

Collapse: Mystery of the Maya Civilization#1

_____ walk through the _____ jungles of the Yucatan _____ in Mexico, you will _____ magnificent stone _____ and pyramids hidden by trees. Maya civilization was one of the most _____ societies _____ world _____ incredible _____ and architecture. From the 3rd Century _____, the Maya population increased _____, and _____ the number of monuments and buildings. _____ in the 8th Century and then _____ collapsed in the 9th Century. Maya kings _____ beautiful hieroglyphs on stones that praise their own prosperity and glory, but those _____ records _____ exist after the 9th Century. The _____ between their magnificence and the silence fascinates all of us. What were the last days of the Maya like? How did the civilization collapse?

When you walk through the remote jungles of the Yucatan Peninsula in Mexico, you will come across magnificent stone temples and pyramids hidden by trees. Maya civilization was one of the most advanced societies in the ancient world with its incredible development in art and architecture. From the 3rd Century onwards, the Maya population increased exponentially, and so did the number of monuments and buildings. It reached its zenith in the 8th Century and then suddenly collapsed in the 9th Century. Maya kings had left beautiful hieroglyphs on stones that praise their own prosperity and glory, but those written records ceased to exist after the 9th Century. The contrast between their magnificence and the silence fascinates all of us. What were the last days of the Maya like? How did the civilization collapse?

magnificent	壮麗な、見事な	prosperity	繁栄
architecture	建築	cease	止む、終わる
exponentially	指数関数的な、加速度的な	fascinate	魅了する、惹きつける
zenith	頂点、絶頂	collapse	崩壊する
hieroglyph	象形文字		

Collapse: Mystery of the Maya Civilization#2

The last days of the Maya civilization are _____ by two phenomena: _____ warfare and severe drought. Maya kings _____ of warfare on stone monuments to _____ their conquests and glory. _____ these inscriptions _____ that wars became more intense and _____ towards the time of the collapse. Pieces of other archeological evidence, such as _____, also support this _____.

Based on _____ of lake sediments, climate researchers reconstructed the climate cycles that the Maya people experienced. The Maya area _____ drought periods at _____ 208 years, probably caused by small variations in the sun's radiation. Researchers conclude that the Maya area _____ climate after 250 BC, _____ conditions for agriculture. However, around A.D. 760, the worst drought in the last 7,000 years began, _____ the year A.D. 800. Climate conditions have _____ the rise and fall of the Maya, so there must be some connection between them.

However, researchers _____ jump to the simple and _____ conclusion that their collapse was caused by warfare and drought. They could be _____ the reasons, but those _____ aren't enough to fully explain their _____. Warfare in particular may be a _____ of other essential factors of collapse, rather than the cause.

The last days of the Maya civilization are characterized by two phenomena: intense warfare and severe drought. Maya kings left vivid depictions of warfare on stone monuments to boast their conquests and glory. Deciphering these inscriptions unveiled that wars became more intense and frequent towards the time of the collapse. Pieces of other archeological evidence, such as excavated fortresses, also support this theory. Based on radiocarbon dating of lake sediments, climate researchers reconstructed the climate cycles that the Maya people experienced. The Maya area went through drought periods at intervals of about 208 years, probably caused by small variations in the sun's radiation. Researchers conclude that the Maya area enjoyed wetter climate after 250 BC, suitable conditions for agriculture. However, around A.D. 760, the worst drought in the last 7,000 years began, peaking around the year A.D. 800. Climate conditions have corresponded with the rise and fall of the Maya, so there must be some connection between them. However, researchers warn us not to jump to the simple and naive conclusion that their collapse was caused by warfare and drought. They could be part of the reasons, but those alone aren't enough to fully explain their downfall. Warfare in particular may be a symptom of other essential factors of collapse, rather than the cause.

phenomenon	現象	unveil	明らかにする
drought	旱魃	fortress	要塞
vivid	鮮明な	radiocarbon dating	放射性炭素年代測定法
depiction	描写、叙述	sediment	沈殿物、堆積物
boast	自慢する、誇る	reconstruct	再現する、再構築する
conquest	征服	correspond	一致する、対応する
decipher	解読する	downfall	零落、没落
inscription	碑文		

Collapse: Mystery of the Maya Civilization#3

Just as Japanese culture has been _____ rice farming, the prosperity of the Maya civilization has been _____ by corn. Corn _____ in a supermarket today is _____ ancestors that were growing _____ in Meso-America thousands of years ago. _____ corn today _____ hundreds of _____ per ear, the original corn species produced only around 10. Mayan people had improved the breed of corn by selectively cultivating individuals convenient _____ farming. Around 1000 B.C., corn _____ a form that we are familiar with today, _____ its position as a _____ food for Mayan people. Along with the artificial improvement, the Maya civilization also _____ farming practices to increase production and cooking methods to improve _____ value. The Maya's population explosion from A.D. 250 onwards was supported by these agricultural innovations. From the 7th Century, however, the health of the Maya citizens _____. Signs of disease and malnutrition _____ in many of the _____ at archaeological sites _____ this _____. They were victims of their own success. Their agricultural success _____ the population increase and the cultural _____, resulting in massive consumption of resources. _____ there was a _____ between available resources and human demands _____. Around the 9th Century, many of the Mayan cities became _____ to sustain themselves and fighting became _____ for limited resources.

