TAXIDERMY OF RABBIT

PRESENTED BY:

ALAYANDE HAMOD OMOYENI
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BEING A PROJECT WORK SUBMITTED TO THE DEPARTMENT OF SCIENCE LABORATORY TECHNOLOGY INSTITUTE OF APPLIED SCIENCE IAS KWARA STATE POLYTECHNIC, ILORIN:

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SUPERVISED BY

MR S.O ALU

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CERTIFICATION

This is to certify that the research work carried out by ALAYANDE HAMOD OMOYENI with matriculation number **ND/23/SLT/PT/0027** in institute of applied sciences (IAS). Department of science laboratory Technology. Kwara State polytechnic, Ilorin, Kwara state, has met the requirement for the Award of National Diploma ND.

_____ _____

MR S.O ALU **DATE**
PROJECT SUPERVISOR

_____ _____

MR. LUKMAN I.A. **DATE**
SLTPT COORDINATOR

_____ _____

MR. ABDULKAREEM USMAN **DATE**
HEAD OF DEPARTMENT

DEDICATION

This report is dedicated to Almighty God the authority and the finisher of my faith who saved me throughout the beginning of this program and has been there for me always.

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My profound gratitude goes to almighty god for the privilege given to me to complete this project work who has been helping me from the beginning of my education.

My special gratitude goes to my every kindness and loving supervisor in person of my ALU S.O for his advice moral support may god almighty continue to preserve, guide and favor on you.

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My profound gratitude also goes to my beloved friends and course mate who have been supporting me in all ways to make the report a success. May Allah reward you abundantly and meet you at the point of your needs (AMEEN) I love you all.

TABLE OF CONTENTS

LIST OF TABLES

ABSTRACT

Taxidermy is the art of preserving animal bodies for display or study, often portraying them in life like status. Traditionally, this practice involved creating realistic representations of birds and mammals using their prepared skins supported by armatures or other materials. Historical fangs highlight its use of borax powder it protect skins from insects and fungi, which evolved into mannequin construction with materials like wooden wool, cotton and polyethylene foam. Birds were mounted on artificial rocks and plants with painted backdrops to replicate natural environment. Preservation methods, including borax garments, alcohol taming, and insecticides like finis powder, stream lived the preparation process, making small and medium sized mammals particularly suitable due to their shorter preparation time of 1-3days.Historical practices, such as those in the standholderly cabinet, balance preservation, analysis, and display, while advance natural historical research through specimen preservation. Future studies can enhance taxidermy conservation, addressing contamination risks and ensuring safe access for research and exhibition.

CHAPTER ONE

INTRODUCTION AND LITERATURE RIEVIEW

1.1 INTRODUCTION

For display or research purposes, taxidermy is the practice of preserving the body of an animal by stuffing or mounting it at top an armature. The depiction of animals is frequently, but not always realistic. The art of taxidermy involves using the prepared skins and other supporting element of animals, usually birds and mammals, to create convincing reproductions of them (Maun. Exal.2014).

Although the practice taxidermy dates back to the ancient tradition of conserving hunting trophies, the main factor that led to it transformation into an art form was the rise in interest in natural history, particularly during the enlighten and the resulting emergence of these two private collections' and display of birds, animals, and curiosities in public exhibitions (Timm *etal* 2021) the earliest rudimentary attempts to mile the physical traits of real animals by stuffing the sewn-up skins with hay or straw were made possible by chemical methods of protecting skins hair and feathers from insects and deterioration by the early 18^{th} century.

Quick advancements in skin preparation techniques and the development of new mounting techniques were closely followed by a trend towards realistic display, where animals were positioned to suggest high levels of activity, observed in the

wild, and lifelike scenes and even future habitant were simulated by adding real or artificial vegetation, pained backgrounds, and other elements. (Shoffer and Brittigham *et al* 2013). Through the efforts of commercial establishment like Paris moison. Verrexux which was found by a naturalist and explorer taxidermy solidified its position as a museum art in the 19th century and provided numerous exhibits to museums.

Verreauxix influence was surpassed by that of ward's natural science establishment in Rochester, New York, where a group of young enthusiasts', including Carl Akelou (9.0) dedicated their lives to perfecting taxidermy treatment techniques (A S. ROSE VETAL 2020). The foundation of contemporary taxidermy is still the methods developed at wards for creating and shaping anatomically accurate clay and plaster manikins: later advancements focused mostly on the treatment of insects, reptiles, and soft-bodied animals as well as the introduction of novel materials like celluloid and other metals.

