

## Some Thoughts on Stature and Dimorphism Amongst the Yucatec Maya

by David Bolles

“The Maya are Naturally Short”

I grew up in a home which was infused with memories of my father’s stint working for the Carnegie Institute under Sylvanus Morley during the early 1930’s. Although my father was an architect, in the latter 1920’s and early 1930’s he had the good fortune to be asked by various groups doing archaeology, from Meso-America (the Mayan area) to France (Cluny) and Persia (Persepolis), to join their teams, principally as a civil engineer to help with mapping the sites. He was proud of the work he did, and would often talk about his experiences during dinner.

His work in Yucatan, especially on Las Monjas at Chi Cheen Itza, must have been the most rewarding of these various experiences, for we would hear more about Sylvanus Morley, Karl Ruppert, Russell Smith, H.E.D. Pollock and Gus Strömshvik, all Carnegie co-workers, than about any other group of archaeologists. But amongst these there was also frequent talk of Martin Dzib and my father’s foreman, Bernardo Tun, both of Piste. Bernie Tun was a frequent subject included in photographs of the work at Las Monjas, often used to hold the meter stick and give scale to the structure in the background.<sup>1</sup>



Bernardo Tun holding a meter stick in front of La Iglesia

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<sup>1</sup> See for example pp. 153, 157 and 162 of my father’s book *Las Monjas*.

From photos of my father, who himself was of short stature, about 5'6", with his Mayan co-workers it was clear that the Mayan people he worked with were fairly short. Sylvanus Morley in one of his earlier editions of "*The Ancient Maya*"<sup>2</sup> gave a physical description of the Maya which closely matched what was so evident in the photos:

"The Yucatan Maya are fairly short in stature and relatively thick-bodied. They have rather long arms and small hands and feet. The average height of the men is 5 feet 1 inch and of the women, 4 feet 8 inches."<sup>3</sup>

While not so stated in Morley's book, we as children were led to believe that the Maya were a naturally short race of people. When I first went to Yucatan, I carried this belief with me subconsciously, so even when presented with facts which showed to the contrary I was not ready to understand the significance of what I was seeing.



John S. Bolles with a Mayan co-worker at Yax Chilán, early 1930's

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<sup>2</sup> Third Edition, 1963.

<sup>3</sup> "*The Ancient Maya*", page 23.

## Evidence to the Contrary

In the late 1950's various of our family members began to make visits to Yucatan. This, in part, was prompted by the fact that my father's report on Las Monjas was never published and was languishing in the Carnegie archives housed at the Peabody Museum at Harvard. One of the frequent stopping places was at E. Wyllys Andrews IV's house, then just off El Parque de las Americas. The object in part was apparently to see if Dr. Andrews could be of any help in getting the report published through Tulane's Meso-American Research Institute.

In 1961 I was set to work at pulling all of the pieces of the report together so that copies could be made and distributed to people who might have some influence with publishers. By the fall of 1961 the copies were made and I was sent with one copy to deliver it to Dr. Andrews.

It just happened that when I arrived in Mérida the new excavation season had begun and Dr. Andrews, now in his new house, did not have time to go through the report to make his recommendation. However, he suggested that if I would like I could join in on the excavations and when he finally had time he would write-up his report and give it to me. This proposition I gladly accepted, and began to make the daily trips out to the Mirador Group (structures 601-605) near the town of Kom Cheen. After a month of making the 1 1/2 hour trip each way from Mérida to the Mirador Group it occurred to me to ask the Mayan workers, who appeared quite fresh from their walk from Kom Cheen, how long it took them to get to work. Answer: 15 minutes! So I got myself invited to stay in Kom Cheen which the workers gladly set up for me.

While the Mayan workers met my expectations in their general stature, once I was installed at the school in Kom Cheen (that is where they decided I should sleep) I began to get acquainted with the other town's people. There was one family which appeared to be particularly well off and both the father and the older boys worked at jobs in Mérida, no small task in those days as the road from Kom Cheen to the main road to Mérida was not much more than a cleared pathway over which the bus would crawl at about walking speed. The thing about this family was that the boys were all quite sizeable, at about my height (5'9"). Despite this, it did not occur to me to question the thesis that the Maya were naturally short.