Just as Japanese culture has been dependent on rice farming, the prosperity of the Maya civilization has been sustained by corn. Corn we can find in a supermarket today is entirely different from its ancestors that were growing wild in Meso-America thousands of years ago. While corn today bears hundreds of kernels per ear, the original corn species produced only around 10. Mayan people had improved the breed of corn by selectively cultivating individuals convenient for farming. Around 1000 B.C., corn evolved into a form that we are familiar with today, establishing its position as a staple food for Mayan people. Along with the artificial improvement, the Maya civilization also figured out efficient farming practices to increase production and cooking methods to improve nutritional value. The Maya's population explosion from A.D. 250 onwards was supported by these agricultural innovations. From the 7th Century, however, the health of the Maya citizens suddenly deteriorated. Signs of disease and malnutrition appear in many of the skeletal remains found at archaeological sites dated this period. They were victims of their own success. Their agricultural success led to the population increase and the cultural advancement, resulting in massive consumption of resources. Eventually there was a crash between available resources and human demands on them. Around the 9th Century, many of the Mayan cities became unable to sustain themselves and fighting became fierce for limited resources.

sustain	維持する、支える	malnutrition	栄養失調
kernel	穀粒	skeletal	骨の
staple food	主食	crash	衝突
deteriorate	悪化する		

Collapse: Mystery of the Maya Civilization#4

One of the important lessons from the Mayans' downfall is that _____ collapse is a complex phenomenon with various factors. _____ there were some _____ causes, their collapse cannot be _____ a _____ cause. _____ the most significant factor is the mismatch between available resources and resource consumption. As the population _____ and cultural _____, the Maya began to _____ more resources _____ the environment could provide. _____, they cut forests down to _____ farmlands and to _____ and firewood. Deforestation _____ massive soil erosion and agricultural production drastically decreased, _____ the _____ of resources. Warfare became even more _____ over limited resources. Increased _____ created a _____ cycle _____ war required wasting resources which further _____ fighting for _____. The _____ the 8th century delivered the final _____ to the society already weakened by multiple factors. This was not the first climate change the Maya had ever _____. However, they no longer had any _____ to _____ dry period because they had already been _____ by overpopulation, environmental destruction, and warfare. Some researchers _____ other factors, such as _____ and _____ trade activities with neighboring societies. The Maya collapse was the result of complex interaction of _____ and can never be explained by any single factor. The _____ us is to exercise caution in not immediately embracing simple and easy explanations.

One of the important lessons from the Mayans' downfall is that societal collapse is a complex phenomenon with various factors. Though there were some major causes, their collapse cannot be attributed to a single exclusive cause. Probably the most significant factor is the mismatch between available resources and resource consumption. As the population grew and cultural standards improved, the Maya began to consume more resources than the environment could provide. In addition, they cut forests down to expand farmlands and to gain timber and firewood. Deforestation led to massive soil erosion and agricultural production drastically decreased, further worsening the scarcity of resources. Warfare became even more intense over limited resources. Increased violence created a vicious cycle where war required wasting resources which further intensified fighting for less supply. The drought around the 8th century delivered the final blow to the society already weakened by multiple factors. This was not the first climate change the Maya had ever lived through. However, they no longer had any room to withstand this dry period because they had already been exhausted by overpopulation, environmental destruction, and warfare. Some researchers mention other factors, such as external invasions and decreased trade activities with neighboring societies. The Maya collapse was the result of complex interaction of multiple variables and can never be explained by any single factor. The intellectual virtue required of us is to exercise caution in not immediately embracing simple and easy explanations.

attribute	原因を帰する	withstand	耐える、持ちこたえる
exclusive	独占的な、排他的な	exhaust	疲弊させる
soil erosion	土壌流出	external	外部の、外部からの
scarcity	不足、欠乏	variable	変数、不確定要素
vicious cycle	悪循環	virtue	善、美德

Collapse: Mystery of the Maya Civilization#5

The last question is about the leadership of the Maya kings. What _____ thinking as the society was _____ down? Why did the kings _____ these _____ undermining their society? Maya kings acted _____ collapse rather than to _____ partly because their status depended on their putting up bigger monuments and winning against rival states. They were _____ a competitive spiral, such that any king who put up smaller monuments to _____ the forests _____. Likewise, leaders of modern for-profit companies are usually evaluated based on _____ - _____ indicators. Their performance is often _____ by _____ and _____ during their term. Even if a CEO personally holds a strong interest in solving _____ - _____ issues of society, he or she would face a significant _____ about whether to _____ their own _____ success for the _____ of society. Furthermore, leaders need to have a particular courage to _____ a potential problem like environmental issues. They have to expose themselves to criticism and _____ for acting _____ becomes obvious to everyone that some action is necessary. However, such criticism might be _____. Leaders of the collapsed societies in history couldn't _____ their own interests in the long _____. They _____ themselves the _____ of being the last people to _____.

The last question is about the leadership of the Maya kings. What could they have been thinking as the society was winding down? Why did the kings fail to solve these seemingly obvious problems undermining their society? Maya kings acted so as to accelerate collapse rather than to prevent it partly because their status depended on their putting up bigger monuments and winning against rival states. They were trapped in a competitive spiral, such that any king who put up smaller monuments to spare the forests would have been scorned and lost power. Likewise, leaders of modern for-profit companies are usually evaluated based on short-term indicators. Their performance is often measured by growth rates and profit margins during their term. Even if a CEO personally holds a strong interest in solving long-term issues of society, he or she would face a significant dilemma about whether to risk their own career success for the greater good of society. Furthermore, leaders need to have a particular courage to work on a potential problem like environmental issues. They have to expose themselves to criticism and ridicule for acting before it becomes obvious to everyone that some action is necessary. However, such criticism might be worth enduring. Leaders of the collapsed societies in history couldn't secure their own interests in the long run. They merely bought themselves the privilege of being the last people to starve to death.

competitive	競争の、競争的な	expose	晒す
scorn	蔑む	ridicule	あざけり、嘲笑
indicator	指標、尺度	secure	確保する、証する
profit margin	利益率、利ざや	privilege	特権、恩恵