



EVALUATING HISTORICAL ARGUMENTS IN THE BIG HISTORY PROJECT: FOUR FEATURES ACROSS FIVE LEVELS



BIG HISTORY PROJECT

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What makes a strong argument?

The philosopher and logician Stephen Toulmin identified three elements of a persuasive argument: claim, grounds, and warrant. A claim, Toulmin argued, was simply something you want someone else to accept. It could be a statement you want them to think is true or at least is plausible or an act you think they should do. Of course, making a claim is no guarantee that another will accept it or even trust it. So, Toulmin held that claims need grounds to persuade the person. This is the evidence on which the claim is based or tested. However, merely offering the grounds for why a claim is held might not convince another of the validity of the claim. Thus, Toulmin held that you had to show how the data or evidence connects to the claim. Calling this a warrant, essentially Toulmin was saying we need to explain why the evidence means your claim should be trusted.

Interestingly, Toulmin claimed that each discipline might have different means of grounding and making warrants for their claims, in part connected to the discipline's problems, methods, and concepts. That is, both historians and mathematicians make arguments and offer proof, but proving a theorem in geometry looks quite different from proving a cause in history.

What are the features of a strong BHP argument?

Though we don't use the words *grounds* or *warrant*, the BHP adopted this idea of argument, making it a central component of the critical thinking in the course. Early on in the course, we introduce the idea of claims, substituting the concept of *claim testers* for Toulmin's concept of an argument's *grounds*.

In crafting the 10 investigations and the rubric to assess the students' thinking, we built on this classical definition of argument, breaking it down for analytical purposes into four characteristics. Our graders look for these key attributes in evaluating the student papers.

- 1. Structure of the argument:** Looking at the clarity of the paper's position on the issue, how the paper used supporting claims to reason toward a conclusion.
- 2. Support for the claims:** Looking for the ways the paper supported the various claims and used the available documents as grounds and warrant/reason for the claims.
- 3. Application of relevant concepts:** Looking to see how the paper went beyond the documents given to anchor the argument in relevant foundational concepts, such as collective learning or claim testing; or core concepts, such as evolution, or modern age.
- 4. Use of appropriate mechanics:** Looking for ways the paper used appropriate mechanics for academic writing.

How does BHP determine level for each feature of the argument?

We used the progressions articulated in the Common Core Literacy Writing Standards (history, social studies, science, and technical subjects) to frame writing levels from below fifth-grade level through college ready. This has formed the rubric we use to assess student papers along the four features of making an argument.



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What does student writing look like at each level?

To help, we use the attached the rubric to guide our assessment of the papers, and a few samples drawn from students' writing on the Unit 9 Investigation to show some of our thinking.

Reasoning and structure of the argument (exceptional)

Many historians identified the printing press as the gateway to the collective advancements by humankind that played an important role in creating the Modern Revolution. The printing press with its movable type made convenient the distribution of information to far reaches of globe, making it possible for the human population to become a large, interconnected unit. This was a start but it was new sources of energy in fossil fuels that really accelerated the changes to make the Modern Revolution. Where has the Modern Revolution with the fast change and connections taken humanity? While some may believe that the acceleration of change and interconnection of humans has brought nothing but trouble, I think there has actually been more positive than negative as a result of the Modern Revolution, including rapid healthier and more educated population growth, technologies that make life easier and are more accessible, and the establishment of stable governments in multiple nations. The overall increase in collective learning is the major force for these positive outcomes.

An obvious positive of the Modern Revolution has been how much longer people live, and this includes both infants and elderly. An indication of this is the exponentially growing human population. In 1796, Edward Jenner created the first successful vaccine to fight smallpox as shown in Text 5 from the Big History Project (BHP). Four years, later in 1800, the human population reached 960,000,000 (about one billion) for a growth of about 1/3rd over the century. In the next century from 1800 to 1900, the population almost doubled showing a possible connection between this invention or discovery and population growth (Lee, *Journal of Economic Perspective*, BHP Text 1). It is not by sheer coincidence that the world population skyrocketed shortly after the development of a smallpox vaccine. This singular advancement in medicine set the stage for quick population growth, and later improvements in vaccines eventually eliminated most of the diseases that prevented this. Also, an ever-increasing census directly resulted in the population of most urban areas. The percentage of humans living in urban areas was about 33.6% in 1950, 39.4% in 1980, and 51.6% now (*World Urbanization Prospects* Text 2). In 2050, it is believed the percentage will be 67.2%, about double that of 1950 *World Urbanization Prospects*, Text 2). I think that more people were populating these urban areas in hopes of a better education, healthcare, better job, and ultimately a better standard of living, made available by the Modern Revolution. Since these urban areas had to provide the basic necessities for its citizens, they were ideal for the containing and sustaining a growing population.

Another positive feature, switching gears a little bit, has been the increase in percentage of people who can read words and the amazing inventions that shook the world between 1800 and the present. Both the increase in literacy and the inventions have combined to make life easy and more convenient for more people. The increase in literacy rates over the last 200 years has been amazing. According to the 2006 United Nations report called *Education for All* about 80 percent of humans can read and write, totally about 5.1 billion people who can share in collective learning through the written word. This completely blows the 120 million people or about 10% of the world's population right out of the water (U.N. *Education for All*). Considering that basic reading and writing skills are essential for communication, one could easily make the application to the modern world. After all, this essay would not exist without writing and your ability to read it! Furthermore, many of the inventions that came about in the last 200 years have depended upon literacy and enhanced the spread of methods of communicating information. For example, the invention of the computer in 1948 led to the Internet in 1969 and E-mail in 1971 as depended on literacy (BHP Text 4). Now these inventions also added more good than bad to human life since information that used to take



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humans weeks, months, or even years to share happens now in the blink of an eye. Looking over the list of inventions in BHP Text 4, which does not have any other source information you get a glimpse of the changes to the way human beings lived has changed for the better in big and small ways: canned food, antiseptics, elevator, traffic light, paper clip, zipper, television, satellites, in-vitro fertilization and the iPad. Each of these has had a positive impact on way most of the people in the world live (BHP Text 4).

