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THE PELLET-BOW AMONG SOUTH AMERICAN INDIANS

by

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The only references on South American pellet-bows up to 1910, when Antze's monograph on these weapons was published, are scattered through the books in which celebrated travelers gave accounts of the curiosities and customs of the countries they visited; and, more recently, with few exceptions, in the ethnographical works of the last decades of the XIXth century and the beginning of the present one.

Antze did not limit his studies to the South American pellet-bow. He gave us a general survey of the distribution of this weapon, which also includes a large Asiatic area. Although he did not link the South American pellet-bow to an Asiatic origin, he is probably responsible for the present stand of ethnologists in relation to this question.

After Antze, Nordenskiöld in his comparative ethnographical studies took up the question of the origin of the South American pellet-bow. Without doubting its Asiatic origin, Nordenskiöld was led at first to believe the introduction of the pellet-bow in America as pre-Columbian, but afterwards decided it must have been introduced by Portuguese sailors from India, and therefore a post-Columbian weapon. E. von Rosen criticised Nordenskiöld's conclusions. Unfortunately I am not able to judge the merits of this criticism, for lack of von Rosen's article, beyond what is commented in Nordenskiöld's work. However, Nordenskiöld's opinion seems to have

been rather well accepted (see note on pellet bows in *Handbook*). My own opinion is that the post-Columbian introduction of the pellet-bow in America can well be accepted, for, as has been argued, there is no evidence of its existence in pre-Columbian times, and no undisputable reference in the writings of the 16th and 17th century authors. As to its introduction from India through Portuguese sailors, I would not be so sure.

In the first place, one should not discard the possibility of the pellet-bow having its origin in the European crossbows, as suggested by von Rosen. Although Nordenskiöld admits the similarity of the pellet rest on both weapons, and finds it noteworthy, he objects in the following manner: "Still, I deem it unlikely that Indians should have hit on the use of pellet-bows because they had seen Portuguese crossbows — especially as I am not aware that the Portuguese in S. America used bullets for their crossbows. In any case the pellet-bow in S. America would be a post-Columbian culture-element."

Nordenskiöld seems to forget that the Portuguese could equally have been inspired by the crossbow, in which case the Indians could have received the weapon from them without the necessity of any inspiration. There is no evidence of the use of the pellet crossbow in South America, but the Portuguese were certainly familiar with it. Galvão, Cruz and Montês give us two very nice illustrations of such weapons, and their similarity with the pellet-bow goes far beyond the cradle or pellet rest. As a matter of fact these crossbows look very much like present-day pellet-bows mounted on a stock. Also it should be remembered that the name "bodoque", for pellet, although of Arabian extraction is found in old Portuguese dictionaries, and by the way, in Restivo with its corresponding Guarani equivalent. Curiously, the name "bodoque", in Brazil, has been transferred to the bow, and a new designation has been given to the pellets, which have been termed "pelotes" or "pelotas". In England, the bullet cross-bow was also known, and used for hunting. One can see a very good representation of

it in Blaine's "Encyclopaedia of Rural Sports". And still more interesting is the fact that clay pellets were used, as well as the name pellet-bow for the cross-bow used with such pellets. Please notice the following transcription: "The cross-bow is not only known as the *bullet-bow*, in opposition to its primitive intention of discharging arrows and quarrels, but is by many known as the *pellet-bow*, from being charged not with iron or with leaden or iron bullets, but with *pellets* made of adhesive clay, which, being incorporated with a moderate proportion of oil, and dried very slowly, answer the purpose well."

I have also found a very interesting reference in Burton's "Arabian Nights", in the story of "The Porter and the Three Ladies of Baghdad". In the first Kalandar's tale the following passage is very illuminating: "Now between me and him there was an olden grudge, the cause of which was this. I was fond of shooting with the stone-bow, and it befel one day, as I was standing on the terrace-roof of the palace, that a bird lighted on the top of the Wazir's house when he happened to be there. I shot at the bird and missed the mark; but I hit the Wazir's eye and knocked it out as fate and fortune decreed." In a foot-note Burton explains the stone-bow as "Arab. 'Kaus al-Banduk;' the 'pellet-bow' of modern India; with two strings joined by a bit of cloth which supports a ball of dry clay or stone. It is chiefly used for birding." Now, this is one of the first tales of the "Arabian Nights", and supposedly contemporaneous with Hárún al-Rashíd. Note that the Moors invaded the Iberic Peninsula a few years before Hárún al-Rashíd was born, and were in contact with its inhabitants for nearly 800 years, up to the fall of Granada. If they were familiar with the pellet-bow, it seems reasonable that both Portuguese and Spaniards should have learnt its use through them long before Portugal had any contact with India. Burton's foot-note also seems to imply that the pellet-bow is modern in India. This is one side of a research that should be made. Is there not a probability of the pellet-bow