### Another Clue about Stature, this time Pre-Columbian

At around Christmas another excavation started up, this time at Structure 500, a formative period building. For a while I was moved with a number of Kom Cheen workers to this site. Unfortunately, the archeologist working on this site became ill and the notes to the excavation were lost.<sup>4</sup> However, the one thing I do remember about this site is that the workers came across a

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<sup>4</sup> See page 56 of "*Excavations at Dzibilchaltun*", published by MARI in 1980.

burial in which one of the femurs was intact. There was great excitement among the workers at this find, since they had never seen a femur of this length. After “trying it on” on a number of people, me included, they went to the tallest archeologist, who was about 6’2”, and finally found a match. It should be remembered that the Maya are quite used to exhuming their family members, due to the custom of taking the bones out of the grave after two years in order to make room for future burials, this because of the limited burial space in Yucatecan cemeteries. Thus, they are well aware what length the various bones should be.<sup>5</sup>

A Quote from Landa’s *Relaciones de las Cosas de Yucatán* indicating that in the 1500’s the Maya were taller than they are today.

Landa, in his *Relaciones de las Cosas de Yucatán*, has this to say about the Mayan women: “Que las indias de Yucatán son en general de mejor disposición que las españolas y más grandes y bien hechas, que no son de tantos riñones como las negras.” (“The Indian women of Yucatan are generally better looking than Spanish women and larger and well made, for they do not have such large loins as the black women.” Tozzer, 1941.) Given that recent research indicates that the average height of European women in the 1500’s was about 5’2”, it would appear that the height of Mayan women has decreased between the time Landa made his observation and the time when Morley carried out his studies.

#### A Radical Change in Stature in Kom Cheen

My experience in Kom Cheen set me on the path of learning more about the Mayan language. After getting married to Alejandra, who was born in Ticul, we bought a lot in Kom Cheen and spent our winters there. The timing was quite coincidental with radical changes for Kom Cheen. As mentioned earlier, there was limited communication with Mérida due to the road. By 1970 this had been fixed and now one could reach downtown Mérida in a matter of 1/2 an hour. Electricity was also brought into town as well as a government clinic.

The introduction of the paved road brought along with it a small fleet of taxis which ran back and forth between Kom Cheen and Yax Che, the point

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<sup>5</sup> Cogolludo (1971:244-245) records a similar circumstance which happened in 1647 in which a very tall body was found buried near the town of Becal: “Hubo indios en tiempos pasados, de mayores cuerpos que los <245> ordinarios, y que se hallaron en sepulcros de esta tierra, de estatura como gigantea. El año de mil y seiscientos y cuarenta, y siete, junto al pueblo de Vecál (**Becal**) en el camino real de Campeche, mandando el padre Fr. Juan de Carrion (hoy comisario provincial para el capítulo general próximo) hacer una ramada para un recibimiento, cabando para poner los palos con que se hace, dieron con la barreta en una sepultura muy grande, hecha de lajas una sobre otra, sin curiosidad alguna. Los indios huyeron de ella, y fueron á llamar al padre, que llegando les mandó sacasen lo que en ella había. Los indios no quisieron, diciendo les era vedado tocar á cosa alguna de aquellas, con que el religioso, ayudándole un muchachuelo, sacó unos huesos de hombre de estatura formidable.”

where the town's road meets the main highway between Mérida and Progreso. This is where one could catch a bus at fairly frequent intervals to go to either Mérida or Progreso. It was at this time that we met another unusually tall member of the town, José, who was in his late teens at the time. He had managed to buy a car to use as a taxi. José is about 6'2". Other than that, there was nothing to distinguish him from other people in Kom Cheen. However, as I understand the situation, his mother was a "**kech**", meaning a mistress for some person from Mérida. Apparently this man gave José's mother enough money so that they lived better than the average family in town. There were two results from this: José grew to his full potential in height and he was able to afford a car, something almost unimaginable for most of the families in Kom Cheen. Again, José's physical stature should have been something which should have alerted me to the fact that the Maya of Kom Cheen are short in stature not because of genetics but because of being malnourished.

