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A. *Introduction*¹

Up to this point, student concern has generally been with success. But the success of one often comes at the expense of another. In this case, it was the Macedonians over the Greeks. Alexander the Great is the focus of attention. The course goal for this lesson is **to evaluate the impact of Greek ideas on Western life** according to a criteria of the people, places, and times involved and the degrees of certitude warranted. While this lecture does treat some of the same material as does Chambers, this lecture offers that material with a simplicity suitable for learning the more detailed approach of Chambers. The other material is offered for insights of a more hidden nature.

B. *Hellenistic Culture and Science*

Will Durant² recalls what the Greeks meant when they referred to their neighbors as barbarians: a barbarian was a man content to believe without reason and to live without liberty. This lecture tries to demonstrate how the Greeks meshed faith and reason, life and liberty. The greatest intellectual achievement of the post-Alexandrian Hellenistic world was in what is today known as science, as distinct from philosophy. Alexander died in 323 B.C. Hellenistic science went unsurpassed until the modern scientific revival in the Seventeenth Century A.D.

Some examples illustrate the point. Insofar as the Ancients are concerned, Euclid remains an enduring monument of mathematical genius. Also of interest to the contemporary space age is Eratosthenes, one of the most important geographers of antiquity. His most famous achievement, based on principles of geometry that Euclid developed, was to measure the circumference of the earth within less than 3,000 miles of the correct figure. Noting the similarity of tides in the Atlantic and Indian Oceans, he concluded that it would be possible to reach India by sailing around Africa.

Because this is the space age, it is difficult really to understand the impact of the space age on human civilization. People today are far more aware of what the impact of the steam engine has meant. A look at ancient history reveals that Hero invented the first known steam engine. His device, a reaction steam turbine, worked like a twirling lawn sprinkler. Steam entered through the tube on which the ball pivoted, the steam escaping through bent tubes on opposite sides of the ball. Visitors to the museum of Alexandria could watch it whirl in a cloud of hissing steam. It was a curiosity, a gadget, and a toy. It never did any commercial work.

The steam engine of Hero brought the Hellenistic world to the brink of an industrial revolution that would have changed the course of human history. Students have often wondered why not. A touch of recent history may help.

U. S. greatness is based in part on the union of invention with mechanization, at least in the eyes of the elite. Even after the Revolutionary War began, however, George Washington would not use musket or gunnery advances that might have challenged the military superiority of England. Washington did not recognize the union of invention with mechanization as an outstanding characteristic of his newly founded country. Washington did not ponder the relationship between

HIS101--09HellenisticUnification© Nov.9, 1999

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truth and politics any more than did the rest of the citizenry. U. S. citizens, then, taking it for granted that other ages have thought along the same lines as they, find it difficult to understand, rather than disparage, other approaches.³

Historians have advanced a number of reasons to explain why the brilliant Greeks stopped just short of developing machinery driven by artificial power. Explanations for this include the fact that the Greeks believed science should be useless. They tended to regard practical science as a branch of pure philosophy. With some notable exceptions, they were unwilling to use their scientific knowledge to broaden the scope of their technology. Rather than devising scientific experiments, they tried to think matters through, like Euclid, who had constructed his theorems reasoning from one proposition to another.

Another reason is that Hellenistic scientists, like their predecessors in the classical age of the Greeks, lacked sufficiently sophisticated instruments and laboratory apparatus. For example, Hellenistic scientists lacked the thermometer and any solvent stronger than vinegar. Again, concentrated wealth prevented a wide market for various products from developing. A final general reason given for the Hellenistic failure to industrialize is found in the structure of the economy. There were some large factories that achieved a primitive sort of mass production, but there was little market, at home or abroad, for mass-produced articles. Wealth tended to remain in the hands of the upper classes, rather than extend to the whole country.

Under-consumption, together with the high cost of transportation, were factors that limited both industry and trade, causing business to be confined largely to luxury articles. So it was that Hellenistic scientists saw little reason to bring their knowledge into the practical world. The explanation usually given for the long delay between the Hellenistic Age and the Industrial Revolution maintains that slavery in the ancient world provided an abundant and cheap labor supply so that there was little incentive to develop the labor-saving machinery of modern times.

