer in Gujarati: Botany* and *Science Primer in Gujarati: Physical Geography*.

Rationale behind a Different Structure of the Paper

Unlike in India, translation history research has been accorded a special and unique space in the West within the realm of Translation Studies. Ever since, translation history emerged as a research area following the cultural turn, the West has witnessed a continued discourse on how translation history should be approached and how research should be pursued in the same. Since translation history is a distinctly different area compared to other areas, it has invoked very different approaches from a variety of translation scholars. Almost every known scholar of translation has argued for a different space for translation history and for a different approach to pursuing translation history research.

Unlike the focus on source text and target text and the quest for equivalence, the focus shifted long back in the West with the cultural turn in translation studies. The focus shifted to the

translator because it is in his/her decisions lies the answer to either the equivalence or lack of it, the strategies deployed, the final shape that translations take and the power relations of his/her times. As Venuti (1995) remarks in “Translation, Community, Utopia”:

The inscription begins with the very choice of a text for translation, always a very selective, densely motivated choice, and continues in the development of discursive strategies to translate it, always a choice of certain domestic discourses over others (p. 468).

Scholars such as Anthony Pym evolved a systematic theory of translation history research centred upon the figure of translator and argued for a distinctly different approach to translation history research. He went on to put translator first as he (1998) asserted “Study the translator first, then the translation” (p. 30). His work titled “Humanizing Translation History”, “Shortcomings in the Historiography of Translation” and *Method in Translation History* clearly articulate the need to shift and transform the way translation history is carried out.

On account of these developments, translation history has emerged as a niche area within Translation Studies, leaving behind the usual research strands and strategies. As Georges L. Bastin and Paul F. Bandia (2006) posit in *Charting the Future of Translation History*:

While much of the earlier work was descriptive, recounting events and historical facts, there has been a shift in recent years to research based on the interpretation of these events and facts, with the development of a methodology grounded in historiography. Translation in history is now being linked to themes such as otherness, ideology, manipulation, and power. Clearly, progress has been made, and the history of translation has become a viable independent research area within translation studies (p. 11).

Its profound potential notwithstanding, Lieven D’huylst (2010) rues the fact that “the history of translation has not received the attention it merits in terms of research and cannot be compared to any other type of research in translation studies” (p. 397). As it is evident, translation history is a research area unlike anything else in translation studies. If one were to accept that, it is evident that how research takes place in this area and how it is articulated in the papers and books will also need to undergo significant change compared to the usual translation studies research.

In “Introduction: Rethinking Methods in Translation History”, Carol O’Sullivan also defines the intricate and complex relationship between translation and history and the way they are interlinked:

The relationship between translation and history has been present, and problematic, since the inception of translation studies. History as an empirical discipline is elusive in James Holmes’s 1988 map of the discipline, though the map does include a heading for “time-restricted” theories of translation. Over time, the “history of translation” has sought to account for the circulation and canonization of texts via transformation and transfer. More recently it has turned its attention to the networks of agents involved, the technologies with which translations are produced, and their reception and impact. This of course by no means exhausts the possible relationships between translation and history (p. 131).

All of this has a bearing on how the research is presented and articulated in the form of articles and books. There are two distinct ways in which translation history research may be undertaken. One is to focus on the theory of translation history and work out theoretical frameworks for pursuing translation history. The other is the case study approach. The case study approach would mean that one takes up an author, a set of texts, a domain or a time period and presents a systematic and cogent account of how translations occurred in the same. When one does that, its presentation is likely to be different from the usual research in translation studies because the thrust is on history, chronology, actors, agents, institutions rather than the usual research in translation studies which focuses on source text, target text, equivalence, issues of translation etc. Translation history focuses on case studies and case studies call for a different presentation of facts and data. In the case of this paper, it applies the same.

A typical translation studies paper would take up the science text and its translation and compare the two. It will follow that kind of structure. A proper translation history paper would focus on the context of the translations and seek to explain why and how translations occurred. It will also invest in the study of translators because the human being behind the translation holds the key to the way translation is shaped. In the case of 19th century translation history, the flow of research would be something like this. First of all, one would need to provide an overview of translations which took place in different domains such as Science, History, Literature, Medicine, Philosophy etc. and offer a first ever documentation of all translations and their respective translators in a single space in the form of a paper. After that, case studies on specific translations and/or translators can follow.

The present paper also aims to provide a first ever account of translation of science texts from English into Gujarati. Since it is the first ever account, it is merely an overview of translations and translators emphasizing and dwelling on the contexts of these translations and translators. Therefore, the paper has been structured in this way and is conceptualized to provide an overview of why and how translations occurred and explain the way translators acted as they did in the selection of the domain and texts, timing of these translations, the way they responded to the forces of their times etc. In this context and background of a unique space that translation history research holds within translation studies, one should approach the present paper that is structured to suit the reconstructing and recounting of the way translation of Science texts occurred from English into Gujarat in the 19th century.

Conclusion

Being an uncharted terrain, translation history offers rich potential for new discoveries. Translation of science texts is one such area wherein new findings may be possible. There are quite a few texts which may need to be recovered. Likewise, there are translators about whom we do not know much. Important details regarding the life and work of translators such as Pitambaradasa Tribhuvanadasa Meheta and Mehrvanji Hormazji Meheta remain elusive to us till date. We are familiar only by their names and probably the titles of their translations.

While it is argued that we should also study the actual translations, and compare them with source texts and comment on the quality of these translations, it is not quite viable for a variety of reasons. Firstly, most of these texts are not available. Secondly, they are in a knowledge domain over which literature/translation researcher/historian cannot claim to have any expertise. In other words, it is not possible for a translation researcher to comment on the quality of

translation of a Mathematical or Geography textbook. Hence, we may need to limit the scope of translation history in such cases to the point of placing these translations in their context and shedding light on the role played by translators and other actors.

As translation of science textbooks and access to these texts are central to the rise of public instruction, translation of these texts cannot merely be perceived as random acts or only an academic pursuit. These translations need to be contextualized or placed in the historical context of the 19th century colonial rule. The role played by different translators such as Mahipatram Rupram Nilkanth also needs to be documented and highlighted for the purpose of humanizing translation history.

Translation plays a vital role in creations and dissemination of knowledge. In the 19th century, when cultures converged and scientific knowledge was ushered in India, it was through translation. In this context, translation of science texts made an enduring contribution in dissemination of scientific knowledge to masses through the channel of public education. History of translation is, in this sense, also a history of textbook production, rise of public education and dissemination of knowledge in the 19th century. The case study that the paper contains is merely a glimpse of the large area of history of translation that still awaits a more collective effort in terms of translation history research and publication.

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