

Kit Kat Club

**The Hearth and the Stone**

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February 17, 1997

Most everyone here, guests and a few freshmen members excluded, will recall a little anxiety associated with the presentation of the "freshman paper." In my case, there is perhaps a little more, given the presence of three generations of Schneiders; my father, a former president of this club, and my son Karl. It would be interesting to see if that particular combination has been present for the presentation of an essay at Kit Kat.

Temporary anxiety aside, I promise to be true to the tradition of the club; that is to not speak on a subject related to my vocation and to have selected a title that does not reveal the topic of the essay. Beyond that, I make no promises!

In the process of working on my essay, things got off to a promising start. One Sunday last month, I had the occasion to visit the Ohio State University library. After locating several references that I would use in preparing this paper, I decided to check them out of the library so that I could work in the comfort of my own home. I had never checked

books out of the main University library, so I asked how long I could keep them. He replied that it depended on my status in the University and asked if I was a graduate student. Assuming he meant that as a reflection of how old I appeared, that certainly got my research off on a positive note.

My thoughts on the subject that I will discuss tonight began in 1971, the year after my graduation from the University of Wisconsin in Madison. A high school friend asked me if I would like to join a study tour going to the Yucatan peninsula to study the Mayan Indians. I had never heard of the Mayan Indians and had no particular interest in Mexico, thinking of it primarily as a quasi third world country noted mainly for its poverty, cheap tourist venues and a medical school some of my friends attended if they couldn't get into one in this country.

Being single and twenty three with the promise of a young co-educational group and the opportunity to learn scuba diving, I decided to go. It turned out to be a wonderful, fun filled, but also a mentally stimulating trip. It prompted a broadening of my Eurocentric view of the world and its history and a curiosity about a culture that has continued to this day.

We arrived from Miami on the island of Cozumel; then a sleepy tourist destination primarily known to scuba divers. We then took a short but rough ferry boat ride to the Yucatan peninsula, where we were transported to the capital city, Merida. After a few days in Merida, we had the opportunity to stay in Mayan villages, sleeping in cotton hammocks in native grass huts. The life in these communities was very primitive by our standards. Water was drawn from a central village well and food consisted of corn-based maize recipes. It seemed like a page out of National Geographic. From the villages, we took daily trips to three major Mayan ruin sites; Tulum, Uxmal and Chichen-Itza. We were told of the sophistication of the Mayan culture of the period marked on our calendars from the birth of Christ to about 850 AD. Mayans had architecturally sophisticated buildings. They had an understanding of astronomy and its use in keeping track of time. They understood mathematics, and were the first culture to develop the concept of "zero."

During the ten-day trip, I couldn't help but be struck by the contrast between the primitive life of the "modern" day Mayan, and the sophisticated life (by the standards of the time) of the Mayan of ancient times. This was a culture that has been described by some as the most sophisticated civilization in the "new world." It was said that "no pre-Columbian civilization in Mesoamerica or South America was as manifestly

literate, as proficient in mathematics or astronomy; the artistic and architectural achievements of the Maya rank among the very best in this hemisphere" (Lowe). What happened? How could such a prosperous, sophisticated culture deteriorate within a period of 100 to 150 years? It has been said that such a decline is very rare in human history. Is there something to be learned from this?

I was not the first person to have been struck by this thought and there is an abundance of theories. I would like to discuss them briefly and ask you to join me in reflecting on the possible lessons they may have for us today. The theories can be divided into three categories; the traditional "external" causes of the collapse, the "internal" stresses that resulted in a decline, and the impact of "enlightenment" and the transfer of knowledge.

### **Traditional external causes of a collapse**

In the 1930's the causes of the "collapse" of the Mayan culture were of great interest to archaeologists. The theories that evolved during this period centered around the thought that a primary, external event or series of events caused the rapid decline. Examples of these external events include earthquakes, climatic changes, epidemics and hurricanes. Archaeologists were unable to substantiate any of these causes over the

next decades, and the debate continued through the 1960's.

### **Internal stresses resulting in decline**

In 1970, there was a seminar sponsored by the School of American research devoted solely to the discussion of the decline of the Mayan civilization. When scholars discussed the available evidence and reviewed the traditional external causes of collapse, they concluded that there was a series of internal stresses to the Mayan culture that cumulatively resulted in a rapid decline.