Students of the professor have never found the above reasons satisfactory. There is a particularly Christian explanation. Rome inherited the Greek development. Christianity, in turn, inherited Rome. The Church Father at the end of the Roman Empire was Saint Augustine. Augustine had little use for empirical science. At best, such science was trivial, at worst pointless. Laws of nature were important because they revealed the will of God. Next to that, anything to do with physical necessity was unimportant.⁴ The professor connects St. Augustine with anti-modernism, a type of Christian politics determining truth.

C. Conclusion

This lesson has seen the impact of Greek civilization approaching the brink of modern times. The push failed, although people did try to combat the cultural lags they saw developing around them. By thinking about the Introduction to Hellenistic Unification and Hellenistic Culture and Science, the

HIS101--09HellenisticUnification© Nov.9, 1999

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student is better able to evaluate the impact of Greek ideas on Western life. The student is reminded to review all of his assignments on a regular basis.

Supplement

D. Introduction

The material on Greek culture and science seemed too important to relegate to the supplement, although the emphasis of the professor is relatively unusual. The comments on Alexander were originally in the main lecture. The further comments on Roman expansion from the point of view of Greeks, rather than the Romans seems to fill in some missing gaps.

E. Alexander's Empire

In the era of the classical Greek City-states, Macedon was merely a back land. Philip, the father of Alexander, changed that principally through organizing a highly efficient army. In particular, he developed the Macedonian phalanx, a formation in which foot soldiers with shields and long lances fought in ranks, i.e. rows, eight to sixteen deep. It moved with such drill precision as sometimes to frighten the enemy from the field even before the battle began. On page 51-52 in the seventh edition, Chambers describes the Greek phalanx without distinguishing it from the Macedonian Phalanx.

Well-versed in military tactics, Alexander inherited the kingdom of his father when he was twenty years old. He led one of the most brilliant military campaigns in history. See Map 3.2 on page 86 in the seventh edition of Chambers, "The Empire of Alexander the Great."⁵ The Indus River, the Himalaya mountains, the Oxus River, the Caucasus Mountains, Macedonia, Gauagamela, Phoenicia, and Alexandria merit special note. The political good sense of Alexander was shown by welcoming Persian leaders into partnership with the victorious Greeks and in going beyond the former limited Greek view, held by his tutor Aristotle, that all non-Greeks were barbarians in the sense of having nothing worthwhile to offer.⁶

F. Roman Expansion⁷

The professor has traditionally taken the stand that Rome was actually imperialistic and aggressive, all the while pretending to be simply defensive. There is another view. The Romans really did not want to be entangled across the Adriatic, but were forced to get involved when the Greeks tried to manipulate the Romans. Rome never was prepared to tolerate potential threats to the Adriatic, nonetheless.

Polybius is described on page 109 in the seventh edition of Chambers as the most important historian of the Hellenistic Age, which he is.⁸ Polybius never did explain why Rome subjugated the Hellenistic states. What happened was an "evolution of the unintended."

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Comments on the Seventh Edition of Chambers, pages 0068-0097

In the opinion of the professor, Chambers is the most scholarly textbook on the market. Chambers well represents mainstream thinking in the history profession. The professor, however, disagrees in many significant ways with mainstream thinking. These disagreements are set forth in the following comments.