However, there comes a price with the advancement of human society and some not so positive changes. The nations of today's world continue to settle their differences through acts of war made worse because of the powerful weapons achieved through years of invention and collective learning. Looking again at the list in BHP Text 4 we also see airplane and helicopter both used in war to drop bigger bombs. The Modern Revolution has also let to the creation of the revolver, dynamite, machine gun, guided missile and atomic bomb (Text 4). The cost in innocent lives has been enormous. Many innocent lives in fact are not only caused by wars between countries by by murders by governments. Between 1900-1989 there were 169,202,000 people killed by their government or through genocide, which was about three percent of the human population as of 1989 (*Encyclopedia of Genocide*, pg. 24, BHP Text 7). A three percent loss of the total human population is a ridiculous amount to pay for the price of human acceleration, therein lying its negative impact on humankind. And the literacy rates, while good, might cover up the fact that there are more people today who are not literate in 2000 than in 1850 and there are still more girls who are not educated than men (U.N. *Education for All*, BHP Text 3). And the vaccines that are so important are not widely available to everyone since about 1.5 million children die from lack of vaccines according to the World Health Organization (BHP Text 5). Also Carbon Dioxide levels have increased sharply according to John Cook in *Skeptical Science* (BHP Text 8). This could because of burning fossil fuels. On the other hand, the number of democracies grew during the Modern Revolution. Most of the countries in the world are democracies according to Charles Boix (*Policy Review*, BHP Text 6). It has been estimated that about 100 democracies existed in 2000, about double the amount from 1989 (Boix, BHP Text 6). This shows how the spreading of ideas due to acceleration make more nations across the globe democratic, allowing them the right to declare these wars. Of course, this is within reason.

To conclude, there were some not so positive things that happened in the Modern Revolution, but for the most part it has been better for humanity because of population growth, an increase in educated populations, technologies that assist in the communication of knowledge, inventions that cure diseases and make life better for most people, and the spread of democratic governments to multiple nations. Advancements in medicines and population of urban areas sets the stage for rapid population growth, the application of communication skills in the modern day helps with the sharing of information, and democratic governments can declare war on other nations in accordance with its original ideas. There have been some downsides but I think it is because Modern Revolution has not spread everywhere. So as stated, the acceleration of these changes and the increase in collective learning seems like it was a major positive force. But what does this hold for the future? Will humans suffice as well as they did? Will we be defeat the negatives? That is the question we face now.

Reasoning and structure of the argument (exceptional): This paper makes a clear overall claim or thesis that stakes out its position in response to the question. It also has the virtue of staking out a structure to the supporting claims while recognizing there is a competing position with some merit. Then, the paper follows on the suggested organization, with transitions that connect the parts of the essay to the paper's overall claim. In addition, it identifies an opposing claim and while recognizing it, explains why the author does not hold it.

Note: While the author uses evidence well and in many ways this is hard to separate from the reasoning, it is important to pay attention to the paper's structure.



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Evidence or support for the claims (exceptional)

- A. As the life expectancy increased the fertility rate decreased according to Lee (Lee, *Journal of Economic Perspective*, BHP Text 1). Since population was also increasing these three facts show shows the positive impact of medicine and other inventions must have had on human life. Fertility rates declined and population increased and people lived longer. It also means that during the Modern Revolution more people and elder people were alive. This increase in minds into our global network with different ideas and viewpoints of unique people added to the continuous pool of collective learning. In addition, while the population was increasing and the people were living longer, the number and percentage of educated people was growing. Literacy rates grew from 10% in 1850 to 80% according to a United Nation's report *Education for All* quoted in BHP Text 3. Similarly, according Charles Boxis, a professor at Princeton University, explained that the number of democracies has been steadily rising over the same time period in an article called "The Roots of Democracy" (*Policy Review*, 2006). What is also interesting is that between 1816 and 1991 there were no wars between democracies according to the *Encyclopedia of Genocide*. These facts fit together to show an increase in positive events to show the degree that the Modern Revolution was positive. But, the Encyclopedia of Genocide also showed that democracies fought 155 wars between 1816 and 1991 with countries that were not democracies. And it showed that non-democracies fought 198 wars with other non-democracies. So all was not positive.
- B. An obvious positive of the Modern Revolution has been how much longer people live, and this includes both infants and elderly. An indication of this is the exponentially growing human population. In 1796, Edward Jenner created the first successful vaccine to fight smallpox as shown in Text 5 from the Big History Project (BHP). Four years, later in 1800, the human population reached 960,000,000 (about one billion) for a growth of about 1/3rd over the century. In the next century from 1800 to 1900, the population almost doubled showing a possible connection between this invention or discovery and population growth (Lee, *Journal of Economic Perspective*, BHP Text 1). It is not by sheer coincidence that the world population skyrocketed shortly after the development of a smallpox vaccine. This singular advancement in medicine set the stage for quick population growth, and later improvements in vaccines eventually eliminated most of the diseases that prevented this. Also, an ever-increasing census directly resulted in the population of most urban areas. The percentage of humans living in urban areas was about 33.6% in 1950, 39.4% in 1980, and 51.6% now (*World Urbanization Prospects* Text 2). In 2050, it is believed the percentage will be 67.2%, about double that of 1950 *World Urbanization Prospects*, Text 2). I think that more people were populating these urban areas in hopes of a better education, healthcare, better job, and ultimately a better standard of living, made available by the Modern Revolution. Since these urban areas had to provide the basic necessities for its citizens, they were ideal for the containing and sustaining a growing population. . . .

