

Name: _____

Laboratory Exercise 12: Exploring New World Towns and Cities with Google Earth™

Objectives

The purpose of this lab is to allow you to explore some of the most famous and important sites in North American prehistory, and to stimulate you to think about their meaning in terms of the characteristics of those cultures, some of which we can call Civilizations. What we know about them has been gained mainly by archaeological science. However, the descendants of the cultures that created these towns and cities are still alive, even though they have been changed dramatically by the arrival of Europeans.

The rise and fall of civilizations are among the most prominent problems that have attracted the interest of archaeologists, historians and geographers. We strongly urge you to read two fairly new books on this subject written by the geographer Jared Diamond: *Guns Germs and Steel*, which deals with the rise of civilizations, and its sequel, *Collapse*. These books cannot help but force us to consider the social, technological and ecological factors that lead to (or did not lead to) the rise of large, complex societies. Their messages are not just of archaeological or academic interest, but are and should be relevant to the ways in which we think about our relationship to our environment and to each other.

An important point is that neither Diamond nor any other investigator could have written on these subjects without the products of archaeological research, and that is what this course has been about.

Grading

Your grade for this lab is based on completion of the tour and the answers to the questions provided (100 points). **NOTE:** Because there is no “in lab” activity here, and because these are all “critical thinking” questions, a good grade on this lab will require organized, well thought-out and clearly written answers. Brief statements or lists of subjects/ideas will not do.

Reading Assignments

As you have learned from your lab and lecture, you must prepare for this lab by reading the following sections in your textbook. We’ve given you advance notice so that you will be ready. This will make your tour much more interesting and assist you in answering the questions in a reasonable time. Essential reading: Ch. 8: pp. 323-324; Ch. 13: pp. 530-548; Ch. 15 pp. 592-612.

You also must read this lab entirely before you log on to Google Earth™ so that your mind is prepared to see some of the things we’d like you to think about as your exploration proceeds.

Instructions

As you did for the Google Earth™ tour of Rift Valley localities, you will be given specific locations (Long/Lat) to visit, instructions of what to look for, and things to do, such as measuring the size of sites and making observations on their environmental settings. Let's go!

Poverty Point, Louisiana (32 38 08.42N, 91 24 18.69W)

Our first stop is the oldest site we will explore. Occupied in the 3rd-2nd millennia BC, Poverty Point belongs to the Formative Period, which is registered by numerous sites in the southeastern US, as well as Mesoamerica (including the Olmec), and in South America where the oldest Formative complexes originated. Many archaeologists see Formative social and religious systems as having diffused northwards, and indeed there is a good basis for that argument.

Like many other Formative sites, Poverty Point is an effigy community (see Figure 8.7, pp. 324 in your text). This town was built to represent a bird. Its wings are visible to you as two arcs of low mounds that were the wings. Excavations have shown that the wattle and daub houses (woven branch walls plastered with clay and covered by a thatched roof) they lived in were neatly arranged along these wing mounds.

You cannot see the bird's head, which is a large earthen mound above the wings. Later Woodland people in the Midwestern US made effigy burial mounds in the shapes of turtles and serpents. Not only the effigy mounds but also thousands of tiny effigy stone amulets or talismans are evidence for animism in the Poverty Point tradition. Interestingly, they made ornate fired clay objects, but no ceramic vessels until very late.

Look at the ecological setting of Poverty Point. It is in the fertile alluvial lowlands of the Mississippi Valley. It is on a small river, but raise your eye elev until you can see the huge Mississippi River channel to the east. Other than the possibility of sunflowers, the Poverty Point folk had no domesticated plants or animals. This means that their entirely sedentary lifestyle was supported by intensive exploitation of naturally available plant and animal resources, including the most productive taxa, such as deer, fish, turtle, nuts, etc. This intensive exploitation strategy developed over a long time in the Archaic Period.