### Change comes to Kom Cheen

In about 1980 the social structure of the town underwent a huge change. The town's henequen plantations were shut down, thus forcing the male population to find new ways to earn their living. At the same time the women began to get jobs at the maquiladoras set up in the nearby town of Dzit Ya, mainly as seamstresses.

These facts meant that now the women were wage earners, and their spending priorities were quite different from that of the men. The men would drink away a large part of their pay on Saturday and Sunday. The women however were much more concerned about having food for their children and made sure to budget their money so that the family had adequate food throughout the week. One of the side effects of this transition was that whereas before this happened meat was only available of weekends, now meat is available throughout the week, and there are more places selling meat.<sup>6</sup>

The effect of a better-nourished population is now making itself very noticeable. There are now many younger people who are quite sizeable, and I would say that the height of 5'9" is not unusual, even among the girls. As an example, just before the Mexican Olympics of 1968 the government set up basketball courts throughout the country, and Kom Cheen was one of the towns to have one built in the **kiuic** or downtown square. Before this transformation in height the game of basketball seemed like a real challenge for the kids, but now things are more in proportion.

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<sup>6</sup> Another side effect is now people from the north of Mérida and the surrounding area come to Kom Cheen to buy freshly killed meat rather than buy packaged meat in the supermarkets which have sprung up in the northern outskirts of Mérida. This is of course a boost to the local economy.

## The Tale of Three Generations of a Guatemalan Family

During Easter Week of 2011 my wife and I were in Antigua, Guatemala. We were watching one of the processions and a Guatemalan family which was speaking a mixture of Spanish and English came to stand beside us. One of the men of the middle generation, a fellow of about 50, began to talk with us and in the course of the conversation informed us that his parents had moved to the United States when he was 4 years old. Standing with him to watch the procession was his mother's sister who was in her late 70's, a couple of cousins of about his age, and his daughter and nephew, both of whom were born and brought up in United States. The man was about 5'7", somewhat taller than his cousins who were born in and lived in Guatemala. His aunt, who the man said was the same height as his mother, was a little shorter than a typical lady from the Chimaltenango region, about 4'4". His daughter was about my height (5'9") and the nephew was about 6'. At one point in our conversation we talked a bit about this height variation in his family and we both came to the same conclusion: nutrition was the driving factor for the variation in height in his family.

### Dimorphism

As mentioned in the report about the average height as recorded by Morley, there was a noticeable amount of dimorphism between males and females in the 1930's. This was also true when I first went to Yucatan, with the men being noticeably taller than the women. While in Kom Cheen there is a still certain amount of dimorphism between the height of boys versus girls, it appears to me that the amount of difference is now quite a bit less. There may be various factors involved here. The girls are now much more active and compete with the boys in games such as the late afternoon basketball games. How this might contribute to the diminution of dimorphism is something open to study, but perhaps it might have to do with an increase appetite. Furthermore, perhaps the difference in height is not as evident with the taller stature which means proportionally the difference is less.

What struck both me and my wife about the stature of males and females in Mayan communities in Guatemala was that there was almost no observable dimorphism. In fact, at times it seemed that the females were actually somewhat taller than the men. However, this may be because of several contributing factors, amongst them being that often working-aged males were away working either in the agricultural fields of Guatemala or as is now more often the case they have gone off to the United States to work, thus draining these towns of many males.

### Further Study Needed

Of course, the above is all through casual observation. I should have thought that a very interesting project could be set up which would take actual measurements to see what is really happening. Morley and other sources talk about the typical caloric intake of the Maya before this transition took place. This could be compared to what is in the diet now, and that could be compared against the stature of the older people who grew up prior to 1980 versus the younger ones who are growing up with a richer diet.