However, there comes a price with the advancement of human society and some not so positive changes. The nations of today's world continue to settle their differences through acts of war made worse because of the powerful weapons achieved through years of invention and collective learning. Looking again at the list in BHP Text 4 we also see airplane and helicopter both used in war to drop bigger bombs. The Modern Revolution has also let to the creation of the revolver, dynamite, machine gun, guided missile and atomic bomb (Text 4). The cost in innocent lives has been enormous. Many innocent lives in fact are not only caused by wars between countries by murders by governments. Between 1900-1989 there were 169,202,000 people killed by their government or through genocide, which was about three percent of the human population as of 1989 (*Encyclopedia of Genocide*, pg. 24, BHP Text 7). A three percent loss of the total human population is a ridiculous amount to pay for the price of human acceleration, therein lying its negative impact on humankind. And the literacy rates, while good, might cover up the fact that there are more people today who are not literate in 2000 than in 1850 and there are still more girls who are not educated than men (U.N. *Education for All*, BHP Text 3). And the vaccines that are so important are



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not widely available to everyone since about 1.5 million children die from lack of vaccines according to the World Health Organization (BHP Text 5). Also Carbon Dioxide levels have increased sharply according to John Cook in *Skeptical Science* (BHP Text 8). This could be because of burning fossil fuels. On the other hand, the number of democracies grew during the Modern Revolution. Most of the countries in the world are democracies (Boix, *Policy Review*, BHP Text 6). It has been estimated that about 100 democracies existed in 2000, about double the amount from 1989 (Boix, BHP Text 6). This shows how the spreading of ideas due to acceleration make more nations across the globe democratic, allowing them the right to declare these wars. Of course, this is within reason.

Use of evidence or support for the claims (exceptional): These two selections, drawn from different papers, show exceptional use of evidence. First, the papers cite each source with the name or creator of the source and show a careful reading of the source. They recognize the relationships among and the relevant discrepancies between sources. They corroborate sources and explain how they are using the sources to support their claims, offering warrants. Notice that the papers draw on more than one source to build relationships, often connecting three or more. The authors have grouped sources together to make a strong case. Also, the papers use specific details, such as facts or quotes.

Note: For a paper to earn a grade of “exceptional,” it must also explicitly use all but one of the available sources.



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Application of relevant concepts or content (exceptional)

As John Green said, "Collective learning is increasing exponentially." This is a positive thing in the modern times. Today, over seven billion people live on Earth, and that statistic is rapidly rising (Big History Project 1). Due to this, our global network has a diverse group of minds from different cultures, disciplines, and backgrounds. The effect of collective learning is shown in the chart that lists the inventions. Humans created amazing things during the Modern Revolution including the microchip, vaccines, television, computer, and the rocket ship. Information accelerated because of new inventions like the telephone and the internet and this added to our collective learning. As the percentage of literate, educated people rose more people could learn and could add to the collective learning. As that grew it makes sense that our inventions and technology become more and more complex. But increasing the number of people and number of people with literacy might not make collective learning increase as John Green says. Learning has to be shared. This is why the networks David Christian talks about in big history are so important. More people can learn more ideas with these new ways to exchange information like the telephone, television and the internet. I think this is a Threshold of Complexity the ways we get information is much more complex than people who lived in older societies like farming. It is like a circle since more people living invent new things to share ideas and this makes collective learning increase and more people can invent new things. Despite this, some argue that collective learning can fail. That might explain why there is the carbon dioxide output, disease epidemics, and the senseless killing of civilians during war. However, evidence shows that the positives of our new era outweigh the negative aspects.

Application of relevant concepts (exceptional): This paragraph is quite successfully applying relevant concepts to the documents, using the concepts to draw more meaning from the texts. In this case, the paper is applying two BHP course-level concepts (collective learning and thresholds of increasing complexity) and one unit-level concept (networks) to help make the argument. The author goes outside the information given in the documents to anchor the argument to important ideas and content, while avoiding misconceptions in understanding or errors in use to use these concepts to support the claim that modernity has been more positive than negative.

Note: Again, we are using this to demonstrate what use of concepts looks like. The use of evidence is, however, not as strong, since the author does not cite sources in some cases nor reference the author of the one source cited. So while the application of relevant concepts is exceptional, the use of evidence would not be given that grade.



Use of appropriate mechanics (exceptional)

Humanity has abused the refined powers of medicine and technology, resulting in disaster on a global scale. For example, rates of victims afflicted by diseases such as small-pox and measles have been reduced up to one hundred percent in the United States since the invention of those vaccines. However, the World Health Organizations reported in 2012 that “there are about 1.5 million children in the world who die from diseases that could be prevented by vaccines” (World Health Organization. “*Global Immunization Data.*” Big History Investigation 9 Text #5). The failure to make vaccinations available freely to the rest of the world is a horrible form of global inequality. This tears apart the interconnection of civilizations and people talked about in our course. It seems as if humans succumb to what might be inborn survival instinct for their own group. It is a form of greed. Evolution stresses survival and I can see some of that in some of the new inventions during this time period, such as the revolver in 1835, the torpedo in 1866 and the atomic bomb in 1945 (Big History Investigation 9 Text #4). Increases and enhancements in weaponry perpetuate throughout the Modern Revolution have nurtured humanity’s inclination towards violence. Mankind’s inherent belligerence corrupts the innocence of and rich possibilities of innovation and thus, disrupts harmony promised by Threshold 8, the Modern Revolution. Advancements in technology and medicine bring important benefits to some but not all humans while some of the advances threaten the long term prosperity of civilization.