1.2 LITERATURE REVIEW3

CAFROZ ETAL 2024 (S.AFROZ, ETAL 2024) in particular, taxidermy is crucial to the study of natural history and evolution.

The Bangladesh National Museum's often most significant, potent, and effective visual communication medium is taxidermy. The ability to use the approach may be beneficial for both artist and scientists (plate1).

The corridors of the Bangladesh national museum often include exhibits of different board species. We accept complete vertebrate specimen at this facility. With order to prevent skin injury during transmit, it is important to wrap it with newspaper.

To keep insect and fungies away from the skin use borax powder. A mannequin was later created using a variety of materials including "cotton polyethylene foam, polyure thame foam polystrene, dried grass wool, and wooden wools". To create the illusion of real environment mounted boards were lastly positioned between fake rocks, trees and grasses that were subtly integrated into painted panoramic backgrounds.

CHAPTER TWO

MATERIALS AND METHODS

2.1 THE PROCESS OF TAXIDERMY

There are multiple phase involve in the Taxidermy process. The animal must be prepared which includes skinning and protecting the hide. This is a sensitive procedure that calls for a high of expertise. To top deterioration and maintains the hides original colour and texture treatment is required.

A form that has been fashioned to mimic the animal's natural shape and posture is used to mount the hide once it has been prepared (RT. Bauer etal 2019).

This is where the sculpting abilities of the taxidermy are useful. For the final product to appear as natural as possible, the form needs to be precise and realistic. The animals painting and detailing comes next. This is where the artistic abilities of the taxidermist area useful in order to give the animals a genuine and life alike appearance, they must be able to paint it to mimic its natural coloring and patterns. This calls for meticulous attention to detail as well as a through comprehension of the appearance and behaviour of the animal. K. SOHULZE-HAGEN Dental 2003.

2.2 TAXIDERMY TECHNIQUES

The obstacles faced by taxidermist vary according on the animal category. Although many insects merely need to be drived and mussel and snail shells require very little care, vertebrate preservations frequently entails quite intricate processes, especially if the exhibits are meant for public exhibition.

a) Alcohol Preservation

Placing the entire items in a preservative solution typically alcohol (denatured ethanol, 70%) – is the most straightforward technique. Before being put in the preservative, items are frequently treated with formol, a fixing solution that steps tissue deterioration and autolysis. First, a fixing solution must be applied to molluses and delicate species like jellyfish.

However, because formol is hazardous, it should be swapped out for ethanol after a few days. Using alcohol has the benefit of preserving. The complete organism S.B (Hunter et al., 2024). Fish, amphibians and reptiles are typically the subjects of this procedure, however occasionally birds and mammals especially young one sere also submerged in alcohol. The above mentioned animal groups lose their nature colour within the first several hours after death, despite the fact that alcohol promotes colour fading. Alcohol also has the benefit for preserving tissues so that it can be used for genetic research (DNA) for a long time.

For this reason, tissue samples from recently delivered animals are frequently collected and stored separately in alcohol these days. Although alcohol preserved exhibits are frequently regarded as ugly, they are vital for scholars.

b) Pelt

The word “pelt “refers to a fanned skin that has been taken away from the animals. This method is applied to birds and mammals.

Important information is included in the pelt’s hairs and feathers. These displays are a significant component of collections of birds and mammals. These animal groups’ pellets retain their colors, therefore this technique works well for items meant for exhibition. Another benefit is that they are easier to make than demoplastic exhibitions and occupy less room than “stuffed animals”

c) Skeleton

First, all bone tissue must be removed from both whole and partial skeleton. The taxidermist often perform this task frequently following the objects immersion in an enzyme solutions known as a maceration solution, allowing skin beetles to consume the bones or skeleton is the last step within a few weeks, these insects, the bugs. Important details about an animal’s size and form can be found in its skeleton while Shelton and bones indexed for

display are mounted using supporting parts to Astor the animal's original shape, thus utilized for research area simplify stored in the paper containers.

d) Dermoplasty

Dermoplasty makes it possible to recreate complete animal in these dimensions. The preserved skin, or pelt, that was removed. From the animal is always the first step. Antlers, hooves Thoth, and other "original parts" of the animal are sometimes used the exhibitions that resulted from stiffening the skin with various materials, such as straw, moss, hemp, and even peat, weren't always very life like until a few decades ago.

These days, though the skin is stretched over artificial skeleton that are adapted to the species and body size to find tune the body contour wood and cotton wool are utilized. Arsenic was used in the past to keep insects from eating the skin.

Nowadays, the textile in industry uses aula a combination of feud chemicals to eradicate parasites in place of his hazardous treatment. Without a doubt, the most esteemed of contemporary zoological taxidermy procedures is dimpliest, for an object to be as skilful as possible it takes more than just skill and skill.

