The Emergence of Complex Societies in the Aegean Bronze Age

Introduction

Renowned British archaeologist Colin Renfrew, in his seminal work *The Emergence of Civilization: The Cyclades and the Aegean in the Third Millennium B.C.*, provides a theory for the development of complex cultures, which he calls the *multiplier effect*. According to Renfrew, innovations in one aspect, or *subsystem*, of culture, such as craft production, enhances and affects, through positive feedback, other cultural subsystems like social organization or religious symbolism. In other words, innovation in one subsystem of culture stimulates innovation in other subsystems and ultimately creates the growth of new social, political, and economic conditions. In this way, Renfrew maintains, the cumulative effect of the influence of innovation on the interactions between such cultural subsystems is, in fact, the emergence of civilization.¹ Renfrew's account of the rise of complex cultures explores the diverse facets and factors of critical cultural change, such as, for example, the role of the environment, technological innovation, demographic trends, social relations, and new religious concepts, which all continue to drive cultures in new directions even at present.

Renfrew illustrates the multiplier effect in action through his interpretation of the collection of artifacts, or *assemblages*, from the various Aegean cultures of the 3rd millennium BCE as well as the analysis of animal bones, seeds, and architectural remains (including fortifications and tombs) from archaeological sites in the region that date to this period. Renfrew argues that the cultural changes during this millennium, brought about through the multiplier effect, laid the foundations for the brilliant Minoan civilization on the island of Crete by the beginning of the 2nd millennium BCE and for the rise of Mycenaean civilization on the Greek mainland several centuries later. Although Renfrew published this work over 30 years ago, his reconstruction of the development of complex cultures in the Aegean has continued to shape the approach of Aegean archaeologists on this topic.²

Complex Cultures and the Multiplier Effect

Anthropologists, historians, and archaeologists employ the neutral terms *complex* and *simple* to classify cultures that were once categorized respectively as *civilized* and *savage*—labels that have been replaced due to their emotionally charged connotations. Complex and simple cultures possess different characteristics. Complex societies are heterogeneous and hierarchical, while simple societies are homogeneous and egalitarian. In a complex society, *social stratification* divides people and families into distinct ranked groups (*strata*) on the basis of their wealth and status. Moreover, complex societies can be further divided into groupings on the basis of language, religion, occupation, or place of residence. In contrast, simple societies, which are far smaller in population, have no such divisions and wealth and status vary little from family to family.
Complex cultures also feature *specialization* in which individuals perform a specialized task, such as a farmer, an artisan, a soldier, or a priest. For specialization to occur, there must be an *agricultural surplus*. Food producers must provide sufficient goods not only to support their own needs but also to feed those specialists who are not directly engaged in agriculture. In addition, some system of exchange must operate in which non-agricultural specialists provide their goods and services in return for food raised by farmers. This kind of specialization is noticeably absent in simple cultures, which function on a *subsistence economy* in which families produce enough food to meet their own immediate needs. Individuals in simple cultures must devote most of their time to food production and to providing themselves with other necessities, such as clothing and shelter, with little time to develop specialized skills.

Complex cultures also are governed by *states*, which possess sole authority to create formal laws that coerce citizens to abide by the state’s authority and allow for the accumulation and allocation of resources for the common good and for the enforcement of social order. A formal *religion* in a complex culture provides a system of common values and concepts about the supernatural that serves to validate and legitimize the social order, which is why the state and religion are often intertwined in complex cultures. In simple cultures, the family and the ties of kinship that bind families to one another serve to maintain peace and social stability. There is, therefore, no state, which requires an official set of religious concepts to legitimize.\(^3\)

According to one estimate, simple cultures have dominated 99.8% of human history. Complex cultures are, therefore, quite a recent development.\(^4\) Renfrew explains the development of these rare complex cultures as arising out of cultural innovations that sparked interchanges of reciprocity between the various cultural subsystems ultimately cultivating expansion—the multiplier effect. He identified five distinct subsystems in operation within both simple and complex cultures:

- **the subsistence subsystem**, which is concerned with the activities related to the acquisition and distribution of food;
- **the technological subsystem**, which encompasses the human resources and raw materials necessary for the manufacture of material artifacts;
- **the social subsystem**, which involves the patterns of interpersonal behavior either in an economic or social context;
- **the projective or symbolic subsystem**, which includes all the diverse ways a culture understands and portrays the relationship between human beings and the world—its worldview—through religion, language, and the arts; and
- **the trade and communication subsystem**, which relates to the movement of ideas, people, and goods from one population center to another.