Use of appropriate mechanics (exceptional): The author uses a variety of vivid words and concise wording, in well-controlled and varied sentences. It is in a style and voice consistent with academic writing, needing little or no editing.



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Reasoning and structure of the argument (skilled)

The Modern Revolution: An Anthropocene

Exponential. This is the adjective used to describe nearly everything related to human advancement. Humans are the only race who have achieved complete power over their surrounding environment. Our knowledge continues to develop every second, and our ways have become more sophisticated. Technology and discoveries have always been beneficial to our growth, and we still continue to grow. There is basically nothing besides overpopulation that we have to worry about. Of course, overpopulation branches into different categories of environmental harm and lack of resources, but those are the only major negatives we have to worry about. I personally believe that the benefits of the Modern Revolution outweighed the drawbacks. Starting from the fifteen-hundreds, ever since the world was globalized with the discovery of America, everything about us just grew. Overall, the Modern Revolution was one of the most essential human developments since it allowed the growth of population, the discovery of innovations, and the development of literacy and economic organization.

The growth of the human population is debatable in terms of direct numbers, but there was so much more to population than just wasting the earth away. When more people are brought into the world, this contributes to the effect of collective learning. In a way, as our population increases, our knowledge increases. This speeds up processes faster than they had been before the 1500s. Although overpopulation can mean the lack of resources, people had always found ways to find new sources. Who knows, like what Stephen Hawkings suggested, we may colonize the solar system and find energy sources to last us for millennia. When speaking of life expectancy rates, it is shown that during the Modern Revolution, the average age rose from 27 years old to around the early 80s. How can this be a bad thing? Who wouldn't want to live longer, enjoy life, and accomplish more things than people did in the past?

Collective learning also leads me to another benefit of the Modern Revolution: the discovery of innovations. Innovations could include new energy sources, vaccines, or war machines. The Modern revolution allowed the spawn of new creations, which in turn benefits us. It helps us to perform the dirty work without getting our hands dirty, or help us in our knowledge of previously unknown things, such as the recent study of genetics. In *Seven Daughters of Eve*, it is explained how we used the study of genes to trace our ancestors and our past. Without the Modern Revolution, we probably would have never been able to create the machines that allow us to study genes. Now, war machines are bad in itself, but when compared to the olden days of the past, when they used inhuman methods of killing, guns and bombs are better than swords and arrows. Transitioning to vaccines, I can't see any negative aspect of it that would outweigh the positive aspect, in which it cures people from diseases. Shown from a graph from the National Centers for Disease Control, for each vaccine created, the morbidity rates have drastically decreased. In fact, it is proven that morbidity rates have decreased by 99 to a hundred percent! Now that is a wildly significant improvement.

The spread of democracy and development in literacy are also results of the Modern Revolution. And both are a positive influence to the human population. Shown in a graph from the second text in 1850 only 10 percent of people in the world could read. Today, that percentage rose to around 80 percent. This means that the Modern Revolution had resulted in the abundance of intelligent people. In a way, literacy rates were driven by the Modern Revolution, yet also contributed back to the revolution itself. When talking of economic organization, we can see that the number of democracies had increased threefold. What's so special about democracies, you ask? Democracies spells out two things: Morality and literacy. It is proven that established countries are more successful. Statistics from the *Encyclopedia of Genocide* show that no two democracies had fought in the past. Ever. This is while non-democracies had at least a hundred to three hundred wars in the past centuries. This proves that established countries like democracies are the most successful. In the



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general point of view, in terms of modern revolution in the whole world, this would include trade routes or globalization. What does globalization do for us? It allows the knowledge of other cultures and rapid growth of collective learning.

Population, innovations, and world economics all have their drawbacks, but their benefits are so various and vast that they were more of a benefit than a downfall. The modern revolution was absolutely a turning point in human history, and we know it. Speaking of which, would we even be typing our essays without the modern revolution? Would we even learn of the past without it? The modern revolution poses many questions, yet it is a definite thing. Think about this. Without the modern revolution, would we even have the luxurious life we would be living in right now? Would we even be alive?

Reasoning and structure of the argument (skilled): This paper makes an appropriate overall claim by staking out a position, lays out how the paper will address the claim with supporting claims. The paper has clear transitions and reasons in a singular way to its conclusion that the Modern Revolution was a positive force. The paper, however, only briefly notices the negative features of modern life in the opening paragraph and closing paragraphs (overpopulation leading to environmental and resource issues), and then dismisses them by a personal statement that the benefits outweigh that negative. After the introduction of that counterclaim, the paper ignores it until the conclusion, and then simply dismisses it.

Note: Had the author devoted time to those issues in the paper, this would likely have scored higher.



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Use of evidence or support for the claims (skilled)

- A. When we look at the life expectancy in the 1800s it was at an average of 27 years old, the same as it was in 1700. It did not grow in the 100 years before the modern revolution began. Today it about 65 years, and in 2100 it is projected to around 81 years. This information came from Text #1 in the Investigation library. In modern times, therefore, there has been an increase in the life-span of a human being. Why is this important? Well first of all, this would allow for more network connections among people because there are more people alive at once. This should increase collective learning among all individuals. Something else that would add to the increase in collective learning is the fact that according to Text #2, there are more people living cities. This means people are in closer contact with others than they would be living in farming communities. They contact more people daily in cities. Cities have vast and diverse networks so people living in cities are exposed to new ideas and resources faster. These two pieces of evidence that people are living longer and living in cities increases chance to share ideas and inventions. These are crucial for networking with people around the world. These things happening in modern age means that these people will also contribute to innovation in the world, which would ultimately help us in various ways and are positive forces.
- B. The spread of democracy and development in literacy are also results of the Modern Revolution. And both are a positive influence to the human population. Shown in a graph from the second text in 1850, only 10 percent of people in the world could read. Today, that percentage rose to around 80 percent. This means that the Modern Revolution had resulted in the abundance of intelligent people. In a way, literacy rates were driven by the Modern Revolution, yet also contributed back to the revolution itself. When talking of economic organization, we can see that the number of democracies had increased threefold. What's so special about democracies, you ask? Democracies spells out two things: Morality and literacy. It is proven that established countries are more successful. Statistics from the Encyclopedia of Genocide show that no two democracies had fought in the past. Ever. This is while non-democracies had at least a hundred to three hundred wars in the past centuries. This proves that established countries like democracies are the most successful. In the general point of view, in terms of modern revolution in the whole world, this would include trade routes or globalization. What does globalization do for us? It allows the knowledge of other cultures and rapid growth of collective learning.

