Word Count: 1562 words

*“Accepting knowledge claims always involves an element of trust.” Discuss this claim with reference to two areas of knowledge.*

    As humans, skepticism is ingrained in our unconscious minds in regards to what or who we choose to trust. Skepticism allows us to keep our lives interesting whenever we try to prove something right or wrong. The flaw in skepticism, however, is if we are unwilling to risk it for trust, we would be incapable of gaining knowledge. Knowledge is an understanding of an idea of someone or something that can be acquired through various facts, data, and experiences from your environment. On the other hand, trust is a mutual understanding and acceptance of a belief within reliability, ability, truth or strength of someone or something. To an extent, knowledge and trust relate to each other as knowledge would not be considered knowledge if there was not a mutual understanding. Areas of knowledge such as Mathematics and History both require trust in their own designated ways. Mathematics requires a foundation from unprecedented mathematical principles yet its universal conceptuality provides different proofs to substantiate knowledge claims. At the same time, History depends on different lived experiences of other people but that does not necessarily equate to accuracy. Trust is a key component to accepting knowledge claims but some aspects in these knowledge claims can be proved in many different ways and can therefore be accepted without trust.

    Due to the complexity of mathematical concepts, it was easier for mathematicians to trust and accept the established concepts in order to build new mathematical concepts from it. Ancient mathematicians have established rules called axioms or postulates that are mathematical statements and are simply accepted without proof. The first known axioms were originally instituted by Greek mathematician, Euclid. Before Euclid cultivated modern geometry, he understood that building new logical geometrical concepts depended on the foundation, which is why he established these axioms. As advanced as the academics were in ancient Greece, mathematics was still an incipient ideology, hence the lack of prior knowledge about it. He could only assume and trust these knowledge claims or axioms to be able to develop new mathematical concepts the same way the following mathematicians did. These axioms served as building blocks for developing new theorems, such as the basic symmetry property of an isosceles triangle, which opened up various theorems on the congruence of triangles. If Euclid and other mathematicians did not trust these axioms, the development of future mathematical concepts would not exist today.

Since mathematics is the study of quantities and has definite solutions, its universality recognizes different methods to prove knowledge claims. For instance, a quadrilateral has 4 sides. A square has 4 sides. Therefore, a square is quadrilateral. The method used in the example was deductive reasoning, which starts with a general statement then observes different possibilities to reach a logical conclusion. The Pythagorean theorem, more commonly known as the formula *a2+b2=c2*; *a* and *b* as the legs and *c* as the hypotenuse or the longest side, has been proved by many different mathematicians with different proofs. In particular, Elisha Scott Loomis wrote *The Pythagorean Proposition*, a collection of 370 algebraic, geometric, quaternionic and dynamic proofs of the Pythagorean theorem. Aside from deductive reasoning and algebraic, geometric, quaternionic and dynamic proofs, we can even physically apply the theorem as another way to prove the Pythagorean theorem.

    To physically illustrate, cut pieces of paper in sizes of 3 in., 4 in., and 5 in. Once the 3 in. and 4 in. squares are perpendicularly aligned by the corners, the two corners of the 5 in. square will connect the 3 in. and 4 in. squares’ corners diagonally, forming a right-angled triangle. Visually, you can see how the lengths perfectly make a right-angled triangle, which demonstrates why the hypotenuse had to be the longest side. In addition, this illustration also verifies why the numbers have to be squared due to the total areas of the squares. Although some theorems were derived from and can be proven by axioms, we can make logical sense of the theorems when applied in real life and proved in many different ways. In general, we accept these knowledge claims, with or without trust, in mathematics because it is a way for us to further understand the world. Our intuition was based on the lack of knowledge to trust these knowledge claims, only to verify them with various mathematical proofs later.

On the other hand, our understanding of history is influenced by the perspectives of the people before us which requires trust in order to accept their historical knowledge. As we study history, there is no question that we acquire our historical knowledge from the books written and the perspectives told before us since we were not present to witness the actual events. Instead, we have a primary source which is a documentation of an event at the time it was occurring and may come in forms of a book, a letter, a journal entry, a photograph, or even a recording. We place trust in these primary sources because it is our only source of the events and therefore knowledge  of the past. For instance, Herodotus, an ancient Greek historian, was known for having written *The Histories*. The book inquires the study of history in Western literature and accounts for the earliest records of the wars between the Greek states and Persia (known today as Iran). Since Greco-Persian wars occurred in the 5th century BCE, there were no known written records of the happenings except for Herodotus’s *The Histories*. Due to the scarcity of sources, we had to trust Herodotus’s *The Histories* in order to be able to move forward with our history.

Nevertheless, our understanding of our history today has not only been shaped by the perspectives of the people before us but also its evaluation of originality and accuracy  as modern historians have developed the ability to judge the prior historical knowledge and sources. Although it might be true that Herodotus’s *The Histories* was the only written records of the Greco-Persian war, does not indicate that it was entirely accurate. Many years and centuries later, modern historians have found historical and even archaeological evidence that invalidates Herodotus’s multiple claims and recollections of the wars. Another ancient Greek historian, Thucydides, critiqued Herodotus’s work as Herodotus was known for acquiring information from the gossips he heard, which he would rewrite as his own. As a matter of fact, Herodotus developed an affinity for the way ancient fantasy literature was written, so much so that he imitated the very same style into his history books. His writing style made him creative and maybe even imaginative but nevertheless, a historian with inaccurate historical knowledge claims.

The occurrence of trusting unreliable historians did not only exist in periods of times where historical records were unaccounted for, in the lack of technological advancement, but has also been quite prevalent in the past decades until today. Carter Godwin Woodson’s *The Mis-Education of the Negro* reflects on how the given American educational system has indoctrinated African-Americans in the United States. The educational system has been known for educating students with its eurocentric ideals, automatically implementing trusts in experts, which includes historians. Woodson encourages his readers to seek an education without bias, regardless of what they were taught and what was written in the books. The idea of bias in a subject such as History can lead to many false information, hence the reason why trust should not be the only component in accepting knowledge. Fortunately, due to the technological advances our civilization has made, we have kept multiple records of primary sources that were in fact accurate with other sources to corroborate its accuracy. At the same time, we now have experts to examine primary and secondary sources and evaluate its validity, reliability, and accuracy. We had to rely on the people who lived before us for the events that happened in the past because if we did not, we would not have a sense of our history and identity. We no longer have to simply comply with the initial historical knowledge as we have developed methods to identify and verify these historical knowledge claims.

 In the end, trust was a fundamental concept in accepting knowledge claims in the first instances of the areas of knowledge in Mathematics and History. Mathematics entailed for trust as we were still developing new mathematical concepts by establishing our own mathematical rules. At the same time, mathematics has a unique ability to be proved by hundreds of different methods in which you can use to accept the knowledge claims instead of simply trusting it. Comparably, history involved a huge amount of trust embedded into the initial historical knowledge but as time progressed, we have developed our own ways of determining which sources and events to trust. While mathematics seemed to be universally true for everyone and history depended on different lived experiences, they both can be proven and verified by different methods to be accepted without an element of trust. In reality, we sometimes just accept these knowledge claims because of the scarcity of any other knowledge. Trust can be an easy concept to use in an agreement with these knowledge claims but we must also possess some skepticism over different kinds of knowledge claims. Without skepticism, we will just accept anything, resulting in false and contradicting claims without a universal understanding and that puts the civilization we have built at risk.

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