Page	Column	Paragraph	Line	
0068	caption			"at Olympia" See page 44, Map 2.3 in the seventh edition.
0070	2	1	3-4	". . . she chooses to follow divine, not human law . . ." seems redundant with page 71, column 1, paragraph 3, 3 rd last line, "Antigone must therefore decide which laws to obey."
0070	2	4	2	"Peloponnesian War" is indexed for pages 70-71, 74, 76, and 77. "Peloponnesian War" appears twice on page 83 where it is not indexed. The point is that this chapter is written within the context of the Peloponnesian War.
0072-0073				<p>Section on Historical Writing has been considered at page 0062 column 2 2nd last line where Herodotus and Thucydides are presented as similarly great. Herodotus told the better story. Story telling is the first requirement of good history. Before anyone will pay attention, the story must be worth telling. Thucydides is more accurate, but less interesting. The professor does not think good history should surrender good story telling to accuracy. Without a good story, accuracy is silly.</p> <p>Roman history was different from Greek History. Romans wrote history because they made it. Greeks wrote history because they observed it. Romans wrote of what individuals did. Greeks wrote of what humanity did. Roman history thereby moved from an originating optimism to grim diagnosis to retrospection. Greeks looked to what could be done; Romans wondered how things ever got as bad as they did.⁹</p> <p>When it comes to truth determining politics or politics truth, both Romans and Greeks were adamant about the need to tell the truth, not that they always told the truth. The professor does not regard this need so much as a moral imperative as a pragmatic consequence of credibility. Western civilization, in the eyes of the professor, regards the</p>

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need to tell the truth in the face of contrary political demands as a moral imperative.

0074 Box, "The Melian Dialogue" is described by Chambers on page 64.

0075 and 0076 Be sure to distinguish Pythagoras from Protagoras.

0078 2 1 9 "What is justice?" Justice is that virtue by which everyone is given that which is their due is a standard Thomistic (St. Thomas Aquinas) definition. Within the context of feminism, which Chambers and I use, this question remains vital.

While the professor tends to regard this sense of justice as sophisticated, he notes the ante-bellum slave in the United States citing as "fraud" the Epistle of Saint James depriving one of the just rewards of his labor ¹⁰

0080 1 3 1 The professor distinguishes Plato from Aristotle differently from the legitimate way in which Chambers does it. The difference is that Aristotle regards both matter and form as equally real whereas Plato regards matter as less real than form

0080 2 3 "Aristotle's Physical Theories" or cosmology is the weakest area of Aristotelian thought.

0081 1 3 "Aristotle and the World of Nature" is presented differently from how the professor would do it. Aristotelian thought is deductive, reasoning from what is known to what follows therefrom. Inductive reasoning reasons from what is known to general principles that explain. The historian reasons from the facts to general principles that flow from the facts. When the historian reasons from what is known, for example from nationalistic assumptions or from the Catholic Church in the case of the professor, great dangers thereby arise. The professor resolves the problem by insisting that the truth of the facts must never be denied in the face of any other overriding principles.

0082 1 2 6th last "at about" The professor did not locate reference to the use of "at about" in the sixth edition of *The Little, Brown Handbook*, but following Jacques Barzun, *Modern American Usage*, the professor would prefer "about."

0082 2 4 6 Clytemnestra is not indexed.

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0094 2 3 1-2 "Macedonia, a kingdom in northern Greece . . . "

This causes trouble because the Macedonians were not Greeks. Chambers hints at this in the next paragraph where Demosthenes "called on his countrymen," on page 0086, column 1, paragraph 1, line 7, where the Greek cities are warned, and on page 95, the conclusion which observes ". . . Alexander, the Macedonian who brought Greek Civilization . . . "

0087 caption

The professor does not understand why Chambers used the Venus of Cyrene rather than the more known Venus de Milo. The professor notes that this is the first female nude, unless the depiction on page 37 ranks as nude. In the meantime, there have been five male nudes depicted on pages 37, 54, 81, 84. Since Chambers has added a female author, it seems appropriate to note that the sixth edition includes the same nudes.

0091 1 2 5th and 6th last ". . . standardization of the Greek text of Homer."

During this time, Ptolemy II (Philadelphos, 283-246 B.C.) invited Jewish scholars to Alexandria to translate the first five books of the Old Testament. Eventually they translated the whole Old Testament, a translation that became known as the *Septuagint* after the seventy-odd scholars who began the project. This is the same time that Manetho wrote an ancient Egyptian history. Manetho is the basis used for the Chronology on page 20 in the seventh edition of Chambers.¹¹

0095 1 1 2 "cultures"

The professor has trouble with the way Chambers distinguishes cultures from civilizations. If we have Greek culture, then Near Eastern cultures seems appropriate, but if we have Greek civilization, the Near Eastern civilization is even more appropriate.