Use of evidence or support for the claims (skilled): Notice that in these examples, taken from two different students, the papers cite the sources in some manner, but do not always identify the author or the publication consistently, often allowing Text and a number to suffice. The paper demonstrates a good understanding of the text and engages in a simple corroboration of sources by linking one source to another, but not grouping sources or connecting three or more. The papers make no errors of fact and do offer at least some warrant or explanation for how the sources support the claim.

Note: The criteria for this Investigation is that the author must use most of the available texts in the paper (at least six), which is not something we can determine in these one-paragraph extracts.



Application of relevant concepts (skilled)

Humans have the largest brain capacity of any known life form. Unique to humans is the ability to collectively learn and adapt and we do that now on a global scale. Many of these texts show how collective learning increased over the last 200 years. Collective learning is the collaboration between individuals and groups to gain, use and expand the collected record of human knowledge. For example, without a collective and expanding understanding of farming that began with agricultural civilization and grew over the centuries the world may not have developed in nearly the same way that allows our modern lifestyle, including a global population that continues to grow. Additionally, collective learning dramatically sped up the evolution of humans' cultures. It is the driving force of the modern revolution. Collective learning is globally the modern phenomenon of rapidly spread information. Literacy and Education text states that in recent years, literacy rates have increased another thing that increases collective learning. Literacy means the ability to comprehend and grow within a given subject. Thus, the more that humans can fathom, the greater our ability is to accelerate and thrive.

Application of relevant concepts (skilled): This paragraph shows an author going outside the information given in the documents to draw on a course-level concept—collective learning. The paper uses the concept to give meaning to the documents and to anchor the argument to important ideas and content, while avoiding misconceptions in understanding or errors in use to use the concept to support the claim. It is important to note that this was the only reference to a relevant BHP concept and thus it was rated as skilled.



Use of appropriate mechanics (skilled)

During the era of the Modern Revolution, there have been many negative effects caused by the new machinery, burning of fossil fuels, and disputes between countries. In Text 08, John Cook, who works for the Global Change Institute in Queensland, Australia, shows the steady increase in the release of carbon dioxide up until the Industrial Revolution. Then carbon dioxide levels in the atmosphere greatly increase at a much faster rate (Text 08). Excessive carbon dioxide release can lead to a warming of climate which can affect the biosphere tremendously. Also, burning fossil fuels releases smoke into the air and pollutes the atmosphere. Another trend that has affected society is the constant decrease in women's fertility rates (Text 01). This leads to less young people and less workers. Although the percentage of literacy rates has increased, there are actually more illiterate people than in the 1800s (Text 03). In some of the less wealthy societies, children are not sent to school due to lack of money or are needed to work to help support the family. Another problem that arose at the start of the Industrial Revolution was wars between types of government and over ideology. Democratic and Communistic Governments have many differences in ideas and how they run a country, which has led to about 155 wars. Non-Democratic and non-democratic countries fighting has led to 198 wars. These disputes between countries have caused many casualties of both soldiers and civilians. The Industrial Revolution has created many different repercussions that influence and affect people and countries differently.

Use of appropriate mechanics (skilled): The writing has a minor error in grammar and could use some editing. The paper uses complete sentences with some variation and uses objective tone appropriate for academic writing.



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Reasoning and structure of the argument (proficient)*The Modern Revolution*

I think that the modern revolution was overall positive because of population increase, literacy rates increasing, and improvements in technologies. There are many facts that help prove me right. They also prove why you should agree with me.

The modern revolution has led to a steady increase in the worldwide population. This can be good. More people working together can help create new ideas and new innovations. With population growing it means we have more helping hands than ever before. We have the capacity to build up much faster. The life expectancy rate has increased by a couple years. We are also living in mostly cities now.

Over the years, people have also become more literate. According to text 3, the worldwide literacy rate has increased by an astounding 70%. We have become even smarter. Back then, only 10% of the population had access to a good education. That means we as a species are improving, we can make better technology, find unique answers to problems that seem unsolvable. With more people educated, we can now achieve much more than we could in the past. That has also led to better technologies. According to text 4, we have made more inventions and discoveries that allow us to have easier lives.

Some people will wrongly say that the modern revolution has been an overall negative. They will say that there have been more world wars. They say that due to new technologies, people have become lazier. They will say that food production is decreasing as a cause of there being more people living in cities. They are wrong. We are now producing more food than ever. And the world wars helped us think up new ways to become a better world. We are improving with each blow.

In conclusion, the Modern Revolution has been an overall positive. We have improved our technologies. We are smarter than ever. We can now live longer lives. The Modern Revolution has been filling us up with positives.