A through understanding of the animal is essential for taxidermists. This frequently entails extensive research and discussions with subject matter

specialists. Taxidermists can learn a lot about the animal's movement from pictures and films. Although these items are the most eye-catching for display, they also take a great deal of work; hence they are mostly utilized for presentation and exhibitions.

2.3 RENEWED AND DEVELOPMENT AND NEW TECHNIQUES

Interest in taxidermy waned during the dark ages. People didn't start some and scientific revolution began at this time and continued producing realistic depictions of animals in addition to conserving their hides and skins. This was also the period when early visitors to get up close and personal with a variety of wild creators. During this time, the popularity grew win more. In the 1600s, the earliest attempts to mount and preserve birds were made in the nether lands. The first large-scale animal mounted was a rhinoceros display created in the 1500_0 at the royal museum in Florence, Italy. Using their current taxidermy techniuqes. In the 1600_0 the museum at St. Gall in Surter land had purchased a preserved crowdie from Egypt to exhibit.

2.4 FURTHER DEVELOPMENTS IN TAXIDERMY DURING THE 18^{TH} AND 19^{TH} CENTURIES

The British museum likely played a significant role in the advancement of contemporary taxidermy. The montagil house was the name of the British museum

in the eighteenth century. The museum gathered and assembled the biggest mountry of “presented animals, animals skin, and bones” in the world by the late 17005 following napoleon’s downfall the museum kept exponding and inventing more advanced methods for creating realistic animals exhibits. The museums held the great exhibitions in 1851, which included exhibs of animals from all over the world.

2.5 EARLY TAXIDERMY METHOD

Early techniques for making animal mounts depended on preserving “animal hides and tan skins” using modern techniques. The animals were stripped at their hides and skins. The skeleton was stripped at their flesh. The skin or hide was the sewn back up around this frame after the animals had been filled with “Collins” saw dust, or other items” as may expect however the outcomes weren’t flawless (S.B hunter etals 2024). The creatures no longer seemed natural in some instances. The creatures no longer seemed natural in some instance. Since they hadn’t seen the world animal in the wild before several early taxidermists also found it difficult to create life like reproductions. This resulted in several poor decisions that led to “epic tails” when finished several of the creatures seemed more cartoonish than genuine. The populace at the time, however, was unaware. They behaved the portrayal to be true.

2.5.1 Other Popular Methods used Include:

- **Boiling the flesh:** boiling the corpse until the flesh came off the bone was the technique used. Although the skeleton' were originally prepared to provide the foundation for "stuffed" animal exhibitions, the bones may sustain damage.
- **Soaking the flesh:** this procedure included soaking the corpse in a tank of water until the flesh became tender. Then the bones were removed. This technique also resulted in broken bones since it needed equipment to scrape the skin off.
- **Chemicals:** hides and skins must be tanned using a variety of chemicals. Skeletons are prepared by dissolving the carcass's flesh using these same chemicals. On the other hand, chemicals may weaken and fracture bones.

2.6 CHALLENGING ASPECTS OF TAXIDERMY

Getting the animals to have a realistic and organic stance is one of the hardest parts of taxidermy. An in-depth knowledge of the animal's anatomy and habits is necessary for this. The ability to accurately and elegantly reproduce the animal's natural motion's and postures is a prerequisite for professional taxidermists. Here, the artistry and inventiveness of the taxidermist are put to use. Another method of remembering and perpetuating the memories of deceased animals is via taxidermy. Animal behavior and their role in the environment may be studied and

comprehended using method. A further technique to preserve history is via taxidermy, which has been employed to record the wildlife of a particular area or era.

Table 1: MATERIALS FOR A PALLAS' FISH EAGLE'S TAXIDERMY

Taxidermy steps	**Tools, materials, and chemical**
Measurement	Weight Scale, Flexible Measuring Tape, Slide Clippers
Skinning and Flashing	Scalpel, scraper, forceps, scissors (small pointed, large, curved). Wire brush, normal knife, pliers (diagonal, linemen, ship joint, flat-nose, and needle-nose). Small hammer, needle and syringe
Tanning	Normal salt ($Nacl^2$). Borax Powder, Bionic Acid Powder, Ethanol form aldehyde Solution, Detergent Shampoo, Litmus Strips etc.
Tissue Preservation	Peep fridge, airtight plastic vial
Mannequin making	PE foam, paper knife, sand papers, hand saw cotton, threads, measuring tape markers etc.
Mounting	GI (galvanized iron) wires of three different sizes, copper wires, cotton, mud (mixture of silt, soil, clay), glue gun, different threats diagonal pilierspins, artificial realistic eyes (different sizes). Air brush, branches of plants, wood board, polythene foam screws nail etc.