Footnotes

HIS101--09HellenisticUnification© Nov.9, 1999

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1 Bibliography

Paul Cassar, "Surgical Instruments on a Tomb Slav in Roman Malta (note)," Medical Hist., 18 (1/74), 89-93, The American Historical Review, Vol. 80, No. 3 (June 1975), page 770 #5275.

Robin Lane Fox, Alexander the Great, The American Historical Review, Vol. 80, No. 3 (June 1975), page 618-619. This book is well done. It ignores and rejects scholarship, without indicating why. This book offers a fresh start and the most personal portrait since W. W. Tarn about fifty years ago.

H. W. Pleket, "Technology in the Greco-Roman World: A General Report," Talanta, Vol. 5 ('73), 6-47, The American Historical Review, Vol. 80, No. 3 (June 1975), page 762 #5380.

²Will Durant, The Story of Civilization: Part II: The Life of Greece: Being a history of Greek civilization from the beginnings, and of civilization in the Near East from the death of Alexander, to the Roman conquest; with an introduction on the prehistoric culture of Crete, p. 70 is cited with regularity throughout these lectures because of his narrative style. Most historians, including myself, are caught up in an analytical style, more dry on the surface, but more interesting once that surface is broken. Most historians are so tied up in explaining what happened, that they forget to tell a good story in the process. Will and Ariel Durant, both Pulitzer prize winners, serve as a reminder to be sure that the story told has a good story-line.

³See Diane Lindstrom, review of Neil Longley York, Mechanical Metamorphosis: Technological Change in Revolutionary America in The American Historical Review, Vol. 91, No. 3 (June 1986), page 731.

⁴The interested student can consult Robert M. Grant, Miracle and Natural Law in Graeco-Roman and Early Christian Thought (Amsterdam, 1952), p. 217, as cited in Charles M. Radding, "Superstition to Science: Nature, Fortune, and the Passing of the Medieval Ordeal," The American Historical Review, Vol. 84, No. 4 (October 1979), page. 968.

⁵ See Map 3.2 on page 79 in the sixth edition of Chambers, "The Empire of Alexander the Great." This map includes Himalaya, to the northwest of Bucephala and Caucasus between the Black and Caspian Seas.

⁶The best historiographic work is found in A. B. Bosworth, From Arrian to Alexander: Studies in Historical Interpretation as noted in the review by Eugene N. Borza in The American Historical Review, Vol. 95, No. 2 (April 1990), pages 462-463. Arrian, the biographer of Alexander is noted on page 86 toward the bottom of the second column in the fourth edition of Chambers; page 91, first column, eighth line in the fifth edition.

⁷This section is based on E. Togo Salmon, review of Erich S. Gruen, The Hellenistic World and the Coming of Rome. in two volumes. in The American Historical Review, Vol. 91, No. 3 (June 1985), pages 659-660.

⁸ Polybius is mentioned on pages 101-102 and 126 in the sixth edition and on page 134 in the fifth edition of Chambers.

⁹ Donald Kagan, review of Charles William Fornara, The Nature of History in Ancient Greece and Rome (Eidos, Studies in Classical Kinds), in The American Historical Review, Vol. 89, No. 5 (December 1984), page 1311.

¹⁰ William Still, The Underground Rail Road: A Record of Facts, Authentic Narratives, Letters, &c., Narrating the Hardships Hair-breadth Escapes and Death Struggles of the Slaves in their efforts for Freedom, as Related by themselves and others, or witnessed by the author; together with sketches of some of the largest stockholders, and most liberal aiders and advisers, of the Road ((Chicago: Ebony Classics: Johnson Publishing Company, Inc., 1970 (originally copyrighted in 1871 by William Still)), page 261.

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¹¹ Diana Delia, "From Romance to Rhetoric: The Alexandrian Library in Classical and Islamic Traditions," *The American Historical Review*, Vol. 97, No. 5 (December 1992), pages 1456 and 1457.

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