Reasoning and structure of the argument (proficient): The paper makes an appropriate claim/thesis and stakes out a position in a very short first paragraph. The paper has a structure, but sections do not always explicitly support the claim or connect to the conclusion. For example, the first paragraph opens by referencing worldwide population growth, but only marginally attempts to reason about its significance. It asserts that both life expectancy and city life has increased, and although this is true, the paper does not offer reasons for including such information. The conclusion makes brief or incomplete reference to the claim/thesis but does not close the argument; it simply restates the thesis. The author also mentions the counterclaim, but does not counter it except to say it's wrong, and follows up with two unsubstantiated assertions. There is, however, a structure on which to build.



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Use of evidence or support for the claims (proficient)

- A. The modern revolution has led to a steady increase in the worldwide population since 1800. This can be good. More people working together can help create new ideas and new innovations. With population growing it means we have more helping hands than ever before. We have the capacity to build up much faster. The life expectancy rate has increased by a couple years. We are also living in mostly cities now.
- B. There is also the talk of who is in control from this revolution. You see this insane growth of technology happened in certain areas, like the United States and Russia. Where it did the country's power grew quickly. Those without the great technological byproducts of the revolution were quickly taken by force and power or suffered from lack of medicine. For example, over a million children died from diseases we have cured. As the growth has been exponential we have come across the problem of too many people. This is also a negative byproduct of the modern revolution. The growth also powered by having fossil fuels like coal giving the kick start though now the more widely used gasolines and diesels have been burning making massive amounts of CO2 creating an atmosphere with too much of it. CO2 is a greenhouse gas letting the earth hold more heat which can become and is becoming a problem. These problem have been unexpected. We are depended on the fossil fuels from the abundance of energy at disposal which could run out though more likely have the earth get too hot before that, and then there is the population which is too high but then what do you do kill people off? That would be insane so it is a strange problem to deal with.

Use of evidence or support for the claims (proficient): Notice that the examples taken from two students' papers show information gleaned from the documents. The authors are both correctly drawing on information that they read in the documents, but do not regularly reference the texts. They do not use the information or documents to explicitly illuminate or support their claims. Often, they list facts without articulating the reasoning that connects the facts to the claim. Essentially, the papers are using facts, but not the texts. More often than not, the authors mention or hint at a relationship between a document or fact and a claim, but do not explain the relationship. The papers assume mentioning the fact might be enough. There are one or two errors and information the author puts in that is not supported by the documents (for example, Russia is referenced in the paper, but not the text).



Application of relevant concepts (proficient)

Modern Revolution is the most recent threshold of increasing complexity. This threshold means that there were expanding networks, accelerated collective learning, help make new technologies, and improved, communication, transportation, and food production. All of these things have impact in our world in one way or another. It provides cures, for diseases, and people live longer and greater access to resources and education. It has brought new weapons and environmental threats. So this was a good Threshold

Application of relevant concepts (proficient): The paper attempts to apply one course-level concept by mentioning threshold of increasing complexity. However, the paper does not fully explain how the concept connects to the argument, and seems to conflate thresholds with something positive rather than something complex.



Use of appropriate mechanics (proficient)

The population has gotten bigger. Especially in urban areas. Our ancestors lived a generally rural. About 3 percent of the world's population lived in cities when the Modern Revolution was starting. By 2050, experts think that there will be nearly 70 percent living in cities number of cities in the world with a population over 10 million is growing more and more. It is crazy

Use of appropriate mechanics (proficient): The writing has a minor error in grammar and misspelling but is still understandable. It needs editing. Tone does not reflect academic writing (for example, uses slang).



EVALUATING HISTORICAL ARGUMENTS IN THE BIG HISTORY PROJECT

Reasoning and structure of the argument (developing)

In this paper I will be describing what is positive and negative about the Modern Revolution. For starters, the Modern Revolution has been an era full of technology. With this technology we have been able to do many more feats. We use technology to make many things. We can make medicines and vaccines that save lives and help us have longer lifespans. There is a negative to that too, but we will discuss that later. On text 1 our life expectancy has changed from 27 years old in the 1700's to around 70 now. To continue the technology trend, we have become much stronger in the war department. Countries are producing more and more stronger weapons everyday. With that come a negative also.

Another positive, technology has advanced to make us smarter. Inventions like the telephone and the computer and the internet. Helps us communicate at superfast speeds. We use it to play video games, we use it to watch videos and even live events, straight from home. We are becoming more obese of a country because of it. One of the main contributor would probably be, in my opinion, Netflix. I watch Netflix occasionally, but some people just sit there and watch some TV shows for entire days.

We are not getting to the negatives. We are using technology to come up with cures, vaccines and medicines, which is making us live longer, but that is making the world become overpopulated. We are making weapons, which is making countries more dangerous.

Reasoning and structure of the argument (developing): The paper is referencing the topic but has made no clear claim or thesis. The use of the different paragraphs shows the author is attempting a structure, but there is nothing to link the sections to the claim, each other, or the conclusion. There is a beginning, but no real conclusion. The author is describing a negative, but it is not clear that this is a counterclaim. The paper mentions negatives but does not explain.



Use of evidence or support for the claims (developing)

- A. That number has almost tripled over 300 years. Technology they had before now had no cures to disease. Back then women would have an average of 6 babies just so there would be a chance that some will survive. Although now that we have the correct technology in order for them to survive there is no need to have that much children.
- B. Another positive, technology has advanced to make us smarter. Inventions like the telephone and the computer and the internet. Helps us communicate at superfast speeds. We use technology for our entertainment all the time now. We use it to play video games, we use it to watch videos and even live events, straight from home. We are becoming more obese of a country because of it. One of the main contributor would probably be, in my opinion, Netflix. I watch Netflix occasionally, but some people just sit there and watch some TV shows for entire days.

Use of evidence or support for the claims (developing): There are no references to texts and only modest use of facts from one or two texts. The authors make errors of fact and vaguely pull information from texts without situating it (for example, “back then”).