(F.N.A.B. Zahari et al., 2022). The goal is to design a ‘’ systemic decision tree (SDT) model ‘’model, evaluate SME, perception of preservation procedures, analyse time and cost, and establish a growth strategy for ‘’ pulau tingg is natural History Gallery ‘’ using SDT resin pinning, diaphonization, alcohol preservation, and taxidermy were evaluate the investigation found three SDT models difficulty duration, and cost. According to the SDT model, taxidermy was easiest but alcohol preservation was easier pinning takes the least time to preserve, whereas diaphonization takes He most, according to the SDT model. Practitioners agree on diaphonization, although alcohol preservation takes the least line SDT for pricing states that diaphonization costs the most, while pinning guide the least, and practitioners concur the study’s finding will guide Malaysia’s natural history galleys expansion.

CHAPTER THREE

4.2 RESULTS

(R. Crawford, 2021) a taxonomy was used by museum curators to arrange scientific collections this approach worked well for preserved living things that were difficult to break down, including animal bones and dried leaves Taxidermy was commonly used in animals in their natural environment in a more realistic manner its allusion to the valiant hunter who gathered ‘’big name’’ in the colonials is seen as problematic now, despite its popularity at the time. These items are no longer seen by the general public as specimen but rather as one living creatures, often belonging to endangered species therefore, by asking modern artists to participate in their permanent displays the museum under discussion choose to open their exhibits to fresh interpretations, show casing various view points on the same historical treasures they also enabled the public to revisit their collection and take a new approach to current discussion their natural history exhibits may be seen as being exposed, controlled and called into question by the interventions made by artists in each.

CHAPTER FOUR

4.1 DISCUSSION

A. Kabir, et al., 2021. Bangladesh has rich biodiversity, particularly animals, despite its tiny size road accident may harm wild Bangladesh is also maintain ‘’cuts dog, rats guinea pigs and rabbits owners frequently bring these animal rather than being hundred, these creatures may be taxidermy. Road-killed animals may provide valuable museum data on habitat and condition. Taxidermists are in Bangladesh until recently. This scientific area currently needs to show numerous endangered or virtually extinct wild species and common taxa. Authorized taxidermists may receive deceased animals from 2005, vertenary facilities, and animal keepers. Bangladesh has all the tools and chemicals needed to man animal in a lab. A taxidimided animal may be finished with borax powder or alcohol taming Overnight or 2-4 hours followed by finis powder (insecticides). Small to medium-sized animals are ideal for taxidermy since they take 1-3 days. Knowledge of species and their habitats combined with may give dioramas life like poses.

Table 2: SUMMARY OF CHEMICAL AND THEIR USES IN MAMMALIAN TAXIDERMY

CHEMICAL NAME	USES
70%Alcohol/ethyl/alcohol/ethanol/isotropy/alcohol	Preservatives
Formalin	Preservatives
Borax powder	Insecticide, Anti-Fungal
Alginate	Casing
Plaster of pans	template
Resin	Model
Hardvenor	Make resin harder
Fiber glass	Model

(M.M.M. Hendriksen et al., 2019) starting with two eighteenth century taxidermized monkeys and a modern taxidermy course. It make the case that preserved animal remains were an essential component of a much larger, intricate early modern system of research and entertainment, in which taxidermic practices were significant but the taxidermist, deposit being required and valued, remained an anonymous craftsperson. Furthermore, the author shows how taxidermic procedures at the stand holder but cabinet had to be incorporated into a complicated totality of "analysis preservation, compansion and display" interests that sometimes clashed and needed to be carefully balanced. Lastly, the monkey specimens are shown to be a great illustration of how practical knowledge

spreading without leaving many written accords and how the preservation of animal remains advanced natural history studies.

(S. Babister and D. Measday et al., 2016). The long-term Melbourne museum exhibit wild: Amazing animals in a changing world features over 700 taxidermied animals from museum victoria's natural sciences collection to demonstrate biodiversity and environmental change. The award-winning exhibit, installed in 2009, has preservation issues owing to its vast quantity of specimen and tiered arrangement, which restricts cleaning and evaluation in recent years, rising physical and insect damage prompted a detailed in site condition inspection for reliable data. It discusses the difficulties of obtaining and analyzing taxidermy mounts on exhibs and the usage of Gopro HD Hero 4 action cameras for condition reporting. Discussing the wild show as part of a growing trend for exhibiting taxidermy and failure conservation studies to help pressure and display it.