Renfrew maintained that for a complex culture to arise and for the multiplier effect to be sustained, substantial changes and innovations in one subsystem must be coupled with innovations in another subsystem. For example, the production of an agricultural
surplus will not by itself result in a complex culture unless accompanied by changes in the social and projective subsystems.\textsuperscript{5}

**The Multiplier Effect in the Early Aegean Bronze Age**

Renfrew sought to demonstrate the multiplier effect in action in the Early Bronze Age of the Aegean—approximately the 3\textsuperscript{rd} millennium BCE. The Aegean in this period hosted a number of different cultures centered on the island of Crete (Early Minoan), the islands of the southern Aegean or Cyclades (Early Cycladic), the southern and central Greek mainland (Early Helladic), and in northwest Turkey and the islands of the northern Aegean (Troy I, II, III–V). According to Renfrew, the emergence of complex culture in the Aegean in the Early Bronze Age was a gradual, evolutionary development that culminated in the construction of the first great palaces on Minoan Crete near the beginning of the 2\textsuperscript{nd} millennium—the Middle Minoan period.

Renfrew identified a number of dramatic changes in the five cultural subsystems during the third millennium BCE. (1) The **subsistence subsystem** was affected by the development of a diverse agricultural economy. In this period, farmers cultivated wheat, oats, and barley, as well as grapes and olives. They also raised sheep, goats, pigs, and cattle. Such a system enabled farmers to exploit different Aegean environments for food production, from coastal and valley flatlands (cereals) to thin-soiled hillsides (olives and grapes) to mountain pastures (animal herds). According to Renfrew, the expansion of olive and grape production at this time was especially significant since their cultivation allowed farmers to raise crops on terrain that was unsuitable for wheat production, thereby allowing for a substantial increase in the food supply. Renfrew further argued that because of expanding food production, nutrition must have improved considerably. In turn, a larger food supply and better nutrition resulted in a population increase in the Aegean. Archaeological surveys on Crete, for example, have shown that the number of settlements grew enormously from the end of the Neolithic through the Early Minoan (EM) II period (ca. 2200 BCE).\textsuperscript{6}

(2) These changes in the subsistence subsystem were accompanied by new developments in the **technological subsystem**. As Renfrew cites, the archaeological record indicates that artisans had the time to specialize and devote more attention to perfecting their skills. Renfrew’s multiplier effect would substantiate that the increased ability for artisans to spend time on their craftsmanship is a direct result of the increased agricultural production. This growth in agriculture and the subsistence system would have led to an agricultural surplus, which in turn stimulated specialization.

Specialization in the 3\textsuperscript{rd} millennium is evidenced through the advances and increased production in metallurgy and ceramics. Around 3000 BCE, artisans manufactured bronze—an alloy of tin and copper—for the first time, which inaugurated the end of the Neolithic, or New Stone, Age and the beginning of the Bronze Age. Metallurgists used bronze as well as silver and gold to manufacture weapons (daggers, swords, spearheads), tools (chisels, axes, razors, tweezers, pins), jewelry (rings, necklaces,
diadems), and drinking vessels. In ceramics, potters produced finer quality wares and a
greater variety of shapes for storage vessels, jugs, and cups than in the preceding
Neolithic period. According to Renfrew, an agricultural surplus enabled artisans to
specialize, but it was also likely that demand for manufactured goods provided an
incentive for farmers to increase production so that they might exchange their goods for
those of artisans. Thus, the growth of an agricultural surplus, population growth, and
technological advances all appear to share a causal relationship to one another.

(3) Renfrew goes on to explain that the exchange of goods between food producers and
specialists would require innovation in the social subsystem to facilitate such
transactions. In the ancient Near East, individuals and institutions used decorative seals
to stamp their signatures on ceramic storage vessels, which signified ownership of the
goods or approved a contract of exchange. In the Aegean region, similar stone and
bone seals began to appear in large numbers. If such seals were used for economic
exchange in the Near East, then it is certainly arguable that the Aegean seals were
used in a similar manner, indicating a shift in the social subsystem through the rise of an
exchange network.

At the site of Lerna in southern Greece, archaeologists discovered an impressive, well-
constructed two-story building with long corridors on its first floor containing a
considerable number of these seals. This structure, which was built in the Early Helladic
(EH) II period (ca. 2400 BCE), may have served as a local redistribution center where
agricultural goods were gathered and inventoried using the seals so that they could be
allocated to various specialists. Such Corridor Houses have been found in southern and
central Greece at various archaeological sites dating to this same period. In East Crete,
at the site of Vasiliki in the EM II period, a large domestic structure (the Red House)
surrounded by workshops may have also served as a regional redistribution center. If
these structures were indeed used as inventory and distribution centers, as Renfrew
believed they were, they may actually be the predecessors of the immense palaces of
Minoan Crete and Mycenaen Greece, which served a similar function but on a much
larger scale.

The emergence of such buildings, along with the construction of fortifications, led
Renfrew to the conclusion that such architectural developments during this period also
point to the development of a formal system of government—one of the key attributes of
a complex culture. At sites like Lerna in mainland Greece, Myrtos on Crete, and Troy in
northwest Turkey, citadels with stout defensive walls, often accompanied by towers,
began to appear. The construction of these strongholds would have required some
system of organization to allocate the necessary resources to complete these projects—
a state. Defensive walls also indicate that warfare was a threat to communities, who
would have had to organize themselves for common defense. In addition, the frequency
with which weapons appear in burials seems to indicate that these objects were highly
prized and compounds the testimony that war was a constant occurrence in this era.
The construction of fortifications and the manufacture of weapons would have also
provided an incentive for farmers to produce a surplus to meet the needs of non-agricultural laborers engaged in military service or architectural construction.