having been introduced into India through Mohamedan conquerors? I have found no evidence of the existence of the pellet-bow in Portugal or Spain, but many material culture elements have been only recently discovered as remnants in the Peninsula.

Another argument against the introduction of the pellet-bow through Portuguese sailors from India, is that the earliest references to this weapon come from Spanish American sources: Azara (1781-1801) for the Guarani, Dobrizhoffer (1784) for the Abipones. This of course is not very significant, because we find soon after, in the first quarter of the XIXth century quite a number of references for the coast of Brazil, and some of the sources point to a well established use of the weapon, which would indicate an earlier period of introduction. Perhaps this is also one of the material culture elements, like so many others, disseminated by the Paulista bandeirantes. Its geographical distribution, if one links ethnographical data and data on its occurrence among rural and sertanejo populations, is very striking, and rather coincident with other Paulista material culture evidence. In any case, in my opinion, the data collected up to now, seems hardly sufficient to justify the assumption that the South American pellet-bow was introduced from India.

Stress has been laid on the thickened grip of pellet-bows as an argument of its Indian origin. Nordenskiöld (1920, p. 28-29) says that von Rosen is "quite correct in the statement that the thick part in the middle of the bow is not for strengthening but is merely for a better grip. This holds concerning both Asiatic pellet-bows and some of the American. This contrivance is practical but not indispensable. It is certainly not little toy-bows alone that have not got it. It is quite wanting on the pellet-bows of the Choroti, Ashluslay, Tapiete, Mataco and Yuracáre. Presuming that the pellet-bow in S. America is of Asiatic origin, it is evident that the Indians who first learnt the use of the pellet-bow (p. 29) from the Portuguese have kept its Asiatic shape, while the tribes that received it later have made pellet-bows more like their usual bows."

These several statements do not seem to me so evident. To begin with the thickened part of the bow, I would not grant that von Rosen is so correct in his statement. No studies have been made on the mechanism of the pellet-bow. Besides, the better grip it gives to the bow, this thickened part could serve in many cases as a fulcrum for the lower and the upper flat extremities in the bending of the bow. A completely flat stave would perhaps bend differently, especially in the case of a bamboo stave, which seems to be common in some Asiatic pellet-bows. But one thing that is certain about this thickened grip is that it is functional. Its purpose is to allow the wrist movement that deflects the clay pellet from the vertical line of the bow when shooting. Antze was only partly successful in trying to explain this mechanism. He allows that there must be a torsion to avoid the pellet hitting the bow, but he seems to think this contrivance is obtained in the building of the bow, or through a deviation to the cord, so as to allow a sufficient angle between the cord and the bow. Such a contrivance as this last one we find, according to Baldus, among the Chamacoco, who lower the horizontal wooden separators of the double cord, when shooting the pellets, to an oblique position, so as to not hit the stave. A confirmation of this fact would be very useful, for it seems to me that this oblique position would be rather unstable. In other aspects the Chamacoco pellet-bow is identical to neo-Brazilian ones. A Chamacoco cord, which has not seen use, and without its respective bow, which belongs to the ethnographic collections of the *Museu Paulista*, has the notched cross pieces inserted on the double cords through their double strand strings. An oblique position of these pieces would not seem to be effective. But this does not disprove Baldus' observation. It only shows the existence of a variant. The other cross pieces might be inserted in such a way as to allow the oblique disposition.