Application of relevant concepts (developing)

The Modern Revolution has been a positive force because it helped us to grow our population and create vaccines. One reason the Modern Revolution was a positive force was because of population growth. Life Expectancy in the 1700 CE in the world was 27 year old. It increased 74 year old in 2050 CE. Inventions like the X-ray helps us to see if we had a broken bones , and the Electric telegraph helped us to communicate with other people around the world. It was all because of a Threshold of Increasing Complexity and also because of Collective Learning. They helped us to write things down. It made things better. When vaccines were made to kill disease the population increased.

Application of relevant concepts (developing): Paper mentions two BHP course level concepts. However, the author does not explain what the concepts are, and applies them incorrectly.



Use of appropriate mechanics (developing)

As you can see The Populton has been growing a lot in the future.awsome. 2000 there are estimating that around 9.46 billion people in the worldwe need more food and more food means more land on earth. populon of people in the cities has grown a lot too hasn't decreased in the last 90 years it just kept growing to crowd for fun More people in the cities more pollution in the cities too.

Use of appropriate mechanics (developing): Writing has spelling, grammatical, and punctuation errors that hinder comprehension in a few places. There are frequent errors in sentence or paragraph structure (for example, incomplete and run-on sentences and paragraphs). The paper needs substantive editing.



EVALUATING HISTORICAL ARGUMENTS IN THE BIG HISTORY PROJECT

Investigations

Criteria A	Exceptional	Skilled	Proficient	Developing	Inadequate
<p>Constructing an argument</p> <p>Claim/thesis: Makes a clear, well-articulated, and compelling claim/thesis.</p> <ul style="list-style-type: none"> Stakes out a position and directly addresses the essay question. Introduced early on in essay to structure argument. Claim reflects appropriate nuance; cautious about dualistic or binary thinking. <p>Structure: Structured carefully to support the claim with a clear and coherent line of reasoning to conclusion.</p> <ul style="list-style-type: none"> Well-executed progression of ideas as each paragraph or point builds upon the last. Logical and clear organization with a strong beginning, middle, and end, with a clear conclusion. Conclusion supports essay's ideas and includes statement of significance or implications. Sophisticated arrangement of content with evident transitions, connecting parts to construct a coherent essay. <p>Counterclaim: Fairly and effectively recognizes and refutes opposing claims.</p>	<p>Claim/thesis: Makes an appropriate claim/thesis.</p> <ul style="list-style-type: none"> Stakes out a position related to the essay question. Introduced early on in essay to structure argument. Claim establishes an identifiable position, though it might reflect dualistic or binary thinking. <p>Structure: Structured to support the claim with a coherent line of reasoning to conclusion.</p> <ul style="list-style-type: none"> Logical and clear organization with a strong beginning, middle, and end, with a clear conclusion. Conclusion supports essay's ideas, though lacks reference to significance or implications. Essay uses some transitions to connect its parts. <p>Counterclaim: Recognizes and attempts to refute an opposing claim.</p>	<p>Claim/thesis: Makes an appropriate claim/thesis.</p> <ul style="list-style-type: none"> Stakes out a position related to the essay question. May not be introduced until the end of the essay, or is broken out over two or more paragraphs. Claim establishes a position, though it might reflect dualistic or binary thinking. <p>Structure: Essay has a structure, but its sections do not always support the claim or connect to the conclusion.</p> <ul style="list-style-type: none"> Has a beginning, middle, and end, with a conclusion. Conclusion makes brief or incomplete reference to the claim/thesis. Essay lacks clear transitions. <p>Counterclaim: Might mention a counterclaim or ignore it completely.</p>	<p>Claim/thesis: References the topic, but make no clear claim or thesis.</p> <p>Structure: Essay attempts a structure but fails to link the sections to the claim, each other, or the conclusion.</p> <ul style="list-style-type: none"> Has a weak beginning, middle, and end. Essay lacks transitions. <p>Counterclaim: Does not mention a counterclaim at all.</p>	<p>Claim/thesis: Off topic.</p> <p>Structure: Absence of structure or very limited attempt to organize essay.</p> <ul style="list-style-type: none"> Essay brief and does not fully address question. <p>Counterclaim: Does not mention a counterclaim at all.</p>	