In addition to the profusion of branding seals, the construction of monumental and defensive architecture, and the abundance of weaponry indicating such changes in the social subsystem as a system of economic exchange and government organization, burial sites provided Renfrew evidence for the existence of social stratification—yet another aspect of his social subsystem. Although tomb design and construction varied from region to region, throughout the Aegean the burial of goods with the deceased became more elaborate over the course of the 3\textsuperscript{rd} millennium. Weapons, stone and ceramic vessels, jewelry, tools, and marble figurines were placed in tombs near the dead. These grave goods show that the accumulation of wealth in Aegean societies quickened over the course of this millennium. Since some of the dead were entombed with more of these goods than others, one could conclude, as did Renfrew, that some families had much more disposable wealth than their neighbors—a sign that the egalitarian social structure of a simple culture had disappeared.\textsuperscript{8}

(4) Grave goods also show that changes were occurring in Renfrew’s projective subsystem. He suggests that the placing of these precious objects in tombs in the Bronze Age, a practice that was absent in the preceding Neolithic period, indicate an innovation in how the living viewed the dead. Were these objects love offerings to the dead to be used in the afterlife or intended as bribes to keep the spirits of the dead away? Nude, female marble figurines with folded arms appear with greater frequency in graves in the Cyclades over this same period. Figurines of this particular type in the 3\textsuperscript{rd} millennium were imported and copied in Crete and the Greek mainland and likewise placed in tombs.\textsuperscript{9} Since the so-called “Snake Goddess” was worshipped later in Minoan Crete and goddesses of childbirth, marriage, and fertility like Hera, Athena, and Artemis were the focus of cult activity across the Aegean in the Classical period, it is tempting to see these figurines as representations of some female deity whose worship extended over a wide area at this time. According to Renfrew, these innovations in the projective subsystem would have affected the subsistence and technological subsystems since artisans would be put to work manufacturing goods to be placed in tombs or to replace those goods that had already been offered to the dead, while food producers expanded production so that they could offer payment to these artisans for such goods.

(5) Female folded-arm figurines were not the only artifacts that were distributed over a wide area of the Aegean in the 3\textsuperscript{rd} millennium. By the middle centuries of this millennium there is archaeological evidence for expanding trade and communication in this region as compared to the Neolithic period, a dramatic change in Renfrew’s trade subsystem. A type of ceramic pitcher known to archaeologists as a sauceboat came in use over a wide area of the Aegean as did a particular type of two-handled cup known as a 

\textsuperscript{depas}. Communities in this period were also no longer relying on their own resources to meet their needs. For example, chemical analysis of metal objects uncovered from tombs in Crete from this period has shown that the metal used originated in the Cyclades and mainland Greece. On the Cycladic island of Kythnos,
copper was mined, smelted, and exported to Crete and other islands in the southern Aegean. Analysis of pottery from the Early Minoan town at Myrtos indicates that as much as half of the pottery discovered by archaeologists was originally manufactured elsewhere and imported into the town.\(^{10}\) For Renfrew, this development of trade networks and the corresponding expansion of certain cultural tastes, such as demand for certain types of figurines or ceramic vessels (a sort of globalization at a micro-level), undoubtedly had ramifications for the technological and social subsystems. Artisans would have seen demand for their work increase as trade and communication expanded the number of their customers, while this trade could have facilitated the organization of those communities participating in this trade into larger political units.

**The Nature of Finding the Answers to the Past**

Renfrew’s theory of the multiplier effect as applied to the Aegean Bronze Age is, of course, only one of many approaches to the study of the origins of complex cultures. In recent decades some archaeologists, the *postprocessualists*, have questioned whether it is possible to identify universal processes or systems at work in cultures. Postprocessualists, unlike *processualists* like Renfrew, prefer to examine each culture as a distinct and separate entity and apply different theories and methods to interpret the archaeological record.\(^{11}\) Just as a post-modern literary critic might employ diverse approaches to elicit meaning from a text, postprocessualists interpret artifacts in the same manner. Another frequent approach to the analysis of archaeological data that diverges from Renfrew uses a Marxist perspective, which stems from the theories of the 19\(^{th}\)-century social scientists Karl Marx and Friedrich Engels. Marxist researchers see the formation of the state, one of the key elements of a complex culture, as an agency of a non-productive elite to oppress and exploit the productive masses.\(^{12}\)

While Renfrew’s observations discussed here are quite compelling, recent analysis of the archaeological data has shown that the process of the Aegean developing into a complex culture may not have been as smooth as he envisioned. Newer research indicates that at the end of the Early Bronze Age, the period directly before the Middle Minoan period, the Aegean region experienced a great amount of instability with the violent destruction of population centers and the migration of new peoples into the region. Renfrew’s position concerning the emergence of complex cultures is, thus, not without its critics.

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