Another objection to Nordenskiöld's statement is that the most striking similarity between South American and Asiatic pellet-bows is found, contrary to his reasoning,

among the Ashluslay. A comparison of the pellet-bow under figure 8, pp. 50 and 51 of his 1918 publication, with the one figured by Antze, figure 8, p. 89, from Siam, is quite puzzling. The single upper cross-piece, the rather wide distance between the two cords, the woven cradle, or pellet-rest, also quite wide, are very similar. As to differences, the attachment of the cord in the Ashluslay bow follows an Indian pattern, while the Siam bow has the extremities notched for the cord. The Ashluslay stave is oval or round, without a thickened grip, but this allows the wrist torsion when shooting; the Siam bow has a counterfeit grip, attached to the bamboo stave. It would seem that a flat grip would be awkward for such a wrist torsion, which would explain the attached piece. It would seem as well that the species of bamboo used would be too thick when ripe to allow leaving a round middle section on the stave. Compare also Antze's figure 3, on page 85, representing a bow from Travancore. In this bow the only difference is that the cross-piece is in the inferior end of the cord. Judging by the figures shown by Antze, the adapted pieces to thicken the grip are in a very close relation to bamboo staves.

In a general way, with the exceptions pointed out by Nordenskiöld, South American pellet-bows are very uniform in type, with only minor differences in construction. Quite a few references to them are, however, misleading, incorrect, or too summary. Beginning with Azara, it is evident that his statement is based on a left-handed thrower. Otherwise, his description of the pellet-bow and its use is one of the best, including the correct observation he makes on the practice required to be able to incline the bow when shooting.

A curious example of a left-handed thrower in Asia is documented in volume 46 of the *Zeitschrift für Ethnologie*. Among the reproductions of paintings by Ellen Kaltenbach, figure 4, on page 143, represents a lad in the Province of Karategin (Pamir) in the act of using a pellet-bow, left-handed.

Max Schmidt gives us a very detailed and illustrated description of the Guató pellet-bow, but describes it up-

-side-down. His inverted figure has been reproduced in one to the latest editions of the *Encyclopaedia Britannica*. The *Handbook of South American Indians* shows the same bow in an horizontal position, which saves the situation.

THE PELLET-BOW AS A HUNTING WEAPON

Most recent writers, including Nordenskiöld have treated the pellet-bow as a toy-weapon. This author also states that "The pellet-bow is nowhere in S. America of any great importance as a hunting weapon."

However, Azara states that it is very efficient up to forty passes, and many birds are killed with it. He also states that at thirty passes it could inflict serious damage to a leg. He further states, with perhaps some exaggeration, that at that distance a pellet could break a leg.

Wied, although he says that it is used by boys, in S. Pedro, mentions the fact that in the Rio Doce region even grown up persons use it against the Botocudos, when they lack fire arms.

Langsdorff also refers to the efficiency of the Santa Catharina Neo-Brazilians in the use of the pellet-bow, and gives us information he gathered on its use by adult hunters who brought home large quantities of heavy fowl.

In the ethnographic collections of the *Museu Paulista* two pellet-bows collected from the Guarani of Itanhaen in the first decade of the present century are certainly adult weapons.

One of the bows is 156,2 cm. long, and weighs 422 gr. The force necessary to stretch the cord 58 cm. from the bow is equivalent to 6 k 958, nearly 7 kilos. At rest, the distance between cord and bow is 7,7 cm..

The second bow is shorter, but wider. An interesting fact about this bow is that it has a surplus of bow-string wound around the lower end, in true Indian style. Judging by the resistance of this bow to bending, a greater force would have to be used to stretch it to the same distance obtained with the longer low.

As a matter of fact, most of the pellet-bows belonging to the *Museu Paulista* are adult weapons. One of them (RG. 2982) belongs to the old museum collections, and was purchased from a Sr. Antonio Xavier. It belongs to the so-called "Coroados Paulistas" (Kaingang), and was collected at Pontal on the rio Paraná, between the rivers Suciuriú and Ivinhema. A note in the registry informs us that these "Coroados" only used the pellet-bow and the spear. This bow is 179,3 cm. long, and fashioned from a *Luetzelburgia* sp. stave. The attachment of the cord is different from all other South American pellet-bows I have seen. The description of this, as well as other pellet-bows from the Museum, will be published in an extended article, in the *Revista do Museu Paulista*, as well as information relating to the *sertanejo* pellet-bows. I shall only mention here that in the Juquiá region, in the State of São Paulo, thirty years back the pellet-bow was still important in local economy as a hunting weapon, for it saved gun powder and shot, which were reserved for the heavier game. This data is all the more valuable because it has been collected since that time, up to now in an area which is very familiar to the author.

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