(S.G Judhaw Vikran R. Nair et al., 2015). An costly art form called taxidermy is used to preserve biological specimens with their skin dry. Simple tools like needles, thread, flexible and containers are used in this investigation along with less time consuming and in expansion substances like sodium chloride, thyrol, and 5% formal saline. The book provides a through explanation of the method. The finished animal has the appropriate positive and all the physical traits, including the fur.

CONCLUSION

The findings reveal that borax powder was historically used to protect animal's skins from insects and fungi later advancing to mannequin construction using materials like wooden wool, cotton, polyethylene foam, and dried grass wool. Mounted birds were artfully placed on artificial rocks, plants and panoramic back drops to mimic natural settings. Preservation techniques, such as insecticides like finis powder effectively finalized taxidermied specimens. Small and medium sized mammals were ideal subjects due to their short preparation time of 1-3 days in historical practices such as these in the stand holderly cabinet; taxidermy required balancing analysis, preservation, comparison, and display. The preservation of animal bodies also advanced natural historical research, as demonstrated by monkey specimens.

REFERENCES

1. Kabir, M. Rani Das and T.J Hawkeswood, A study on the theoretical concepts of quality mammalian taxidermy clues for conservation, *calodema*, vol. 854, no February, pp. 1-10, 2021
2. A.V. Shoffner and M.cBrittingham "Freeze Drychoto Preserve Birds for Teaching Collections," Northeast Nat., vol.20, no 3, pp.441-450. 2013, doi: 10.1656/045.020.0309.
3. A.S Ross '' The Animal Body As Medium: Taxidermy and European Expansion, 1775-1865.'' Past present, vol. 249, no I, pp.85-119, 2020 doi: 10 1093/past/gtaa 004.
4. F.N.B Zahari,'' Assessment of Different Animal Preservation Techniques Based on Systematic Decision Tree for the Development of Natural History Gallery in Pulau Tinggimalaysia" No April, 2022.
5. K. Schulze –Hagen, F. Steiheimer, R. Kinzelbach, and C. Gasser "Avian taxidermy in Europe from the Middle Ages to the Renaissance" *J. for Ornithol,*. vol. 144, no. 4, pp. 459-478, 2003, doi: 10.1111/j.1439-0361.2003.03047-x.
6. M.A Al Mamum B.C. Das, A, Mannan and M. Hartmann, "An overview of the status of taxidermy in Bangladesh with a study of pest control of a mammal collection," *vernate*, no. 33, pp. 23-256, 2014.

7. M.M.A Hendriksen, “Animal bodies between wonder and natural history: taxidermy in the cabinet and menagerie of stadholder Willem V (1748-1806)” *J* Soc. Hist., vol. 52, no 4, pp. 110-1131 2019, doi: 10 1093/jsh/shz012.
8. R. Crawford, “Re-presenting Taxidermy Contemporary Art Interventions in Natural History Museums, no. December 2021, pp. 1- 294, 2021.
9. R.M Timm, S.B. McLaren, and H.H. Genoways, “Innovations that changed mammalogy: Museum study skins,’’ *J. mammal.,* vol.102 2, pp. 367-371, 2021, doi: 10.1093/jmamal/gyab040.
10. R.T. Bowyer, M.S. Boyce, J. R Goheen, and J. L. Rachlow, “Conservation of the world’s mammals: Status protected areas, community efforts, and hunting,” *J. mammal.,* vol. 100, no 3, pp. 923-941, 2019, doi:10.1093/jmammal/gyy 180.
11. S. Afroz, M. R Das, A Kabir, and S. Mandal, “collection and Taxidermy: A pallas’s Fish Eagle (HalieetusLeucoryphus) (pallas, 177I) (Accipitriformes: Accipitridae)” pp.1-7, 2024.
12. S.Babister and D Measday, “Assessing taxidermy on display: contexts, tools and challenges for natural sciences conservation,” ALCCM Bull. Vol.37, no 2, pp. 77-86, 2016, doi:10.1080/10344233.2016.1238990.

13. S.B Hunter, J. weeds, and F. Mathews, “Monitoring the trade in bat taxidermy and specimens on e-commerce platforms,”*Biol. Conserve.,* vol. 299, no. October, p. 110827, 2024, doi:10.1016/j.biocon.2024.110827.
14. S.G.JadhavVikram R. Nair,“Innovative method of Dry Preservation of Animal, Bird Models in Lieu of Taxidermy,” *Int. J. Rev.,* vol. 2, no. 6, pp.343-347, 2015.