ANCIENT GREECE ECONOMIC HISTORY

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Ancient GREEK INNOVATIONS

Background Ancient Greece is a large concept, lasting from Myceanean times until the end of the Hellenistic period, and though we remember those Greeks, especially of the classical age (fifth century B.C.E.) largely for their cultural productions, we also know that the culture rested on a steadily developing technological base, a base of major achievements in everything from urban planning to the niceties of domestic life. A few notes follow, on that technological development.

Natural conditions Every culture must make the most of the natural environment given it. The environment of ancient Greece provided two gross natural conditions which demanded attention and provided opportunity: the land, famous for its *stenochoria*, or stinginess, and the sea, surrounding Greece on all sides, and providing a water way to the rest of the world. These dominating natural features provoked the basic drives of ancient Greek technology.

Agriculture 80 % of the Greek population worked the land, while only 20 % of the land was arable . This meant that the Greek farmer needed to generate techniques to make the most of his soil. Over the centuries, from Homer's time on, farmers learned what crops to prioritize—olive trees and vineyards worked best, in the dry, rocky soil—what animals to maintain, goats and sheep, that could live successfully on an exiguous vegetation nibbled between the rocks, and how to rotate crops in order to make the most of the available land. The Greek farmers learned to rotate their crops twice a year—although they experimented with a third rotation—how to plow weeds back into the land for fertilizer, how to surround their trees with water filled trenches, and for that matter how to manage the limited water supply, through careful irrigation. Hard work, against hard conditions, generated these technologies of successful agriculture.

Shipbuilding From Minoan times on, Greek seafarers and ship builders had been looking for the most effective ways to use their water encircled mainland, and islands. It was a long haul from the earliest vessels—simple dugouts and craft made of papyrus strips fastened together—to the military triremes first created in the 8th century B.C.E., with their two rows of twenty oarsmen on each side, and a large bronze ram on the prow, for decimating enemy ships. These fighting ships, which repelled the Persian invasions and provided the defence of Athens in the Peloponnesian War, were products of centuries of technological innovation.

Water management A precious commodity to the Greeks, in their often dry land with few lakes and rivers, was their domestic water supply. The inhabitants made many advances in handling that not abundant supply. By the sixth century B.C.E. the mainland Greeks had made major achievements in water management: their domestic living standards were clean and hygienic; they had developed advanced techniques for water transportation; flood control had been mastered in the plains of northern Greece; clean water for bathing was available everywhere from wells; dams were constructed; and, as in the brilliant work of the architect Eupalinos on the island of Samos, aqueducts still considered world masterpieces were constructed.

Pottery From the earliest times the Greeks relied on pottery vessels for drinking, ceremonial observances, and as tribute. In order to bring this skill to its aesthetic glory, the red and black figured painted vases of the fifth century B.C.E., Greek potters required centuries of learning and experimentation. That learning began with the processes of washing clay, so that it was free of rocks and pebbles, innovating more effective potters' wheels, mastering the optimum stages of the firing procedure, and preparation of the dyes suitable for painting on clay. As in rural

Mediterranean and Latin American environments, today, it was true in ancient Greece that the technologies of pottery making were the indispensable foundation of domestic life.

Readings

Hodges, H., *Technology in the Ancient World*, New York, l992

Humphrey, J.W., *Ancient Technology,* Westport, 2006.

Discussion questions

Does the development of ancient Greek technological skill relate closely to the growth of Greek trade? In what ways do you see trade and technology inter relating?

Mesopotamian, Egyptian, and Roman architectures all gravitated toward monumental structures. Why did the ancient Greeks not build such structures?

The ancient Greeks, from the earliest times, used trial and error to determine the best kinds of wheat or barley to grow on their distinctive soils. Do you think the development of technologies in Greece generally depended on trial and error, or on acts of individual insight and genius?

Ancient Greek TRADE

The physical geography of Greece A look at the map of Greece will make it clear that trade, on that rocky extension into the Mediterranean, will be and was largely by water. The mountains are rough and the roads through them are impassable and slow—to this date. Homer's world, the first we know of in Greece, was evidence enough for the lasting condition of the country; both of Homer's epics are sea or sea-shore centered.

Growth of trade in the 8th to 4th centuries B. C. E. By the time of Homer—can we target the 12th-8th centuries B.C.E.?—Eastern Mediterranean trade has begun to develop, though seafaring, rather than trade, is still the dominant practice. By the seventh century B.C.E. maritime *trade* has fully begun, among the regions and small cities of the Eastern Mediterranean. Greek culture had diversified to the point where there were over four hundred Greek outposts scattered around the Mediterranean; all of them hungry for Greek goods, and many of them producing and distributing the goods. (Among the goods being distributed were cereals, wine, olives, figs, pulses, eels, cheese, honey, meat {especially from sheep and goats}, tools {e.g.: knives}, perfumes, and fine pottery, especially Attic and Corinthian wares.)

Conditions favoring trade The prosperity of the Greek *poleis* increased substantially by the seventh century B.C.E. At that period coinage, in place of barter, was introduced along the Asia Minor coast; coinage served to facilitate economic transactions and to undergird the beginnings of a larger scale market for Greek products. (The spread of literacy was equally important, at this time, for it enabled traders to coordinate, give written contracts, and verify documents.) It was in the seventh century that trade in wine and oil grew rapidly, and small factories, such as for pottery making, and hiring fifty or sixty employees, sprung up around Athens to supply bulk needs overseas. For such developments larger cargo ships were constructed, and a banking and lending system was developing, which enabled major entrepreneurs to lend—at high rates, 12% to l00 %--to aspiring captains of maritime investment. By the end of this period the range of ocean trading, among the Greek cities, included colonies in Southern Russia, the Black Sea, and southern Italy and France.

Government oversight of trading For the most part the Athenian government, about which we know most, permitted trade to flow freely in and out of its ports. (Far the largest of these was Piraeus, the port of Athens itself). The exception to this laissez faire trade occurred in war times, when taxes on foreign goods had to be levied, and when strict control was maintained over exports of wheat—a commodity of which the Athenians themselves rarely had enough, and which they needed badly for their own foodstock. To assure ample supplies of especially needed commodities, market-supervisors were appointed, in Athens, with the responsibility of enforcing limitations on trade.

Hellenistic trade After the death of Alexander the Great at the end of the fourth century B.C.E., Greek trade expanded widely, to the ends of the Empire of Alexander—to India and France, for example, and most lucratively to Alexandria in Egypt, which became a rich entrepot for the profusion of Egyptian products. Not only was vast wealth at stake, in this commercial activity, but the spread of Greek culture, throughout the civilized world, was immensely enhanced.

Readings

Hopkins, Clark, *The Discovery of Dura-Europos*, New Haven, l979.

Kinzl, K.H., ed., *A Companion to the Classical Greek World*, New York, 2010.

Discussion questions

Does the growth of Greek trade intermesh with the development of Greek culture—epic, drama, lyric, architecture? What evidence do you see for such an interaction? Is it the case today that trade and the arts are mutually reinforcing?

Homer writes about a seafaring culture. Is there evidence in his epics of nautical trading practices? Do you see merchants, buyers, or commodities in the *Iliad* and the *Odyssey*?

It was a common classical Greek belief, forcefully and influentially expressed by Aristotle, that buying and selling are the work of inferior men, dully involved with their own self-interest? Does that attitude persist at all to our time? Has the idea any merit?