*Increase in population.* The population of the Mayan Indians rose rapidly during the Maya Late Classic period of the ninth century increasing demands for commodities.

*Limits in agricultural production.* The ability to raise crops reached a limit relative to the population that needed to be served.

*Ability to respond to subsistence emergencies.* There were limits as to how much reserve food could be stored for unpredictable, but periodic agricultural emergencies.

*Malnutrition and disease.* Malnutrition resulted from stresses in the agricultural system and a reduction in food supply. Malnutrition also predisposed the Mayan Indians to diseases. Reductions in labor output exacerbated the shortage of food.

*Competition between political units.* Such competition would have resulted from increased population densities and the shortages in food. There is little evidence that this took the form of warfare, but rather peaceful competition for wealth and status. Population centers would seek status by building lavish ceremonial displays that were wasteful of manpower and resources.

*Increased investment in the elite.* It is suspected that the elite grew faster than the commoners because of their privileged lifestyle. To maintain his privilege for an increasing percentage of the population, a growing burden on an already stressed lower class resulted.

*Stressed management capabilities.* As the population and economic system of the Maya continued to expand, management tasks, like tax collection, transmission and enforcement of management directives and record keeping, were stressed beyond capacity.

The theories of the internal stresses are based on the interrelationships between each theory, not each individual part. These interrelationships have been tied together by T. Patrick Cuthbert that he describes as the concept of "the overshoot mode." Cuthbert theorizes that no system can expand indefinitely because of the limits in resources that are needed to support the system. Thus, systems have two fates over time; reaching equilibrium where a system stabilizes and further change is minimized, or they outgrow their resources and decline. The latter fate is called "overshoot" and describes the seven factors offered to explain the decline of the Mayan civilization. It is thought that the Maya expanded too rapidly and used their resources recklessly in an environment that demanded careful conservation. The Maya outran their resource base, not only in terms of farming capability, but also organizational capabilities, such as the distribution of goods and the efficient use of manpower. At a certain point in the mid ninth century, the resource base was so badly overstrained that the cycle of decline could not be stopped. The ravaged land offered little potential for repopulation, and it continues as a remote, unpopulated wilderness to this day.

### **Enlightenment and the transfer of knowledge**

A year and a half ago, I missed the October 1995 Kit Kat meeting (my second as a new

member) because of another trip to the Yucatan peninsula. I was invited by the Mexicana Sociacion Farmaceutica (Mexican Pharmaceutical Association) to give a presentation at their meeting XXVII Congreso Nacional de Ciencias Farmaceuticas in Merida, Yucatan, Mexico; twenty four years after my first visit. Armed with the standard repertoire of knowledge about the region and theories about the Mayan culture, I was exposed to the current local thinking about their own fate in history. I would like to offer this, which to my knowledge is not in the textbooks, with the exception of a reference to the "peasant revolt" theory of J. Eric Thompson.

This local perspective was provided in my taxi ride from the hotel back to the Merida airport. The driver was a licensed tour guide. The Mexican government regulates tour guides to make some effort to control the accuracy and quality of information provided to tourists. Among other rational explanations of rituals that seemed barbaric and primitive for such a sophisticated culture, he had a very logical theory on the decline of the Maya. It was the enlightenment of the working class about the natural course of events that they formerly thought of as under the control of their leaders.

The driver explained that the Yucatan peninsula is a low lying area that is made of coral. It has a very shallow layer of fertile top soil that drains very quickly. Food



producing crops grow well during the rainy season that predictably begins in May and lasts until December. The winters are dry. Mayans worshiped the rain god and relied on their leaders to communicate through sacrifice to the gods so that rain would come and food could be grown.

As long as the working class believed that the course of events was the result of the leadership, not the natural course of events, there was order to the Mayan society. During the dry winter periods, the working class was directed to build the fabulous pyramids, observatories, apartments, ball courts and other architectural masterpieces that have impressed archaeologists and tourists for decades.

