

## THE SCIENTIFIC DEVELOPMENT OF TAXIDERMY AND ITS EFFECT UPON MUSEUMS.

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My recollections and observations of the Art of Taxidermy, date back to about the year 1870. Born of a family of Taxidermists of the "old school," nearly half a century ago, at London, England, I have had the opportunity ever since I was a young boy, with the exception of six years spent in the British army, of working at Taxidermy, commencing with the crudest methods, and passing through the various stages, up to the present time. During my youngest days, the following method was employed:

Taking the skin of a mammal, which had been roughly prepared with salt and alum, iron rods were placed in the legs. The legs were then stuffed with shavings, straw, or almost anything that was at hand. A thick board was then placed in the body to which the leg irons were stapled or bolted; also a rod to support the head. The mammal was suspended feet upwards to a beam, and stuffed full of straw and shavings, the skin being sewn up when no more could possibly be crowded into it. The specimen was then stood on its feet, and pounded into shape with a club.

Next came the straw model, which was made by bolting the leg and neck irons to a beam, and using either the natural or artificial leg bones; straw was then bound to the beam and to the leg bones, and sewn through and through, using a long sail needle and twine. Modeling clay was spread over the straw form. This was a decided improvement, and it had a good ef-

fect while the skin was still wet; but in drying, the skin would shrink, and pull away from the clay form, there being no means of fastening the skin to it, but still this was a step in the right direction, and it served to stimulate taxidermists to further efforts. Later, the hollow wooden form was used, a center board being cut to conform to the outline of the body of the animal to be mounted; side pieces were then placed edgewise to the centre board, and ordinary lathing being nailed to them; excelsior or tow, mixed with clay, was modeled over the wooden form. Some very good taxidermy work was turned out by this method, the taxidermist having the advantage of being able to nail the skin to the wooden manikin, and by that means to overcome to a great extent, the inevitable shrinkage.

Next came the hollow plaster of paris model, reinforced with wire work, which was thoroughly dried and primed. The skin, after being properly tanned, was glued or pasted to it. This method, which makes a perfect specimen in every respect, is employed by many taxidermists at the present day, the only objection to it being, the great weight of the specimens when finished.

The latest method employed, is the making of a clay model of the specimen to be mounted, from which a mould is made, and a light and durable form of wire work and papier machie is made in it. This is the most perfect and the most scientific method up to date, and I doubt very much if it can be improved upon. The scientific development of photography has been one of the greatest aids to the scientific development of taxidermy.

Where the old-time taxidermists, as I remember them, were very secretive and jealous of their work, and relied mainly upon poorly drawn pictures for the attitudes of their specimens, the modern taxidermists have the advantage of the camera, and in many places of zoological parks, where they can study the live animals and photograph them. As a rule, they are more liberal towards each other, exchanging their ideas as to the different methods. This has had the effect of developing taxidermy of the present day to its high standard of excellence. Less than forty years ago, taxidermy was unknown in the United States,

excepting through amateur work to which many of the poorly mounted and distorted old specimens which still remain in most museums, attest. These are fast disappearing, however, by the remounting of those that are fit, converting others into skins, and discarding the worthless.

The commencement of scientific taxidermy in the United States, dates back to the year 1873, when the late Prof. H. A. Ward, of Rochester, N. Y., imported several trained men from Germany, France, and other parts of Europe, and added the Department of Taxidermy to his natural science establishment. At that time, it was found impossible to engage in this country a single trained taxidermist. It, therefore, became necessary to import trained men from Europe, and very keen rivalry existed between these men, as also between the amateurs and the apprentices who were later employed there. Each individual taxidermist was consequently surrounded with critics. This had the effect of stimulating him to his best efforts, and if a taxidermist did perchance make a mistake in the mounting of a specimen, those "critics" usually found some very fantastic means of directing the unfortunate operators attention to it.

The Society of American Taxidermists, having its inception among the employes of Ward's Natural Science Establishment, was organized early in 1880, and devoted to the development and improvement of their art, the first exhibition being held in December of that year, at Rochester, N. Y. This friendly rivalry developed the best that was in each one, and full fledged taxidermists began to receive appointments at the several museums. The Establishment had developed into a sort of a scientific training school for museum taxidermists. The taxidermists at most of the museums in the United States at the present time, graduated from that Establishment, or were developed by those who had received their training there.

My time spent as a taxidermist there, extending from 1887 to 1899, I consider one of the most profitable and most interesting experiences of my life. To become a successful taxidermist, a person must have an eye for form that he can make good models of the objects to be mounted; must be a close observer of all liv-

ing things; and have a knowledge of osteology and myology. He need not particularly know all the anatomy, but must be a close observer of the outer forms of all animals. Even with all these qualifications, I do not believe that a taxidermist can be "made." He must be born with an "indefinable something" in his nature, which will soon develop under proper conditions.

The scientific development of taxidermy has been one of the principal agencies of popularizing museums. With it developed group work and the modeling of foliage from the natural plants.

Museums, as I remember them in my younger days, were dry, dreary and of little interest to anybody but scientists. The idea of the old fashioned museum director seemed to be, that a museum was only for scientists. They did not cater to the general public. Specimens were simply labeled with scientific names. In contrast to this, the museums of the present day have become places of popular, as well as scientific education and entertainment.