We want to keep track of a sense for how large these sites are. Use your ruler to estimate the width of the bird's wings (maybe do the southern one and double it)

What is the width in meters?_____

1. Humans are extremely social creatures. But why would they develop the economic means, even without domesticating plants and animals, to live in large, permanent communities? Think for yourself, and list some advantages (economic, religious, matrimonial, defensive, etc.) or disadvantages for doing this, as at Poverty Point. *(20 points)*

Cahokia, Illinois (38 39 36.54N, 90 03 43.29W)

The Woodland Period was followed by a tremendous explosion of the Mississippian tradition in the central and eastern US. By far the largest community of this period is Cahokia. Here you can see the prominent Monks Mound very easily (compare to Figures 15.2-15.4 in your textbook). Note the position of the river to the west of the site. Now notice the ornate scrollwork of a former channel just north of Monks Mound. The river may have been closer at the time this large community was occupied. This site and all other Mississippian mound-dominated centers were abandoned by the time of European arrivals, but these large mounds, many of which had richly filled burials of elite, stimulated much interest and debate by explorers and historians. Thomas Jefferson excavated a contemporary burial mound and made brilliant observations on its stratigraphy. You can see our local manifestations of the Mississippian traditions in Caddo sites in East Texas.

2. Based on your textbook reading, what were some of the important hallmarks of Mississippian social organization? How do we know that? *(20 points)*

3. Corn and other domesticates diffused from Mesoamerica into the economy of the Mississippian tradition, where they became mainstays of the economy. How might cultural changes in the preceding Formative/Woodland Periods have made adoption of agriculture attractive? (20 points)

Chaco Canyon, New Mexico (36 03 37.44N, 107 57 41.99W)

The Anasazi Puebloans were the contemporaries of the Mississippian. You have studied ceramics from Pot Creek Pueblo. Many of the Pueblo groups in the northern Rio Grande Valley moved there following abandonment of the remarkable communities in Chaco Canyon, where some of the most spectacular pueblo ruins are located.

Your tour starts at the most famous of those ruins, Pueblo Bonito, the only D-shaped pueblo known. At this and all pueblos, room blocks are peppered with circular subterranean Kivas which you can see clearly via Google Earth™. Kivas are still used today, and are strictly reserved for mens' gatherings, both informal and highly ceremonial. They are holdovers from the Basketmaker Period in the Anasazi tradition, when they were simply houses. Great Kivas are just that, and you can see different sizes of kivas in each pueblo ruin here. The largest is the Great Kivas at Rinconada, which is unique in that it is separated from the pueblos. Why would they build such a structure? Measure its diameter with your ruler.

The possibility of environmental degradation is one of the factors considered in trying to explain the demise of the "Chaco Phenomenon". Look at the setting today. Where did they get all of the large pine logs needed to build their structures?

Use the map in your text (Figure 15.18, pp.609) to navigate around Chaco Canyon and explore the different masonry ruins. You will notice different conditions of preservation and different excavation histories, which make some of the architecture less easy to observe, but in the main, touring Chaco Canyon is a real treat. In contrast, adobe architecture such as at Pot Creek (and modern Taos Pueblo) leaves little to see with Google Earth™.

How big are these pueblos at Chaco? Measure the length and width (meters) of four pueblos with your ruler and calculate the estimated sizes below. Then count the number of small and large kivas .

PUEBLO NAME	LENGTH m	WIDTH m	AREA m2	Small Kivas	Large Kivas

- Why do you think that there are so many ceremonial structures in these communities? What may this be telling us about their social organization, compared to cultures that had large public ceremonial structures such as Teotihuacan, our next stop? *(20 points)*

Teotihuacan, Mexico (19 41 29.21N, 98 50 39.28W)

You really need to see this huge city- probably the largest city in the world during its heyday. You cannot see the thousands of buildings where people lived and worked, but you can nicely see the Avenue of the Dead, lined with the Pyramid of the Sun and other features. How long was the Avenue of the Dead? The city literally sprawled in all directions from this ceremonial and economic axis (see Figure 13.10, pp. 544 in your textbook).

5. Teotihuacan dominated Mesoamerica economically for many centuries, serving as a manufacturing and trade hub, with “barrios” in many sites in other parts of the region. How did Teotihuacan garner the human and resource-related energy to accomplish this control, and how did it “spend” this capital? How did they modify their environment and increase its productivity to sustain such a huge, concentrated population? In sum, what are the salient differences between the achievements of Teotihuacan compared to all cultures that passed before it? (*20 points*)