The primary impetus for the cultural sophistication of the Mayan Indians was the leadership elite. Much of their effort to understand their environment was through the study of the sky and the stars. Some of this produced interesting myth and some produced an impressive understanding of mathematics and astronomy. For example, the Mayan view of creation is based on their study of the milky way and the constellation Orion. They believed that the first act of the gods was to create the hearth at the center of the universe where the first fire of creation could be started. The three stars (Alnitak, Saiph and Rigel) that make up the belt of Orion are said to be the three

hearthstones. The leadership alone had the knowledge through their knowledge of mathematics and astronomy to develop calendars based on the stars, and could secretly predict when it would rain again and when prosperity would be restored.

At some point, the working class began to understand the predictability of the weather and the growing season. When this happened, they were much less likely to hold the leadership elite in such high esteem. They were much less likely to make sacrifices and work during the winter dry seasons on building projects. The loss of power led to a decrease in personal sacrifice for the common good and respect for the leadership. With the loss of social order, the culture collapsed. The decline was caused by the transfer of knowledge.

### **Implications for today**

We continue to see apocalyptic predictions for the end of our own civilization today; from either Hollywood, where we are entertained by notions that an asteroid, epidemic or alien culture will destroy the world, or by legitimate scientists that use computer simulations to evaluate the impact of environmental trends such as population growth or pollution on our planet. We see the rise and fall of cultures even during our own

time. It has not been that long since we saw the fall of the Berlin wall, which was a metaphorical image of the fall of the communist culture. Are we witnessing the rise of a contemporary Islamic culture that will challenge our "western" culture? Will our own western culture continue to expand, reach equilibrium, or decline?

A study of the rise and fall of one culture cannot provide answers to all of these questions. My thinking about the Mayan civilization has prompted me to consider a few issues I would like to offer and perhaps discuss in the time that follows.

1. I do not think that an external, catastrophic event has an imminent chance of affecting our world western culture. I am not even sure such an event affects individual cultures, like Rwanda, given our current communications capabilities and humanitarian efforts.
2. I do believe that interrelated internal causes can cause the decline of a culture. It could be argued that the same interrelated cause of the collapse of the Maya civilization; namely population, agricultural, political, and management problems played a role in the rapid collapse of the Soviet empire. I do not think that these factors will threaten Western cultures. The United States has ample agricultural

and land resources, and is not overpopulated. It possesses a good management and political infrastructure compared to other countries, although I am sure that this could be argued! I believe we are still in an expansion mode and might eventually achieve equilibrium, like many European countries. I think the collapse of our country is unlikely.

3. The most significant agent of change is enlightenment and the transfer of knowledge. While many of the previously discussed internal causes of change have been pervasive over the course of time, the impact of the availability of knowledge has not. Recent developments in technology have increased the scope and rate of transfer, and accessibility of knowledge. The information transfer via Internet has been the culmination of this evolution. There is virtually no restriction to the access to information by a person with access to a computer. We do not need to wait until 6:00 P.M. to find out what the weather will be like. We do not need to go to three different car dealers to find what we want and to find the best price. We do not need to go to a doctor to decide what to do when we get sick. We do not need to rely on politicians to hear about what is happening in Congress. Will this new age of enlightenment and the transfer of knowledge to a wider audience, regardless of credential or political, professional

or organizational position have the kinds of impact that it had on the Mayan culture? I do not think it will result in the collapse of our culture, but it is already most certainly having an impact. People do not need others with privileged access to information to obtain that information. People with privileged access have defined socially sanctioned jobs like politicians, professionals or vice presidents in organizations. They have been paid because they have access to information that others do not have. In the future, people may still be needed in these positions, but only if they help others understand what to do with the information, not just provide it. People will rely on a politician, physician or manager because they have an unusual capacity to understand what to do given a set of circumstances, not just because they know the circumstances. Ready access to information does not favor the status quo. It does favor a democratic culture that is agile and responsive to change. Fortunately, I think, we are the latter.

## **Summary**

A widely discounted aphorism is that history repeats itself. After listening to this essay, I would be interested in hearing if you agree or not. The study of history should be of

interest, if only to explain the mysteries and understand the people of times gone by. Beyond that, however, I believe we can learn from history. By thinking about how others have reacted to a given set of circumstances, we gain important insights into the possible impact of similar circumstances on us. I said possible impact; the danger is in trying to use the past to predict the future. I hope you have enjoyed hearing about an interesting place and period in the history of this world, and that it has sparked a curiosity about how circumstances can control the destiny of many. I hope there will also be good discussion.

Thank you.

## REFERENCES

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