EVALUATING HISTORICAL ARGUMENTS IN THE BIG HISTORY PROJECT

Criteria B	Exceptional	Skilled	Proficient	Developing	Inadequate
<p>Using texts as evidence</p>	<p>Source:</p> <ul style="list-style-type: none"> Explicitly uses all but one of the available texts. Clearly cites author or producer of the text by name. <p>Analysis: Consistently shows analytical reading of texts by:</p> <ul style="list-style-type: none"> Demonstrating careful understanding of each text. Recognizing and explaining relevant discrepancies among sources. Recognizing and explaining similarities among sources. Recognizing the historical context of the documents. Explaining corroboration among the texts. <p>Connection to claim:</p> <ul style="list-style-type: none"> Use of documents persuasively as evidence. Strong use of facts, examples, and details to support claims. Strong use of factual information, quotations, analogies, illustrations, or anecdotes to support claim. Clearly and fully explains the relationship between the claims and the support (clear warrants). <p>Accuracy: Makes no errors of fact.</p>	<p>Source:</p> <ul style="list-style-type: none"> Explicitly uses most of the available texts (six or more). Cites all texts in some manner (“Text #1,” for example). <p>Analysis: Shows analytical reading by:</p> <ul style="list-style-type: none"> Demonstrating understanding of each text. Recognizing similarities among sources. Occasionally recognizing the discrepancies among sources. Corroborating or connecting two or more of the texts. <p>Connection to claim:</p> <ul style="list-style-type: none"> Use of documents as evidence. Use of some facts, examples, and details to support claims. Explains the relationship between the claims and most of the texts. <p>Accuracy: Makes no errors of fact.</p>	<p>Source:</p> <ul style="list-style-type: none"> Uses some of the available texts (three or more). May not cite all of the texts in some manner (“Text #1,” for example), but essay is clearly using three or more of the texts. <p>Analysis: Occasionally shows analytical reading of the texts by:</p> <ul style="list-style-type: none"> Demonstrating understanding of each text. Recognizing similarities or discrepancies between two sources. <p>Connection to claim:</p> <ul style="list-style-type: none"> Does not use the documents as evidence; does not use texts to illustrate claims. Use of some facts, examples and details—not texts—to support claims. Mentions or hints at the relationship between the claim and the facts, but does no attempt to explain the relationship. <p>Accuracy: Makes one or two minor errors of fact.</p>	<p>Source: Mentions at least one or two texts.</p> <p>Analysis: No analysis of sources, although there is some understanding of the texts used.</p> <p>Connection to claim:</p> <ul style="list-style-type: none"> Does not use the texts to support or illustrate claims. Minimal use of facts, examples or details—not texts—to support claims. <p>Accuracy: Makes many minor errors of fact (three or more) or a major, substantive error.</p>	<p>Source: Makes no mention of provided texts to support or illustrate claims.</p> <p>Analysis:</p> <ul style="list-style-type: none"> Essay is “support-free.” No use of evidence, examples, relevant details, analogies, or illustrations. <p>Accuracy: Makes major errors of fact.</p>

EVALUATING HISTORICAL ARGUMENTS IN THE BIG HISTORY PROJECT

Criteria C	Exceptional	Skilled	Proficient	Developing	Inadequate
Applying BHP concepts	<p>Concepts: Effectively applies two or more BHP course-level concepts <i>and/or</i> unit-level concepts or ideas.</p> <ul style="list-style-type: none"> • Demonstrates an understanding of the concepts. • Connects the concepts to the argument <i>and/or</i> evidence. • Avoids misconceptions of the concepts. <p>Content: Avoids errors in applying additional BHP facts or content to illustrate or support concepts and claims, or to inform the essay.</p>	<p>Concepts: Applies one BHP course-level concept <i>and/or</i> unit-level concept or idea.</p> <ul style="list-style-type: none"> • Demonstrates an understanding of the concept. • Connects the concept to the argument <i>and/or</i> evidence. • Avoids misconceptions of the concept. <p>Content: Avoids errors in applying additional BHP facts or content to illustrate or support concepts and claims, or to inform the essay.</p>	<p>Concepts: Attempts to apply one BHP course-level concept <i>and/or</i> unit-level concept or idea.</p> <ul style="list-style-type: none"> • Mentions a concept appropriately, but without fully articulating its meaning or connection to the argument. • Avoids explicit misconceptions of the concept. <p>Content: May make an occasional minor error in applying additional BHP facts or content in support of the claims, or to inform the essay.</p>	<p>Concepts: Mentions at least one BHP course-level concept <i>and/or</i> unit-level concept or idea either incorrectly or inappropriately.</p> <ul style="list-style-type: none"> • Mentions a concept. • Includes misconceptions of the concept. <p>Content: May make many minor errors or a major error in applying additional BHP facts or content.</p>	<p>Concepts: No mention of BHP course-level concepts <i>and/or</i> unit-level concepts or ideas.</p>

Criteria D	Exceptional	Skilled	Proficient	Developing	Inadequate
Writing with appropriate mechanics	<p>Language: Uses a variety of vivid, concise, and disciplinary-specific words.</p> <p>Mechanics:</p> <ul style="list-style-type: none"> • Writing is free of spelling and grammatical errors. • Needs little or no editing. <p>Tone/Voice:</p> <ul style="list-style-type: none"> • Sophisticated and well-controlled sentences; uses variation. • Uses consistent voice and an objective tone appropriate for academic writing. • Uses style consistent with academic writing. 	<p>Language: Uses concise and disciplinary-specific words.</p> <p>Mechanics:</p> <ul style="list-style-type: none"> • Writing has an occasional spelling or minor grammatical error. • Needs modest editing. <p>Tone/Voice:</p> <ul style="list-style-type: none"> • Complete sentences with some variation. • Uses objective tone appropriate for academic writing. 	<p>Language: Uses appropriate and specific words, although not necessarily reflecting the disciplines of history or the sciences.</p> <p>Mechanics:</p> <ul style="list-style-type: none"> • Writing has spelling, grammatical, and punctuation errors, but they do not impede readability or comprehension. • Needs editing. <p>Tone/Voice: Tone does not reflect academic writing (uses slang, for example).</p>	<p>Language: Words used are occasionally vague, redundant, or misused.</p> <p>Mechanics:</p> <ul style="list-style-type: none"> • Writing has spelling, grammatical, and punctuation errors that hinder readability or comprehension. • Frequent errors in sentence or paragraph structure (incomplete or run-on sentences or paragraphs, for example). • Needs substantive editing. <p>Tone/Voice: Tone does not reflect academic writing (uses slang, for example).</p>	<p>Language: Word choice is incorrect or distracting.</p> <p>Mechanics:</p> <ul style="list-style-type: none"> • Writing has spelling, grammatical, and punctuation errors that impede readability or comprehension. • Frequent errors in sentence or paragraph structure (incomplete or run-on sentences or paragraphs, for example). • Inadequate mechanics with consistent errors in punctuation, capitalization, and spelling. • Needs substantive editing. <p>Tone/Voice: Tone does not reflect academic or informal writing (uses slang, for example).</p>